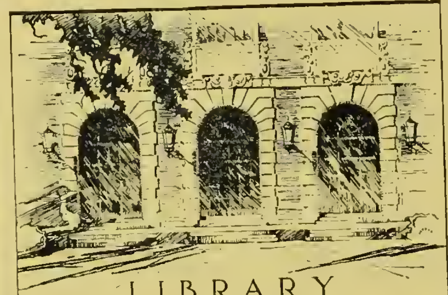

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIII BISMARCK, N. D., JANUARY 1934 No. 1

GENERAL SUMMARY

January 1934, averaged unusually warm and dry. It was the 6th warmest and the 4th driest January of record. The month began with cold weather, and considerable snow covered the ground. This snow cover prevailed throughout the month in the northern part of the State, but in the central and southern sections the ground became bare about the middle part of the month. Most of the precipitation fell in the northern part of the State and was well distributed throughout the month. At many stations in the central and southern sections rain occurred on several dates, but very little snow was reported. The weather was favorable for outdoor work. Livestock had to be fed during the early part of the month, but during the last decade stock ranged freely, particularly in the central and southern sections, thus saving much feed.

TEMPERATURE

The mean temperature for the State was 15.8°, or 9.6° above the normal, and 4.0° higher than the mean for January 1933. The highest mean reported was 25.9° at Marmarth, Slope County; the lowest was 7.0° at Pembina, Pembina County. The highest temperature reported was 54° at Hettinger, Hettinger County on the 30th, and at Wishek, McIntosh County on the 24th; the lowest was -36° at Edmore, Ramsey County on the 29th. The greatest monthly range of temperature was 76° at Towner, McHenry County; the least was 54° at Williston, Williams County. The greatest daily range of temperature was 71° at Pembina, Pembina County on the 29th.

PRECIPITATION

The average precipitation for the State was 0.20 inch, or 0.27 inch below the normal, and 0.60 inch less than the average for January 1933. The greatest monthly amount reported was 0.80 inch at Hansboro, Towner County and Langdon and Park River, Walsh County; there was none at Wishek, McIntosh County. The greatest amount recorded in any 24 consecutive hours was 0.50 inch at Park River, Walsh County on the 13th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 2.0 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Eckman, New Salem, 16th; Foxholm, 14th, 15th; Hettinger, 23d; Moorhead, 13th; Pembina, 15th, 16th, 18th, 23d, 27th; Petersburg, 7th; Williston, 10th, 14th.

FOG: Bismarck, 4th, 5th, 7th, 8th, 9th, 13th; Bottineau, 9th; Devils Lake, 8th, 9th; Crosby, Dogden Butte, Foxholm, Hannah, Kenmare, Minot, 13th; Eckman, 11th, 13th; Ellendale, 4th, 5th, 6th, 11th, 12th; Gaekle, 4th, 5th, 6th, 7th, 9th, 14th; Garrison, 7th; Grand Forks, Sharon, 4th, 5th, 9th, 11th, 14th; Carrington, Linton, 5th, 9th; McLeod, 4th, 9th, 11th, 12th; Max, 12th; Napoleon, 4th, 5th; New England 21st; New Salem, 5th, 8th, 13th; Oakes, 4th, 11th; Parshall, 7th, 13th; Petersburg, 4th, 13th; Pettibone, 5th, 9th, 14th; Steele, 5th, 9th, 13th; Willow City, 11th.

HALOS, lunar: Bismarck, 8th, 20th, 25th; Bowman, 24th, 26th; Devils Lake, 20th, 24th, 30th; Ellendale, 22d, 23d, 25th; Foxholm, 25; Grand Forks, 24th; Howard, 23d; Moorhead, 19th, 24th, 28th; Oakes, 19th, 23d; Petersburg, 23d, 30th; Sharon, 21st, 23d; Towner, 22d; Williston, 4th, 25th.

HALOS, solar: Devils Lake, 11th, 24th; Dogden Butte, 19th, 24th; Drake, 3d, 11th, 22d, 24th; Eckman, 10th, 24th; Ellendale, Steele, 25th, 28th; Foxholm, 4th; Grand Forks, 2d, 24th, 25th, 28th; Howard, Napoleon, Sharon, Trotters, 24th; Marmarth, 17th; Moorhead, 7th, 21st, 25th; Oakes, 7th, 28th; Petersburg, 11th; Williston, 13th, 16th, 28th.

SLEET: Bismarck, 11th, 12th; Devils Lake, Oakes, Valley City, 8th; Dogden Butte, Steele, 12th; Eckman, 23d; Hannah, 22d, 23d; Moorhead, 26th; New Salem, 28th; Velva, 27th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck........	30.08	30.75	28	29.36	30	8.9	34	nw.	31	86	71	77	46
Devils Lake.....	30.07	30.77	29	29.19	30	10.1	35	nw.	31	94	87	90	51
Grand Forks....	30.05	30.76	29	29.28	30†	......	46	nw.	31	93	....	92	....
Williston........	30.08	30.83	28	29.36	30	8.2	35	nw.	31	85	76	82	53
Moorhead, Minn	30.09	30.79	29	29.17	31	10.1	30	nw.	28	92	83	91	48
Averages & ext's	30.07	30.83	28	29.17	31	9.3	46	nw.	31	90	79	86	50

† And other dates.

COMPARATIVE DATA FOR JANUARY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	3.3	−3.4	58	−52	0.32	−0.15	1.40	0.04	2.8	4	15	8	8
1893.	0.8	−5.9	52	−48	0.98	+0.51	2.54	0.15	8.4	7	11	11	9
1894	0.6	−6.1	60	−47	0.39	−0.08	1.30	0.06	3.6	4	13	9	9
1895.	−2.9	−9.6	42	−46	0.56	+0.09	1.20	0.20	5.5	5	16	8	7
1896.	5.3	−1.4	58	−42	0.70	+0.23	2.02	T.	6.6	6	9	9	13
1897	3.6	−3.1	49	−38	0.79	+0.32	2.04	T.	7.5	5	11	9	11
1898.	14.6	+7.9	69	−32	0.11	−0.36	0.65	0.00	1.1	2	15	8	8
1899.	5.2	−1.5	55	−41	0.25	−0.22	0.78	T.	2.4	3	13	9	9
1900.	15.4	+8.7	70	−30	0.22	−0.25	0.90	T.	2.0	3	15	9	7
1901.	7.7	+1.0	68	−39	0.28	−0.19	1.64	T.	3.0	4	14	8	9
1902.	12.7	+6.0	51	−40	0.14	−0.33	0.80	0.00	1.4	2	17	7	7
1903.	9.4	+2.7	56	−37	0.66	+0.19	1.64	T.	6.7	5	13	8	10
1904.	3.6	−3.1	50	−52	0.37	−0.10	1.10	T.	4.0	5	15	6	10
1905.	0.9	−5.8	48	−40	0.30	−0.17	1.10	0.00	2.9	3	15	8	8
1906	12.2	+5.5	60	−38	0.69	+0.22	1.62	0.09	6.9	4	14	6	11
1907.	−6.2	−12.9	45	−45	1.40	+0.93	3.94	0.30	14.5	8	12	8	11
1908.	17.0	+10.3	70	−41	0.18	−0.29	1.25	0.00	1.9	2	17	8	6
1909.	3.5	−3.2	53	−48	0.42	−0.05	1.45	0.00	4.3	4	14	8	9
1910.	9.4	+2.7	49	−35	0.33	−0.14	1.80	0.00	4.1	3	16	8	7
1911.	−1.0	−7.7	56	−43	0.91	+0.44	3.65	0.05	8.5	6	11	8	12
1912.	−4.6	−11.3	63	−52	0.35	−0.12	1.04	0.03	3.6	4	16	6	9
1913.	3.2	−3.5	60	−54	0.45	−0.02	1.97	T.	4.6	5	12	9	10
1914	14.8	+8.1	62	−38	0.50	+0.03	1.80	0.00	4.9	4	12	8	11
1915.	5.8	−0.9	51	−48	0.29	−0.18	1.25	0.00	3.4	3	12	9	10
1916.	−6.4	−13.1	49	−56	1.38	+0.91	3.50	0.20	15.1	6	13	8	10
1917.	1.7	−5.0	47	−46	0.73	+0.26	2.80	0.05	8.6	5	13	8	10
1918.	0.5	−6.2	48	−44	0.45	−0.02	1.38	T.	5.0	5	12	8	11
1919.	18.7	+12.0	66	−44	0.17	−0.30	0.66	0.00	1.7	2	17	8	6
1920.	2.7	−4.0	49	−44	0.93	+0.46	2.97	0.00	10.0	5	10	9	12
1921.	15.9	+9.2	58	−31	0.24	−0.23	1.21	T.	2.5	2	13	9	9
1922.	7.0	+0.3	55	−46	0.49	+0.02	1.60	0.10	5.2	5	12	9	10
1923.	10.1	+3.4	56	−35	0.53	+0.06	1.36	0.00	6.0	5	9	9	13
1924.	2.6	−4.1	61	−42	0.23	−0.24	0.96	0.00	2.5	3	14	9	8
1925.	8.6	+1.9	52	−35	0.22	−0.25	1.17	0.00	2.5	3	11	10	10
1926.	16.3	+9.6	55	−30	0.38	−0.09	1.10	0.00	4.1	4	13	8	10
1927.	10.1	+3.4	60	−44	0.41	−0.06	1.24	0.00	4.3	4	14	8	9
1928.	13.0	+6.3	50	−41	0.21	−0.26	1.04	0.00	2.3	3	14	9	8
1929.	−4.8	−11.5	42	−42	0.63	+0.16	1.82	T.	9.2	6	13	8	10
1930.	−1.9	−8.6	41	−43	0.29	−0.18	1.41	0.00	2.7	4	12	9	10
1931.	21.4	+14.7	68	−31	0.15	−0.32	0.91	0.00	1.4	2	15	8	8
1932.	9.5	+2.8	50	−34	0.55	+0.08	1.60	T.	6.3	4	12	7	12
1933.	11.8	+5.1	53	−30	0.80	+0.33	1.79	0.11	10.0	7	12	7	12
1934.	15.8	+9.1	54	−36	0.20	−0.27	0.80	0.00	2.0	3	11	9	11
Per..	6.7	....	70	−56	0.47	....	3.94	0.00	5.0	4	13	8	10

Climatological Data for January 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	8	......	......	......	......	......	......	......	0.09	......	0.06	......	2	......	......	......	......	H. A. Bury.
Amenia	Cass	954	38	10.5	+ 5.6	46	27	−25	29†	53	0.38	−0.10	0.12	1.6	5	8	10	13	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	19.4	+10.4	42	22	−18	23†	57	0.33	−0.22	0.10	2.5	5	21	2	8	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	20.2	+11.6	49	21†	−19	29	57	0.02	−0.49	0.02	1.0	1	18	1	12	nw.	H. D. Piper.
Beach	Golden Valley	2,759	25	21.4	+13.3	49	27	−15	24	53	0.17	−0.34	0.06	1.0	5	12	9	10	w.	J. C. Russell.
Berthold Agency††	McLean	2,082	41	17.1	+ 8.5	48	23	−18	7	52	T.	−0.34	T.	T.	0	21	2	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	19.8	+12.0	49	30	−11	1	38	0.08	−0.37	0.04	0.3	3	7	15	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	11.0	+10.4	38	24	−27	29	48	0.35	−0.05	0.13	3.0	10	9	10	12	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	20	25.4	+12.4	52	30	− 6	2	41	0.51	−0.06	0.19	3.0	5	21	7	3	nw.	George Larsen.
Cando	Towner	1,488	33	11.0	+11.0	37	25	−31	28†	60	0.18	−0.24	0.10	1.6	3	13	0	18	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	15.1	+ 8.4	53	30	−20	28	66	0.21	−0.11	0.14	1.5	4	17	2	12	nw.	L. A. Swanson.
Carson	Grant	2,500	22	21.7	+12.7	49	27	−14	1	47	0.15	−0.20	0.10	1.5	2	17	8	6	nw.	J. W. Evens.
Cavalier	Pembina	894	24	......	......	......	......	......	......	......	0.54	−0.20	0.20	5.4	7	17	2	12	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	......	......	......	......	......	......	......	0.20	−0.22	0.15	......	2	12	2	17	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	......	......	......	......	......	......	......	0.08	......	0.04	0.6	3	4	24	3	w.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	......	......	......	......	......	......	......	0.20	......	0.20	2.0	1	16	8	7	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	15.5	+11.9	40	23†	−17	25	42	T.	−0.43	T.	T.	0	8	8	15	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	11.6	+ 9.8	40	23	−28	29	37	0.55	+0.08	0.30	5.4	11	8	6	17	sw.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	19.5	+ 9.0	47	23†	−10	2†	47	0.20	−0.24	0.05	1.7	9	6	19	6	w.	Leroy Moomaw.
Dogden Butte††	McLean	1,880	8	17.2	......	40	24	−18	29	48	0.16	......	0.16	0.2	1	14	2	15	sw.	R. L. Williams.
Drake	McHenry	1,634	5	13.5	......	40	23	−19	29	56	0.16	......	0.05	1.5	6	10	7	14	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	19.8	+ 6.0	44	27	−13	2	46	T.	−0.43	T.	T.	0	6	12	13	w.	W. F. Moede.
Dunseith	Rolette	1,682	38	12.2	+ 9.7	40	31	−26	29	46	0.02	−0.38	0.01	0.4	2	8	5	18	n.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	11.6	+ 8.5	40	23†	−25	29	46	0.28	−0.16	0.06	3.0	6	10	11	10	se.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	19.4	+10.6	53	21	−20	29	57	0.06	−0.27	0.05	0.6	2	5	13	13	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	9.0	......	37	22†	−36	29	49	0.55	−0.11	0.20	5.7	10	10	3	18	sw.	E. D. Warner.
Ellendale	Dickey	1,457	39	19.0	+ 8.3	52	30	−19	29	55	0.02	−0.46	0.02	0.4	1	13	3	15	s.	J. E. Demmer.
Energy ††	McLean	1,750	22	17.6	......	44	23†	−17	1†	52	0.13	−0.13	0.08	1.5	2	8	18	5	nw.	H. S. Solenberger.
Epping	Williams	2,224	26	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	5	......	......	......	......	......	......	......	0.10	......	0.10	1.0	1	17	6	8	w.	F. R. Hecker.
Fessenden	Wells	1,610	22	12.4	+ 7.9	40	27†	−24	29	46	0.35	−0.13	0.14	3.5	5	15	10	6	sw.	T. D. Monsen.
Forman	Sargent	1,249	41	......	......	......	......	......	......	......	0.05	−0.49	0.05	T.	1	14	3	14	sw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	21.7	+12.5	53	23	−10	8†	50	T.	−0.52	T.	T.	0	17	6	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	14.5	......	39	17†	−20	7†	47	0.23	−0.10	0.11	1.5	4	7	12	12	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	......	......	......	......	......	......	......	0.20	−0.25	0.15	0.5	3	13	11	7	nw.	Verne King.
Fullerton	Dickey	1,439	36	20.0	+11.1	50	27	−19	29	52	0.16	−0.64	0.08	1.6	2	2	14	15	s.	F. O. Alin.
Gackle	Logan	1,951	4	15.6	......	44	20	−18	30	61	0.12	......	0.08	1.8	4	13	6	12	......	A. H. Haut.
Garrison	McLean	1,901	57	17.2	+ 9.6	43	30	−15	25	47	0.05	−0.37	0.05	0.5	1	4	12	15	nw.	W. F. Robinson.
Grafton	Walsh	827	42	12.2	+10.0	41	27	−29	29	49	0.20	−0.37	0.10	1.9	3	16	3	12	nw.	James P. Aylen.
Grand Forks ††	Grand Forks	830	43	10.6	+ 7.1	38	10†	−29	29	49	0.25	−0.29	0.08	1.3	8	6	11	14	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	16.2	+11.6	43	23†	−20	29	53	0.02	−0.38	0.02	T.	1	14	5	12	nw.	W. A. Christianson.
Hankinson	Richland	1,068	5	16.8	......	48	27	−21	28	56	0.20	......	0.15	1.0	2	13	3	15	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	7.8	......	36	27	−32	29	48	0.39	−0.29	0.14	3.8	7	8	11	12	nw.	James Muir.
Hansboro	Towner	1,597	26	9.8	+ 9.9	39	27	−32	29	44	0.80	+0.11	0.35	16.0	5	17	9	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	25.4	+12.4	54	30	− 8	2	44	0.02	−0.31	0.01	T.	2	16	8	7	nw.	C. H. Plath.
Hillsboro	Traill	901	28	13.2	+ 8.6	40	11	−26	29	50	0.18	−0.40	0.12	0.6	2	9	10	12	nw.	G. Hovland.
Howard †† (near)	Williams	2,275	27	14.2	+ 9.8	39	23†	−20	28	52	0.30	−0.31	0.20	3.0	4	18	6	7	sw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	42	17.0	+10.0	47	30	−20	29	47	0.14	−0.44	0.12	1.4	2	5	14	12	......	S. Calvelage.
Kenmare	Ward	1,799	3	14.4	......	40	24†	−18	28	57	0.11	......	0.11	1.0	1	11	6	14	w.	R. Costello.
Langdon	Cavalier	1,615	38	7.6	+ 8.5	40	23†	−35	29	62	0.80	+0.23	0.40	8.0	3	6	17	8	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	12.0	+ 8.4	39	21†	−28	29	49	0.22	−0.43	0.11	2.8	3	13	3	15	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	21.3	+11.8	52	23†	−13	2	56	0.08	−0.35	0.08	T.	1	8	15	8	nw.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	30	18.2	+10.9	45	27	−21	29	53	0.10	−0.50	0.10	1.0	1	6	7	18	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	16	13.8	......	40	23†	−20	29	50	0.45	0.00	0.15	4.5	5	7	12	12	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	16.0	+ 7.6	40	21†	−23	29	49	0.12	−0.48	0.08	1.1	3	16	5	10	sw.	J. G. Carlson.
Maddock	Benson	1,604	19	12.4	+ 7.6	38	27	−28	29	45	0.18	−0.09	0.05	1.3	4	1	19	11	nw.	A. T. Fellund.
Mandan	Morton	1,750	20	17.8	+ 9.5	48	30	−13	1	53	0.06	−0.22	0.04	T.	3	4	9	18	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	......	......	......	......	......	......	......	0.47	−0.09	0.12	5.8	8	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	25	25.9	......	53	30	− 2	24†	44	0.19	−0.18	0.08	1.3	3	12	10	9	nw.	S. P. Grane.
Mary	McKenzie	......	5	......	......	......	......	......	......	......	0.05	......	0.03	T.	2	18	6	7	sw.	Fred Hartman.
Max	McLean	2,093	5	13.0	......	48	24	−20	25	64	0.50	......	0.30	5.0	2	7	3	21	nw.	A. W. Rice.
Mayville	Traill	975	38	14.5	+ 8.7	41	31	−26	29	46	0.25	−0.17	0.09	2.5	7	12	4	15	sw.	H. B. Addicott.
Minot	Ward	1,557	38	16.8	+10.6	41	30	−16	28	48	0.21	−0.17	0.10	2.0	3	13	11	7	w.	Mark M. Chatfield.
Mohall	Renville	1,646	40	13.8	+ 9.2	39	22†	−20	7	45	0.10	−0.23	0.10	......	1	2	22	7	w.	G. V. Davidson.
Mott	Hettinger	2,424	27	22.8	+14.0	47	30	−11	1	39	0.31	−0.53	0.17	2.3	3	14	9	8	w.	O. H. Opland.
Napoleon	Logan	1,955	42	19.1	+12.7	50	30	−20	29	51	0.25	−0.18	0.20	2.5	2	9	7	15	nw.	C. J. Hoof.
New England	Hettinger	2,400	40	22.5	+ 9.1	48	30	− 7	1	47	0.15	−0.35	0.10	1.5	2	13	10	8	nw.	F. S. Sleight.
New Salem	Morton	2,163	30	21.3	+12.2	49	28	−13	1†	61	0.08	−0.42	0.03	0.5	4	11	12	8	nw.	J. Christiansen.
Oakes	Dickey	1,318	5	18.6	......	50	27†	−21	1†	53	0.10	......	0.08	0.9	2	6	14	11	sw.	Eugene Naylor.
Park River	Walsh	998	30	11.0	+ 8.3	40	11	−32	29	51	0.80	+0.42	0.50	8.0	3	6	7	18	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	14.4	......	41	23	−21	7	48	0.08	−0.11	0.07	1.0	2	5	20	6	sw.	C. E. Shubert.
Pembina	Pembina	789	60	7.0	+ 9.4	39	27†	−32	30	71	0.67	+0.05	0.17	11.5	10	7	9	15	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	4	......	......	......	......	......	......	......	0.18	......	0.06	1.0	5	9	15	7	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	14.8	+11.8	41	21†	−23	29	46	0.15	−0.26	0.10	0.5	2	12	7	12	nw.	H. H. McCumber.
Portal	Burke	1,954	29	10.2	+ 7.7	48	26	−20	28†	52	0.07	−0.41	0.07	0.5	1	12	6	13	w.	R. G. Wegener.
Powers Lake	Burke	2,205	29	15.7	......	40	13†	−16	3	47	0.57	−0.01	0.31	8.0	3	16	12	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	18	21.5	+11.3	48	30	−15	2	49	T.	−0.42	T.	T.	0	13	11	7	nw.	John Muggli.
Rugby (near)	Pierce	1,562	5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. C. Erickson.
Ryder	Ward	2,108	5	......	......	......	......	......	......	......	0.05	......	0.03	0.5	2	......	......	......	......	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	11.9	......	42	23	−16	24	52	0.02	......	0.02	T.	1	......	......	......	......	H. J. Bugge.
Sharon	Steele	1,516	10	11.7	......	37	21†	−28	29	45	0.22	−0.10	0.08	1.1	8	11	5	15	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	......	......	......	......	......	......	......	0.09	−0.21	0.05	T.	2	10	11	10	nw.	J. H. Giffey.
Steele	Kidder	1,857	40	18.6	+11.3	46	31	−15	1	49	0.03	−0.43	0.03	T.	3	9	11	11	sw.	R. S. Armstrong.
Stowers††	Adams	2,325	19	......	......	......	......	......	......	......	T.	−0.36	T.	......	0	21	5	5	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. C. Abbott.
Tioga	Williams	2,279	5	......	......	......	......	......	......	......	0.10	......	0.10	......	1	14	7	10	nw.	Anton Carlson.
Towner	McHenry	1,482	32	14.0	+10.2	49	27	−27	29	53	T.	−0.44	T.	0.5	0	10	9	12	w.	Karl Weber.
Trotters	Golden Valley	......	8	......	......	......	......	......	......	......	0.25	......	0.25	3.0	1	13	9	9	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	20	......	......	......	......	......	......	......	0.05	−0.33	0.03	T.	3	......	......	......	......	M. A. Slettum.
Valley City	Barnes	1,245	28	16.6	+11.1	43	27†	−22	29	52	0.08	−0.47	0.04	0.7	3	16	4	11	w.	I. C. Robertson.
Velva	McHenry	1,511	7	16.4	......	42	17†	−20	7	49	0.11	......	0.10	1.5	2	5	10	16	w.	Oscar Anderson.
Wahpeton	Richland	962	42	16.0	+ 7.6	41	27	−23	29	55	0.25	−0.19	0.10	1.0	3	12	0	19	se.	C. G. Luick.
Washburn	McLean	1,731	33	16.9	+ 9.5	49	30	−14	1	55	0.24	−0.10	0.20	3.0	3	12	10	9	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	12.8	+11.5	44	24†	−25	29	55	0.09	−0.31	......	0.9	......	12	15	4	se.	C. M. Condit.
Williston	Williams	1,878	55	16.8	+10.4	41	23	−13	28	41	0.17	−0.37	0.05	1.8	5	8	13	10	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	9.5	+ 8.6	40	23	−33	29	52	0.53	−0.01	0.40	4.5	4	10	8	13	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	5	16.2	+ 9.2	54	24	−17	29†	58	0.00	−0.53	0.00	0.0	0	16	0	15	nw.	Gottlieb Herr.
Zap	Mercer	1,838	19	......	......	......	......	......	......	......	0.13	−0.21	0.08	0.0	2	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	53	13.8	+10.0	40	31	−23	29	47	0.44	−0.23	0.22	1.5	10	5	9	17	s.	U. S. Weather Bureau.
Averages	......	......	......	15.8	+ 9.6	54	24†	−36	29	66	0.20	−0.27	0.50	2.0	3	11	9	11	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora; Stowers, Thunder Hawk, S. D.

551.05
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Daily Precipitation for January 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																					.03							.06				0.09
Amenia	Red	.06			T.		T.	.05						T.	T.								.12			T.	T.	.10	.05				0.38
Arnegard (near)	Missouri	T.			T.	.05						.10									.03		T.	.10			.05						0.33
Ashley	Missouri												.02																				0.02
Beach	Lit. Missouri	.05	.01			.06						T.										.02	T.		T.	T.			T.	.03			0.17
Berthold Agency	Missouri	T.	T.																			T.			T.	T.							T.
Bismarck ***	Missouri	T.	T.		T.		T.					T.	.03	T.								.04			T.	T.	.01	T.	T.	T.		T.	0.08
Bottineau	Mouse		.04	T.			.01						.06											.02	.01	.01	.13	.02	.04		.01		0.35
Bowman	Grand					.19	.08						.06						T.			.09							T.	.09			0.51
Cando	Devils Lake	T.					T.			T.				.10							T.	T.	.06				T.				.02	T.	0.18
Carrington‖	James											.03	.02									.02						.14					0.21
Carson	Heart						.05																							.10			0.15
Cavalier	Red		.20			.10							.10	.02									.05			.02						.05	0.54
Cooperstown	Sheyenne			T.	T.	T.		.05					T.	T.											T.			T.	.15				0.20
Corinth	Missouri					T.							T.											T.	.04	.02			.02		T.	T.	0.08
Courtenay	James			T.								.20																	T			T.	0.20
Crosby	Mouse		T.																						T.								T.
Devils Lake ***	Devils Lake	T.	.02	T.		T.	.01		T.			.12	.13	T.					T.	T.	T.	.08	T.	.02	.01	.03	.01	.06			.01	T.	0.55
Dickinson‖	Heart		.02				.01	.05					.01	.02									.02	T.	T.	.01	.01			.05			0.20
Dogden Butte	Mouse		T.				T.	T.					T.										T.		T.	T.		T.	.16			T.	0.16
Drake‖	Mouse			.03				T.					T.	.03									.01			.02	.02		.05		T.		0.16
Dunn Center	Knife					T.							T.																				T.
Dunseith	Mouse												.01								T.				T.			T.			.01		0.02
Eckman	Mouse		.05										.04											.05	.06	T.	.05	.03					0.28
Edgeley	James												.05																.01				0.06
Edmore	Devils Lake	.01	.01	T.	T.		.02					T.	.20	.15					T.	T.	T.		.05		.03	.02		T.	.02			.04	0.55
Ellendale	James			T.	T.	.02	T.		T.				T.	T.									T.						T.				0.02
Energy	Missouri		.08																			T.				.05							0.13
Epping	Missouri																																......
Fairfield	Knife						.10																										0.10
Fessenden‖	James	.03						.02						.10													.06	T.	.14				0.35
Forman	Sheyenne				T.	T.	T.		T.				T.	T.									.05					T.	T				0.05
Fort Yates	Missouri		T.				T.						T.													T.							T.
Foxholm (near)	Mouse	T.	T.				.02						T.										.11		.05			T	.05				0.23
Fryburg	Heart					.15					T.	.02											.03										0.20
Fullerton	James	T.		T.		.08	T.		T.				.08												T.	T.		T.				T.	0.16
Gackle	James	T.	T.	T.	T.	T.	T.	.01					.08	.01									T.				T.		.02	T.			0.12
Garrison	Missouri	T.	T.				T.																		T.	.05		T.	T.				0.05
Grafton	Red				T.	T.		T.					T.	.10						T.			.08		.02	T.						T.	0.20
Grand Forks ***	Red	T.	T.	T.			.05	T.					.02	.01						T.		.04	.08	T.	.01	.03	T.	.01			T.	T.	0.25
Granville	Mouse	T.	T.	T.			T.						T.	T.									.02	T.	T.	T.		T.	T.		T.		0.02
Hankinson	Red					T.	.05															.15											0.20
Hannah	Pembina	T.	T.	T.			.04		T.				.14	.05						T.			.08		.02	T.		.01	T.		T.	.05	0.39
Hansboro	Devils Lake						.10						.35			.15												.10				.10	0.80
Hettinger	Grand						.01															T.				T.				.01			0.02
Hillsboro	Red				T.				T.				T.														.12				.06		0.18
Howard (near)	Missouri	.07	T.				.20					T.	T.									.01			T.			T.	T.	.02			0.30
Jamestown	James			.02									.12									T.			T.			T.					0.14
Kenmare	Mouse			T.				T.															T.						.11				0.11
Langdon	Pembina	T.	.20										.40		.20																		0.80
Larimore	Red						T.						T.	.11									.05		T.	.06							0.22
Linton	Missouri						T.						T.										.08			T.			T.				0.08
Lisbon	Sheyenne																												.10				0.10
McClusky	Missouri		.15				.10															T.			.05			.05	.10				0.45
McLeod	Sheyenne							.08						T.									.01				T.		.03				0.12
Maddock	Sheyenne	T.	.04				T.	T.					T.	T									.05	T.	T.	.04	T.	T.	.05			T.	0.18
Mandan‖	Missouri	T.					T.						.01									.04			T.	T.	.01	T.					0.06
Manfred	James		.02			.03							.04	.07									T.		.08	.12		.01	.10				0.47
Marmarth	Lit. Missouri					.08	.06						T.									.05											0.19
Mary	Lit. Missouri		T.			.03	.02															T.								T.			0.05
Max‖	Missouri			.30				.20																									0.50
Mayville	Red		.03		T.		.03			T.			T.	.03	T.					T.			.05			.01	.01	T.	.09			T.	0.25
Minot	Mouse	T.	T	.01			.10	T.					T.										T.	T.				.10					0.21
Mohall	Mouse	T.	T.										T.													.10		T.		T.		T.	0.10
Mott	Cannon Ball	T.				.03							T.									.11								.17			0.31
Napoleon ‖	Missouri												.20										T.						.05				0.25
New England	Cannon Ball			.10												.05						T.											0.15
New Salem	Heart		T.		T.		.01																.03	T.	T.	T.		.03	.01	T.		T.	0.08
Oakes	James					.08	T.		.02														T.										0.10
Park River	Red	T.	.05	T.			T.		T.				.25	.50											T.								0.80
Parshall	Missouri		.01																				T.			.07							0.08
Pembina ***	Red	T.	.04	T.	.02	.06		.03					T.	.07	T.	T.			T.	T.	T.		.17	T.	.04	.07	.10	T.	.07		T.	T.	0.67
Petersburg	Red		T.				T		T.				.06	T.						T.			.05		T.	T	.04			.01	.02		0.18
Pettibone	James	T.	T.				T.	T.					T.	.05	T.								.10		T.	T.	T.	T.	T.			T.	0.15
Portal‖	Mouse																								.07	T.							0.07
Powers Lake	Missouri				.04	.22														.31													0.57
Richardton	Heart												T.									T.											T.
Rugby [near]	Mouse																																......
Ryder	Missouri		T.																	.03								.02					0.05
Sanish‖	Missouri																					.02			T.								0.02
Sharon	Red		.02	T.			T.		T.				.02	.03						T.			.08		T.	.02	.02	.01	.02				0.22
Stanton	Missouri																					.04				T.	.05						0.09
Steele	Missouri		T.				T.						.03										T.		T.	T.	T.						0.03
Stowers	Cannon Ball						T.						T.											T.									T.
Tagus	Mouse																																......
Tioga	Missouri	T.															T							T.				.10					0.10
Towner	Mouse		T.				T.					T.	T.										T.	T.		T.	T.	T.					T.
Trotters	Lit. Missouri						.25								T.									T.		T.				T.			0.25
Turtle Lake	Missouri			.01																		T.			.01				.03				0.05
Valley City	Sheyenne		T.				T.		T.				.03	T.									.01		T.	T.	T.		.04				0.08
Velva	Mouse		.01				T	T.					T.	T.											T.	T.		T.	.10	T.	T.	T.	0.11
Wahpeton	Red						.10																.10						.05				0.25
Washburn	Missouri		.20		T.			.02																	T.	T.	.02						0.24
Westhope	Mouse																						.09										0.09
Williston ***	Missouri		.03			T.	T.					T.	T.									.02		T.	.05	.03			.04	T.			0.17
Willow City	Mouse	T.	T.											.40										.05	.05	T.	.03	T.					0.53
Wishek‖	Missouri																																0.00
Zap	Knife																					.05					.08						0.13
Moorhead, Minn ***	Red	T.	.01	T.		T.	.01	T.	T.			T.	.01	.01	T.				T.				.22		.01	T.	.10	.05	.01		T.	.01	0.44

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	-8	-2	21	24	26	25	15	30	28	40	27	25	18	35	32	10	22	12	13	15	34	35	10	0	24	36	46	-8	11	28	32	20.5
	Minimum	-17	-12	-10	-3	19	18	-4	-15	12	14	14	14	7	4	15	-11	-12	6	4	7	10	14	4	-3	-17	-11	23	-15	-25	-25	11	0.5
Arnegard (near)	Maximum	-2	-4	25	35	35	38	32	38	40	34	30	32	35	20	29	40	26	30	41	36	39	42	26	39	39	37	15	19	34	40	37	30.8
	Minimum	-10	-14	-4	3	0	16	18	16	22	17	17	11	13	8	2	20	10	0	18	20	7	20	-18	-18	18	15	-14	7	7	17	23	8.0
Ashley	Maximum	0	-2	13	25	24	30	20	34	33	44	35	32	22	43	35	25	45	36	33	34	49	41	44	40	21	46	49	45	8	49	44	32.2
	Minimum	-13	-12	-5	12	18	15	-7	-3	21	22	24	15	15	10	10	0	12	12	10	10	26	25	15	-4	-11	15	32	-12	-19	0	22	8.2
Beach	Maximum	9	8	38	36	36	35	24	35	40	41	34	32	35	37	30	38	42	35	39	44	40	36	43	38	33	43	49	40	23	46	40	35.4
	Minimum	-2	-5	5	23	14	10	-1	11	24	27	22	20	5	21	12	11	29	15	12	25	24	18	22	-15	-5	19	35	-6	-3	22	29	13.5
Berthold Agency	Maximum	-5	-2	20	18	25	35	12	33	40	40	35	28	25	38	28	28	42	40	35	40	40	35	48	42	32	42	42	16	12	44	40	30.6
	Minimum	-12	-12	-5	4	-2	5	-18	-8	8	15	8	14	15	8	6	-7	10	10	0	15	12	8	8	-10	-15	18	16	-11	-5	6	30	3.6
Bismarck	Maximum	0	-1	20	25	25	34	13	37	39	40	34	26	25	42	30	27	45	28	31	40	47	37	46	30	31	46	45	15	14	49	40	31.0
	Minimum	-11	-11	-1	18	12	1	-10	1	16	24	15	17	9	6	8	-2	17	17	10	18	26	22	20	-7	-7	28	15	-10	-6	14	22	8.7
Bottineau	Maximum	11	-12	7	16	21	24	14	29	34	30	29	28	18	30	17	14	26	23	16	28	29	32	33	38	12	34	36	22	-7	36	35	22.7
	Minimum	-18	-19	-12	4	-4	8	-18	-9	12	14	8	15	7	8	7	-4	2	-3	-2	10	7	11	1	-10	-21	4	22	-20	-27	-7	14	-0.6
Bowman	Maximum	10	9	29	37	38	37	26	35	43	47	36	30	35	39	40	45	34	36	40	45	43	35	49	36	36	45	47	39	31	52	39	36.9
	Minimum	-2	-6	2	20	18	12	5	14	21	23	24	19	5	20	10	23	17	10	10	20	21	22	22	-2	-1	24	34	-2	-1	23	25	13.9
Cando	Maximum	5	-5	7	15	13	21	8	31	30	30	29	27	25	32	23	15	21	22	16	23	26	30	33	34	37	35	36	29	28	34	36	24.1
	Minimum	-22	-20	-12	1	0	4	-17	-6	18	19	7	7	6	9	7	-12	3	2	-5	9	12	14	-2	-19	-21	13	12	-31	-31	-5	-7	-2.1
Carrington §§	Maximum	-10	-2	17	25	31	40	27	32	34	36	31	33	26	38	22	12	44	23	17	34	39	42	52	-2	28	38	51	-8	16	53	45	27.9
	Minimum	-15	-12	-5	10	8	-18	-11	14	23	15	18	9	9	15	-5	-4	8	5	1	11	21	13	-4	-14	-10	25	-15	-20	-19	10	7	2.3
Carson	Maximum	2	-2	15	25	32	42	25	35	39	42	35	28	30	40	34	28	40	34	34	44	44	36	46	39	35	45	49	38	8	48	42	33.3
	Minimum	-14	-12	-10	14	10	10	-9	10	15	22	22	15	12	13	10	15	18	15	12	20	24	22	18	-5	-7	25	33	-9	-8	5	28	10.1
Crosby	Maximum	-8	-4	18	15	34	34	15	36	36	35	34	28	21	34	24	21	37	28	22	37	37	32	40	30	25	39	37	15	12	35	40	27.1
	Minimum	-14	-15	-5	0	4	-3	-18	4	15	24	12	17	10	11	-3	6	8	8	-1	15	14	11	5	-10	-17	21	15	-16	-12	12	22	3.9
Devils Lake	Maximum	-11	-9	14	23	20	28	0	29	30	34	31	26	18	34	18	6	27	19	14	25	37	34	40	19	19	36	37	0	8	36	36	21.9
	Minimum	-18	-15	-9	13	5	0	-12	-5	21	19	13	7	5	10	5	-10	6	5	1	13	20	9	5	-15	-18	23	0	-20	-28	8	2	1.3
Dickinson §§	Maximum	1	9	29	29	36	24	27	35	39	40	35	22	32	39	30	33	41	29	35	41	39	30	47	12	33	42	27	2	32	47	36	31.4
	Minimum	-8	-10	-10	10	9	11	-2	9	17	18	16	20	5	8	9	3	11	16	8	7	17	18	17	-4	-6	12	28	-6	-7	0	20	7.6
Drake	Maximum	-12	0	18	13	31	25	20	33	34	37	30	19	25	36	23	22	37	24	22	33	38	26	40	0	29	38	37	-13	21	38	30	24.3
	Minimum	-16	-15	-14	-1	8	11	-16	-12	18	18	16	17	13	11	13	-2	-1	5	6	7	14	24	9	-8	-17	0	29	-17	-19	-18	20	2.7
Dunn Center	Maximum	-1	0	23	23	35	36	21	36	39	37	37	29	29	39	27	30	39	27	32	38	37	32	42	12	33	42	44	34	21	42	42	30.9
	Minimum	-11	-13	-3	6	6	11	-4	9	11	19	14	29	11	8	11	-2	22	15	2	16	21	12	17	-4	-6	12	34	-12	-8	13	30	8.6
Dunseith	Maximum	-13	-12	7	23	26	26	9	34	32	35	32	31	17	33	29	17	28	28	17	26	29	32	33	34	12	39	39	19	8	30	40	23.9
	Minimum	-22	-19	-14	4	3	8	-16	-11	15	17	18	11	9	14	14	-3	-1	5	1	8	8	15	6	-12	-21	9	18	-22	-26	-9	8	0.5
Edgeley	Maximum	-4	0	14	24	25	24	16	34	40	41	38	26	21	39	32	28	38	36	25	40	53	44	39	36	18	44	48	41	6	50	45	31.0
	Minimum	-15	-11	-5	10	20	14	-6	-2	20	25	17	18	10	9	18	4	8	13	9	9	18	27	11	0	-10	14	35	-11	-20	-7	20	7.8
Ellendale	Maximum	-4	-3	21	22	26	26	23	34	34	32	27	21	26	45	36	17	39	28	27	40	50	35	42	30	18	48	50	36	5	52	36	29.6
	Minimum	-14	-10	-5	10	15	22	-4	-3	20	14	13	20	15	11	17	5	10	15	13	12	17	28	13	-1	-10	12	36	-10	-19	-3	20	8.4
Fessenden §§	Maximum	-12	-2	19	24	31	25	20	33	31	36	32	19	25	37	23	18	36	23	20	36	39	24	39	-4	26	39	40	-9	17	40	28	24.3
	Minimum	-19	-16	-16	-3	7	10	-14	-13	19	19	12	17	13	5	12	-8	-9	6	4	5	8	2	9	-8	-17	-4	25	-17	-24	-6	16	0.5
Foxholm (near)	Maximum	-14	-10	10	13	27	33	11	35	38	36	33	30	20	35	25	16	39	33	18	34	34	33	39	36	23	38	38	23	8	38	37	26.1
	Minimum	-19	-17	-12	-5	2	6	-20	5	14	23	13	13	11	6	6	-3	11	5	5	9	17	10	10	-11	-16	19	22	-20	-17	6	17	2.9
Fullerton	Maximum	-5	-3	17	25	27	32	18	34	34	42	33	30	24	44	34	27	37	34	30	38	47	40	41	37	19	48	50	40	4	48	42	31.2
	Minimum	-14	-9	-3	17	22	18	-4	-4	21	15	20	20	12	12	16	4	9	15	11	12	21	25	15	-1	-9	14	34	-12	-19	-1	20	8.9
Garrison	Maximum	-9	-8	17	21	22	33	14	32	36	38	33	27	23	37	26	20	40	25	22	33	37	37	39	40	28	40	38	36	26	43	40	28.6
	Minimum	-13	-18	-8	7	3	12	-14	0	14	21	11	12	17	7	8	-5	10	7	0	13	18	15	7	-7	-15	20	34	-5	-11	9	24	5.7
Grafton	Maximum	-6	-6	7	23	24	25	14	32	31	36	31	24	14	35	31	18	17	24	24	28	34	34	33	37	9	35	41	14	-5	37	39	23.7
	Minimum	-17	-17	-11	6	8	6	-10	-15	14	21	7	12	6	1	14	-9	-3	8	5	7	12	16	-3	-9	9	8	14	-18	-29	-12	5	0.8
Grand Forks	Maximum	-7	-6	16	25	24	26	-1	29	29	38	25	25	12	34	23	2	19	25	16	29	36	34	33	32	15	36	38	1	-4	38	37	21.9
	Minimum	-17	-16	-6	16	11	-1	-13	-14	14	18	11	11	4	8	2	-13	2	8	0	12	14	6	0	-17	-19	13	1	-24	-29	-4	2	-0.6
Granville	Maximum	-8	-10	14	16	20	33	15	35	35	37	27	27	27	35	28	15	38	35	16	35	38	38	43	41	35	38	43	34	12	39	37	28.0
	Minimum	-15	-14	-5	-2	2	8	-19	-3	16	21	17	15	12	2	10	-8	12	3	3	10	14	15	-10	-10	-17	22	34	-16	-20	29	27	4.3
Hansboro	Maximum	-10	-8	6	11	18	12	15	32	32	35	32	25	32	32	20	8	20	26	18	23	33	30	32	34	13	38	39	15	-5	33	32	21.7
	Minimum	-23	-22	-11	-4	4	3	-13	-7	11	20	4	8	8	17	-3	-10	-13	3	-2	10	12	12	2	-10	-22	12	15	-22	-32	-6	-5	-2.1
Hettinger	Maximum	5	4	22	35	40	25	28	37	43	44	38	30	38	44	36	36	48	36	40	50	47	37	53	42	39	48	50	42	15	54	43	37.1
	Minimum	-6	-8	-2	14	14	12	3	13	22	25	26	21	8	24	14	10	23	17	10	23	24	23	22	-1	-4	24	35	-2	-2	15	31	13.8
Hillsboro	Maximum	-10	-7	-2	21	24	26	25	15	30	28	40	26	25	35	33	20	22	24	21	33	35	35	32	32	12	35	39	19	-5	35	39	23.8
	Minimum	-16	-12	-10	-3	19	18	-4	-15	12	14	14	19	14	10	8	-8	4	10	7	10	12	20	4	-6	-18	8	19	-18	-26	-15	8	2.6
Howard (near)	Maximum	-10	-5	23	17	33	33	15	34	33	33	32	23	32	29	18	24	33	27	23	37	36	27	39	36	-10	39	35	19	17	37	36	25.6
	Minimum	-12	-17	-8	2	0	-1	-15	7	17	23	14	11	12	13	2	-5	7	3	0	17	15	11	14	-12	-13	-13	19	-20	-10	14	14	2.9
Jamestown §§	Maximum	-7	-6	14	26	25	30	12	33	34	37	32	28	21	40	27	19	37	36	24	37	45	38	37	38	18	40	40	27	7	47	42	28.3
	Minimum	-17	-13	-8	13	12	10	-7	-7	20	21	20	14	8	8	14	-2	6	8	7	10	21	21	15	-6	-11	15	25	-16	-20	0	12	5.6
Kenmare	Maximum	-9	-13	-1	14	18	34	25	32	35	37	34	36	20	30	34	23	28	39	26	25	37	34	23	40	1	34	40	39	-5	32	39	25.2
	Minimum	-17	-16	-14	-1	0	6	-14	-2	20	24	13	15	14	13	11	0	6	12	8	6	14	12	11	-10	-13	1	31	-18	-12	-12	24	3.6
Langdon §§	Maximum	-11	-5	12	23	25	25	10	37	31	30	31	25	20	30	19	10	20	20	20	30	39	20	40	5	20	40	40	20	0	40	12	21.9
	Minimum	-22	-22	-20	-10	0	0	-17	-18	8	12	6	10	0	5	-9	-15	-15	-10	-3	4	10	9	-5	-14	-25	-17	20	-23	-35	-22	10	-6.7
Larimore	Maximum	-11	-9	6	23	23	26	6	30	32	37	32	22	15	32	38	15	19	23	17	27	39	34	32	35	10	35	38	15	0	39	32	23.0
	Minimum	-18	-17	-11	6	12	6	-9	-11	15	25	14	11	5	5	15	-9	-5	10	4	10	13	13	1	-8	-20	10	15	-18	-28	-10	6	1.0
Linton	Maximum	0	0	17	26	28	33	17	36	42	44	35	33	29	45	35	26	49	39	35	48	50	44	52	47	22	49	50	45	13	52	50	35.2
	Minimum	-12	-13	-4	14	15	15	-8	-7	21	13	12	14	16	6	4	-2	13	13	5	18	18	24	16	-3	-12	12	30	-11	-10	5	26	7.4
Lisbon	Maximum	6	-4	15	24	28	31	18	31	30	40	30	25	21	40	35	25	29	26	24	36	40	36	40	39	16	42	45	42	0	42	41	28.8
	Minimum	-14	-8	-5	15	21	18	-1	-9	11	19	15	20	10	11	11	0	4	12	12	11	17	26	16	0	-8	16	33	-11	-21	-4	17	7.5
McClusky	Maximum	-8	-5	17	20	20	30	12	32	30	32	30	30	20	32	21	18	38	25	19	36	39	35	40	40	32	40	37	20	9	40	28	26.1
	Minimum	-17	-15	-10	-15	-6	10	-15	-5	-15	20	14	14	11	5	5	11	14	2	1	22	18	16	5	-10	-18	15	19	-17	-20	-6	16	1.6
Maddock	Maximum	-11	-11	9	23	20	28	12	29	29	33	34	27	20	33	27	18	31	29	21	26	35	36	36	35	15	36	38	18	3	37	36	24.3
	Minimum	-20	-16	-13	5	3	3	-15	-9	19	22	9	13	7	5	12	-11	4	2	-4	6	15	16	3	-10	-22	13	18	-19	-28	-1	11	0.6
Marmarth	Maximum	17	12	33	39	37	35	27	37	43	41	37	33	36	40	34	40	44	47	44	44	41	36	52	42	37	47	47	42	27	53	43	38.3
	Minimum	2	0	9	19	12	13	7	9	21	15	21	22	9	20	4	5	14	14	9	20	20	22	24	-2	-2	24	31	2	5	21	30	13.5
Minot	Maximum	-10	-11	16	16	31	31	11	36	39	38	35	31	25	36	29	20	40	34	21	39	38	36	40	40	26	39	40	27	11	41	38	28.5
	Minimum	-15	-14	-13	2	1	11	6	1	11	26	10	15	14	6	13	-6	16	6	0	14	2	15	8	-8	-14	23	26	-16	-13	9	21	5.2
Mohall	Maximum	-12	-8	10	11	34	33	15	33	38	36	28	25	20	34	22	15	38	27	21	28	36	39	38	36	25	38	38	24	8	39	38	26.0
	Minimum	-17	-16	-12	-4	-1	6	-20	-1	-7	24	5	15	11	4	12	-5	7	7	-1	12	12	8	10	-1	-17	21	24	-19	-17	1	18	1.6
Mott	Maximum	-2	2	23	25	34	27	14	36	37	36	33	27	32	40	33	26	43	33	30	38	46	36	45	35	36	44	45	20	21	47	36	31.5
	Minimum	-11	-8	0	15	20	11	3	13	25	21	18	20	12	18	0	14	18	13	18	21	31	20	20	-4	0	27	20	-6	-2	8	21	12.1
Napoleon §§	Maximum	0	9	19	17	32	30	22	35	37	41	37	24	27	41	29	24	44	24	32	47	48	32	47	14	33	46	44	2	31	50	34	31.0
	Minimum	-16	-15	-8	9	12	16	-10	-5	22	21	19	13	13	6	10	-5	12	7	5	17	25	30	15	-5	-12	14	33	-12	-20	2	31	7.2
New England	Maximum	10	7	18	34	38	23	28	36	40	44	37	28	43	35	33	35	46	45	40	40	24	14	24	40	44	46	45	30	29	48	47	33.9
	Minimum	-7	-6	-6	6	9	7	0	9	19	22	20	21	5	9	10	5	17	18	18	22	12	0	-5	10	22	27	27	24	-3	1	31	11.1
New Salem	Maximum	4	-3	20	24	30	30	20	35	40	40	37	29	28	41	30	25	43	37	31	43	41	39	43	40	36	45	47	49	10	47	44	33.1
	Minimum	-13	-13	-8	14	10	11	-10	6	13	24	20	15	17	11	12	3	20	12	9	17	24	20	21	-6	-9	23	34	-12	-7	7	30	9.5
Oakes	Maximum	-10	-1	18	25	27	30	19	33	30	36	28	26	24	45	36	26	33	28	26	39	42	36	42	40	18	46	50	41	4	50	42	30.0
	Minimum	-21	-10	-5	12	20	18	-4	-7	18	14	14	18	9	14	16	0	7	12	10	13	19	25	15	0	-9	14	32	-11	-21	-3	16	7.3
Pembina §§	Maximum	-14	-4	12	19	19	21	0	20	24	36	24	24	18	32	21	10	17	26	14	25	32	21	38	-6	19	38	39	-15	7	39	14	18.4
	Minimum	-21	-21	-19	-5	7	5	-13	-16	0	15	6	7	5	1	15	-12	-14	7	5	5	12	13	-6	-7	-26	-21	17	-21	-31	-32	7	-4.5
Sharon	Maximum	-11	-9	9	23	20	27	4	28	31	34	30	23	17	36	23	13	21	21	15	28	37	35	34	35	12	35	37	10	-2	36	35	22.2
	Minimum	-19	-15	-11	8	12	4	-10	-11	15	21	17	12	2	15	13	-8	-1	8	1	7	17	11	4	-8	-19	12	10	-18	-28	-9	5	1.2
Steele	Maximum	-4	-4	15	26	25	32	13	34	34	36	33	36	21	42	33	24	40	43	30	45	42	41	41	38	13	41	42	37	10	45	46	30.6
	Minimum	-15	-13	-7	13	10	13	-12	-5	21	18	16	16	13	4	10	-5	13	11	3	15	17	23	13	-5	-11	13	31	-12	-11	5	22	6.6
Towner	Maximum	-8	-10	11	14	17	36	16	32	32	34	27	23	20	46	37	26	34	40	16	29	33	39	38	32	22	37	49	35	4	37	49	27.3
	Minimum	-15	-18	-12	-1	-3	4	-19	-9	11	17	6	15	12	2	12	-12	7	1	-6	10	11	15	5	-10	-21	18	27	-18	-27	4	12	0.6
Valley City	Maximum	-6	-5	13	25	27	29	14	30	32	36	32	25	19	39	32	34	32	30	21	33	40	37	37	37	15	39	43	38	-1	43	42	27.8
	Minimum	-17	-12	-10	10	16	14	-7	-12	16	21	18	16	5	14	12	15	-3	3	8	8	15	23	15	-3	-11	12	32	-14	-22	-8	10	5.3
Wahpeton	Maximum	-3	0	14	26	28	31	19	28	25	35	34	30	25	35	35	26	22	22	26	35	40	39	35	16	14	36	41	39	-2	40	39	26.8
	Minimum	-16	-5	-5	12	22	18	-2	-10	13	13	15	24	7	4	12	-6	2	2	9	11	2	26	16	-1	-12	12	29	-16	-23	-10	15	5.1
Westhope	Maximum	-12	-8	10	11	12	27	14	32	33	35	30	23	22	34	28	13	35	31	26	24	26	35	38	44	26	37	38	29	17	42	44	25.7
	Minimum	-18	-15	-12	-5	-5	9	-20	-10	9	21	4	14	17	1	10	-9	3	2	-5	10	9	10	0	-11	-20	17	23	-20	-25	-7	16	-0.2
Williston	Maximum	-5	1	18	15	34	34	19	34	36	36	35	26	26	33	23	29	39	27	31	39	36	28	41	1	30	40	38	1	24	40	39	27.4
	Minimum	-11	-12	1	4	4	-6	-13	8	19	18	17	19	14	16	8	-1	17	10	2	13	20	14	1	-12	-11	26	1	-13	-5	20	21	6.1
Moorhead, Minn	Maximum	-4	-3	16	26	27	29	2	28	27	34	29	27	14	35	27	14	20	25	21	31	39	35	34	36	19	37	40	4	-5	40	40	24.0
	Minimum	-15	-8	-3	16	21	2	-10	-12	13	15	14	13	7	10	14	-5	7	12	9	15	20	15	8	-9	-15	15	4	-17	-23	-7	4	3.5

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 3-1-34—1050]

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NNI

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

THE LIBRARY OF THE
JUN 25 1934

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIII BISMARCK, N. D., FEBRUARY 1934 No. 2

GENERAL SUMMARY

The weather during the month was characterized by abnormally high temperatures and extreme dryness. Temperatures averaged decidedly above the seasonal normal during the first two decades and the only period with sub-zero readings in all sections was from the 21st to the 26th. By the end of the month temperatures were above normal again. The average precipitation, 0.06 inch, was the least ever recorded in any month during the climatological history of the State. Thirty-six stations did not have measurable amounts of precipitation. It was also the only February with an average snowfall of less than one inch. As a result of the pleasant weather the snow cover in the northern part of the State was greatly reduced. Livestock ranged freely, but shortage of feed necessitated considerable yard feeding.

TEMPERATURE

The mean temperature for the State was 19.5°, or 9.3° above the normal, and 11.6° higher than the mean for February 1933. The highest mean reported was 28.4° at Marmarth, Slope County; the lowest was 5.5° at Pembina, Pembina County. The highest temperature reported was 61° at Fort Yates, Sioux County on the 14th; the lowest was −30° at Langdon, Cavalier County on the 23d and 25th. The greatest monthly range of temperature was 86° at Fort Yates, Sioux County and Linton, Emmons County; the least was 60° at Grand Forks, Grand Forks County and Mayville, Traill County. The greatest daily range of temperature was 65° at Dickinson, Stark County on the 27th.

PRECIPITATION

The average precipitation for the State was 0.06 inch, or 0.43 inch below the normal, and 0.22 inch less than the average for February 1933. The greatest monthly amount reported was 0.53 inch at Powers Lake, Burke County; there was none at six stations. The greatest amount recorded in any 24 consecutive hours was 0.34 inch at Powers Lake, Burke County on the 19th. The average number of days with 0.01 inch or more of precipitation was 1. The average snowfall was 0.7 inch.

MISCELLANEOUS PHENOMENA

AURORAS: Corinth, 17th, 18th, 19th; Foxholm, 8th, 9th, 10th, 12th, 13th, 14th, 15th, 17th; Howard, 15th, 16th, 27th; New Salem, 9th, 11th; Pembina, 25th; Williston, 10th.

FOG: Beach, New England, New Salem, Stowers, 7th; Bismarck, Dogden Butte, Dunn Center, Parshall, 9th; Bowman, Marmarth, 7th, 9th, 10th; Carson, 7th, 9th; Devils Lake, Sharon, Willow City, 13th; Ellendale, 4th, 9th; Fairfield, 7th, 9th, 17th; Grand Forks, 6th, 7th, 25th; Hannah, Steele, 16th.

HALOS, lunar: Bismarck, 22d; Devils Lake, 2d, 28th; Ellendale, Napoleon, 24th; Foxholm, 23d, 26th, 28th; Grand Forks, 24th, 28th; Minot, 28th; Moorhead, 21st, 25th; Oakes, 1st; Williston, 2d, 24th.

HALOS, solar: Bowman, 20th; Devils Lake, Dogden Butte, 16th; Eckman, 22d; Ellendale, Oakes, 27th; Marmarth, 15th; Moorhead, 3d, 19th, 24th; New Salem, 5th; Sharon, 24th.

SLEET: Bismarck, 20th; Devils Lake, 3d; Fairfield, 17th; Pembina, 11th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.20	30.66	18	29.63	1	9.4	38	nw.	3	85	58	61	68
Devils Lake	30.21	30.67	18	29.58	1	9.6	33	n.	17	92	80	87	58
Grand Forks	30.20	30.65	18	29.61	1	......	35	nw.	12	98	....	88	....
Williston	30.20	30.63	18	29.65	1	8.4	34	nw.	3	83	72	73	70
Moorhead, Minn	30.24	30.69	18	29.61	3	9.3	27	n.	3	90	72	78	60
Averages & ext's	30.21	30.69	18	29.58	1	9.2	38	nw.	3	90	70	77	64

† And other dates.

COMPARATIVE DATA FOR FEBRUARY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	10.0	+0.1	62	−45	0.58	+0.12	1.15	0.07	4.9	4	14	7	8
1893	−0.3	−10.2	52	−41	0.59	+0.13	1.70	T.	5.7	4	12	7	9
1894	8.0	−1.9	55	−54	0.22	−0.24	0.80	T.	2.3	2	14	9	5
1895	5.9	−4.0	65	−40	0.36	−0.10	1.20	T.	3.6	4	13	7	8
1896.	14.3	+4.4	64	−50	0.44	−0.02	1.86	T.	4.3	3	12	9	8
1897	6.1	−3.8	52	−29	1.15	+0.69	2.87	0.30	11.5	7	12	7	9
1898	13.3	+3.4	65	−40	0.46	0.00	1.05	0.05	4.5	3	13	8	7
1899	0.4	−9.5	60	−34	0.20	−0.26	0.52	T.	1.9	3	14	8	6
1900.	1.3	−8.6	46	−48	0.47	+0.01	1.10	0.08	4.5	4	12	9	7
1901	7.1	−2.8	60	−48	0.31	−0.15	0.88	T	2.9	3	15	7	6
1902	12.1	+2.2	51	−31	0.98	+0.52	3.60	0.21	6.7	6	10	6	12
1903	3.1	−6.8	46	−33	0.38	−0.08	1.38	T.	3.7	3	19	4	5
1904.	−2.1	−12.0	52	−49	0.54	+0.08	2.00	T.	7.6	5	13	6	10
1905	8.2	−1.7	64	−42	0.30	−0.16	0.81	T.	2.9	2	19	4	5
1906	9.8	−0.1	57	−46	0.13	−0.33	0.80	0.00	1.4	2	13	8	7
1907.	10.7	+0.8	58	−38	0.27	−0.19	1.42	0.00	2.8	3	15	7	6
1908	13.8	+3.9	62	−49	1.07	+0.61	4.85	T.	10.1	5	12	7	10
1909	9.6	−0.3	56	−34	0.34	−0.12	1.08	0.00	3.7	4	11	7	10
1910.	3.4	−6.5	56	−34	0.50	+0.04	1.61	0.00	5.6	4	14	7	7
1911.	7.3	−2.6	55	−50	0.73	+0.27	2.85	T.	8.0	3	15	8	5
1912.	11.8	+1.9	48	−38	0.15	−0.31	0.66	0.00	1.7	2	10	9	10
1913	8.5	−1.4	64	−33	0.10	−0.36	0.70	0.00	1.0	2	12	9	7
1914.	1.0	−8.9	57	−44	0.34	−0.12	1.80	0.00	3.8	3	12	8	8
1915.	17.4	+7.5	50	−47	0.62	+0.16	4.20	0.00	6.1	3	9	5	14
1916.	6.4	−3.5	55	−20	0.46	0.00	2.30	0.00	4.8	4	14	8	7
1917.	−0.7	−10.6	61	−39	0.66	+0.20	1.59	T.	7.1	5	10	8	10
1918.	10.8	+0.9	60	−48	0.19	−0.27	0.65	0.00	2.3	3	13	9	6
1919.	7.7	−2.2	58	−41	0.66	+0.20	1.90	0.00	6.5	5	10	8	10
1920.	12.5	+2.6	53	−40	0.30	−0.16	1.70	T.	3.2	3	11	9	9
1921.	19.9	+10.0	64	−36	0.39	−0.07	1.30	T.	3.8	3	11	10	7
1922.	0.7	−9.2	45	−33	1.21	+0.75	3.34	T.	12.8	5	13	6	9
1923.	4.1	−5.8	48	−39	0.65	+0.19	2.10	T.	7.2	4	13	7	8
1924.	20.3	+10.4	67	−40	0.41	−0.05	1.01	T.	4.2	3	14	6	9
1925.	16.5	+6.6	62	−27	0.31	−0.15	1.80	0.00	3.6	3	10	9	9
1926.	22.3	+12.4	58	−39	0.41	−0.05	1.44	T.	3.7	4	9	9	10
1927.	13.3	+3.4	50	−19	0.36	−0.10	1.51	0.00	3.1	4	12	7	9
1928.	18.8	+8.9	59	−31	0.10	−0.36	0.51	0.00	1.2	2	14	8	7
1929.	2.8	−7.1	44	−19	0.29	−0.17	0.80	T.	3.3	4	12	8	8
1930.	21.7	+11.8	63	−44	1.18	+0.72	2.50	0.11	11.7	6	11	8	9
1931.	28.0	+18.1	62	−30	0.28	−0.18	1.62	0.00	2.9	2	14	6	8
1932.	13.6	+3.7	69	−31	0.35	−0.11	1.06	0.00	4.3	3	12	9	8
1933.	7.9	−2.0	58	−45	0.28	−0.18	1.00	T.	3.3	3	13	8	7
1934.	19.5	+9.6	61	−30	0.06	−0.40	0.53	0.00	0.7	1	13	8	7
Per..	9.9	....	69	−54	0.46	....	4.85	0.00	4.7	4	13	7	8

Climatological Data for February 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	.....	8	.....	.....	.....	.....	.....	.....	.....	0.01	.....	0.01	0.1	1	.....	.....	.....	.....	H. A. Bury.
Amenia	Cass	954	38	13.8	+ 5.0	52	28	−20	26	41	T.	−0.54	T.	T.	0	3	13	12	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	23.8	+ 9.9	50	28	−20	25	35	0.05	−0.40	0.05	T.	1	19	6	3	w.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	22.0	+10.9	56	13	−20	25	48	T.	−0.52	T.	T.	0	16	7	5	nw.	H. D. Piper.
Beach	Golden Valley	2,759	28	26.2	+10.0	54	12	−24	25	45	0.30	−0.10	0.30	3.0	1	18	6	4	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	23.8	+11.6	54	28	−24	25	56	0.00	−0.47	0.00	0.0	0	17	4	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	23.6	+13.3	56	28	−19	25	53	0.03	−0.41	0.03	0.5	1	15	7	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	15.0	+10.8	46	28	−25	25	37	0.12	−0.23	0.08	1.2	3	14	6	8	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	20	26.2	+ 7.7	56	1	−19	26	55	0.06	−0.23	0.04	0.4	2	18	8	2	nw.	George Larsen.
Cando	Towner	1,488	33	14.1	+ 8.5	39	28	−25	26	53	0.04	−0.33	0.04	0.4	1	13	2	13	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	19.2	+10.5	53	10	−19	24	54	T.	−0.39	T.	T.	0	16	4	8	w.	L. A. Swanson.
Carson	Grant	2,500	22	22.2	+ 6.8	55	28	−24	25	57	0.10	−0.21	0.10	1.0	1	18	6	4	nw.	J. W. Evens.
Cavalier	Pembina	894	24	.....	.....	.....	.....	.....	.....	.....	0.21	−0.40	0.05	2.2	6	10	7	11	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	.....	.....	.....	.....	.....	.....	.....	T.	−0.41	T.	T.	0	13	2	13	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	.....	.....	.....	.....	.....	.....	.....	0.13	.....	0.07	0.6	3	0	17	11	nw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	11	13	4	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	22.4	+13.0	47	28	−14	25†	36	0.00	−0.28	0.00	0.0	0	7	10	11	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	14.2	+ 9.1	41	28	−20	25	35	0.10	−0.40	0.05	1.0	5	8	10	10	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	23.6	+10.5	54	13	−25	25	65	0.05	−0.38	0.02	0.5	3	14	8	6	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	19.8	.....	47	28	−22	25	41	T.	.....	T.	T.	0	14	6	8	nw.	R. L. Williams.
Drake	McHenry	1,634	5	18.6	.....	49	28	−18	25	53	0.03	.....	0.03	0.4	1	11	7	10	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	24.6	+10.0	53	12†	−21	25	46	0.00	−0.54	0.00	0.0	0	18	6	4	w.	W. F. Moede.
Dunseith	Rolette	1,682	38	14.8	+ 8.4	47	28	−22	25	41	T.	−0.42	T.	T.	0	13	3	12	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	18.2	+10.6	48	28	−24	25	48	0.11	−0.25	0.08	1.5	2	11	13	4	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	21.3	+ 8.6	55	13	−20	25	54	0.02	−0.32	0.02	0.2	1	11	12	5	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	10.2	.....	36	11†	−27	23†	38	0.13	−0.32	0.05	1.3	6	8	9	11	w.	E. D. Warner.
Ellendale	Dickey	1,457	39	20.8	+10.1	55	13	−19	25	45	T.	−0.58	T.	T.	0	12	9	7	nw.	J. E. Denmer.
Energy ‡‡	McLean	1,750	22	23.8	.....	55	28	−22	25	49	T.	−0.33	T.	T.	0	13	13	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. O. Wang.
Fairfield	Billings	.....	5	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	1.0	1	20	2	6	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	18.0	+ 7.9	50	28	−21	25	46	0.04	−0.51	0.02	0.4	2	12	11	5	nw.	T. D. Monsen.
Forman	Sargent	1,249	41	.....	.....	.....	.....	.....	.....	.....	T.	−0.65	T.	T.	0	20	2	6	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	25.0	+13.2	61	14	−25	25	52	T.	−0.62	T.	T.	0	17	4	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	19.6	.....	46	28	−21	25	40	0.09	−0.48	0.04	0.9	3	11	9	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	.....	.....	.....	.....	.....	.....	.....	T.	−0.54	T.	T.	0	18	6	4	sw.	Verne King.
Fullerton	Dickey	1,439	36	21.2	+ 9.2	56	28	−20	25	42	0.13	−0.79	0.10	1.3	2	10	10	8	s.	F. O. Alin.
Gackle	Logan	1,951	4	23.2	.....	50	28	− 3	25	34	0.01	.....	0.01	0.1	1	15	11	2	nw.	A. H. Haut.
Garrison	McLean	1,901	57	23.2	+12.3	52	28	−16	25	50	T.	−0.50	T.	T.	0	16	9	3	nw.	W. F. Robinson.
Grafton	Walsh	827	42	13.0	+ 6.3	43	28	−20	25	33	0.12	−0.47	0.10	T.	2	14	5	9	n.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	43	12.1	+ 4.5	42	28	−18	25	34	0.13	−0.45	0.06	1.2	5	9	5	14	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	21.2	+11.1	50	28	−22	25	33	T.	−0.45	T.	T.	0	18	4	6	nw.	W. A. Christianson.
Hankinson	Richland	1,068	5	20.2	.....	58	28	−16	24	43	T.	.....	T.	T.	0	13	4	11	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	10.1	.....	38	28	−26	23†	36	0.04	−0.54	0.02	0.4	2	9	13	6	nw.	James Muir.
Hansboro	Towner	1,597	26	14.0	+ 8.2	47	28	−22	24†	39	0.10	−0.48	0.10	2.0	1	22	2	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	25.9	+ 9.4	59	1	−19	26	57	T.	−0.34	T.	T.	0	15	6	7	nw.	C. H. Plath.
Hillsboro	Traill	901	28	15.3	+ 5.0	45	28	−16	25	34	0.06	−0.57	0.04	0.2	2	8	13	7	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	27	20.2	+11.2	44	27†	−23	25	34	T.	−0.60	T.	T.	0	17	7	4	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	42	18.6	+ 9.0	47	28	−23	25	50	0.19	−0.43	0.12	2.0	3	10	7	11	nw.	S. Calvelage.
Kenmare	Ward	1,799	3	20.7	.....	46	14	−15	25	29	0.05	.....	0.03	.....	2	14	3	11	w.	R. Costello.
Langdon	Cavalier	1,615	38	9.6	+ 4.8	40	12†	−30	23†	44	0.00	−0.62	0.00	0.0	0	15	12	1	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	13.4	+ 6.1	42	28	−19	23†	36	0.12	−0.46	0.12	1.0	1	10	6	12	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	22.6	+ 8.1	59	13	−27	25†	61	T.	−0.55	T.	T.	0	13	12	3	nw.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	30	19.8	+ 8.6	55	28	−21	25	38	0.05	−0.62	0.05	0.5	1	8	9	11	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	16	19.0	.....	52	28	−22	25	48	T.	−0.68	T.	T.	0	22	5	1	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	19.3	+ 6.0	54	28	−23	25†	40	0.03	−0.67	0.02	0.3	2	12	5	11	w.	J. G. Carlson.
Maddock	Benson	1,604	19	16.6	+ 5.5	46	28	−22	25	39	0.04	−0.33	0.04	0.4	1	7	13	8	nw.	A. T. Felland.
Mandan	Morton	1,750	20	22.8	+ 9.9	56	28	−22	25	62	0.05	−0.31	0.03	1.0	2	9	4	15	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	.....	.....	.....	.....	.....	.....	.....	0.13	−0.38	0.08	1.8	3	.....	.....	.....	.....	P. B. Anderson.
Marmarth	Slope	2,714	25	28.4	+10.7	58	13	−22	26	51	0.04	−0.36	0.04	0.5	1	17	5	6	nw.	S. P. Grane.
Mary	McKenzie	.....	5	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	18	6	4	nw.	Fred Hartman.
Max	McLean	2,093	5	18.9	.....	48	28	−20	25	60	T.	.....	T.	T.	0	16	2	10	nw.	A. W. Rice.
Mayville	Traill	975	38	15.8	+ 6.3	44	28	−16	25	35	0.03	−0.42	0.03	0.3	1	7	10	11	nw.	H. B. Addicott.
Minot	Ward	1,557	38	21.7	+12.0	49	28	−20	25	41	0.10	−0.37	0.08	0.8	2	15	9	4	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	40	19.4	+12.3	48	28	−24	25	48	T.	−0.32	T.	T.	0	16	8	4	nw.	G. V. Davidson.
Mott	Hettinger	2,424	27	25.6	+12.1	57	28	−22	26	42	0.08	−0.50	0.08	1.0	1	14	7	7	nw.	O. H. Opland.
Napoleon	Logan	1,955	42	21.2	+12.9	55	28	−26	25	53	0.06	−0.37	0.02	0.8	3	16	3	9	nw.	C. J. Hoof.
New England	Hettinger	2,400	40	26.8	+12.7	56	13	−24	25	53	0.11	−0.39	0.11	1.0	1	18	8	2	nw.	F. S. Sleight.
New Salem	Morton	2,163	30	25.3	+12.2	59	19	−21	25	58	0.04	−0.40	0.04	0.8	1	21	5	2	nw.	J. Christiansen.
Oakes	Dickey	1,318	5	20.6	.....	58	28	−21	25	42	0.02	.....	0.02	0.2	1	8	12	8	nw.	Eugene Naylor.
Park River	Walsh	998	30	10.8	+ 3.1	40	28	−23	25	35	0.25	−0.15	0.25	2.5	1	11	6	11	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	21.3	.....	49	28	−19	25	50	T.	−0.36	T.	T.	0	12	14	2	sw.	C. E. Shubert.
Pembina	Pembina	789	60	5.5	+ 2.5	40	11	−25	25	49	0.43	−0.30	0.09	9.9	10	5	10	13	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	4	.....	.....	.....	.....	.....	.....	.....	0.13	.....	0.10	1.0	3	7	11	10	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	18.6	+ 9.8	49	28	−23	25	45	0.02	−0.41	0.02	0.2	1	16	0	12	nw.	H. H. McCamber.
Portal	Burke	1,954	29	21.2	+15.8	48	27	−14	23†	56	0.09	−0.34	0.09	1.0	1	15	5	8	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	29	20.6	.....	46	13	−20	24	32	0.53	+0.05	0.34	6.0	2	18	10	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	18	23.2	+ 8.0	54	13	−24	25	56	T.	−0.37	T.	T.	0	16	7	5	nw.	John Muggli.
Rugby (near)	Pierce	1,562	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. C. Erickson.
Ryder	Ward	2,108	5	.....	.....	.....	.....	.....	.....	.....	0.02	.....	0.02	.....	1	.....	.....	.....	.....	S. C. Schellenbaum
Sanish	Mountraif	1,835	9	21.4	.....	50	27	−18	25	52	T.	.....	T.	T.	0	.....	.....	.....	.....	H. J. Bugge.
Sharon	Steele	1,516	10	13.5	.....	40	28	−23	25	36	0.02	−0.36	0.01	0.2	2	8	8	12	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	.....	.....	.....	.....	.....	.....	.....	0.02	−0.24	0.02	T.	1	12	8	8	nw.	J. H. Giffey.
Steele	Kidder	1,857	40	22.1	+12.7	53	28	−24	25	46	0.01	−0.46	0.01	0.4	1	11	11	6	nw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	.....	.....	.....	.....	.....	.....	.....	T.	−0.55	T.	T.	0	19	5	4	.....	Thos. D. Alkire.
Tioga	Williams	2,279	5	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	.....	0	13	9	6	nw.	Anton Carlson.
Towner	McHenry	1,482	32	18.3	+10.6	49	28	−27	25	42	0.20	−0.24	0.15	4.0	2	13	11	4	w.	Karl Weber.
Trotters	Golden Valley	.....	8	.....	.....	.....	.....	.....	.....	.....	0.04	.....	0.04	0.5	1	12	12	4	.....	A. J. Nellermoe.
Turtle Lake	McLean	1,899	20	.....	.....	.....	.....	.....	.....	.....	T.	−0.41	T.	T.	0	.....	.....	.....	.....	M. A. Slettum.
Valley City	Barnes	1,245	28	19.0	+ 7.5	58	28	−20	25	42	0.03	−0.46	0.02	0.3	2	17	5	6	nw.	f. C. Robertson.
Velva	McHenry	1,511	7	21.0	.....	51	28	−22	25	39	0.05	.....	0.05	0.5	1	10	13	5	nw.	Oscar Anderson.
Wahpeton	Richland	962	42	19.4	+ 7.4	56	28	−18	25	40	0.06	−0.45	0.02	0.6	3	13	0	15	nw.	C. G Luick.
Washburn	McLean	1,731	33	22.4	+12.9	55	28	−18	25	53	T.	−0.41	T.	T.	0	16	3	9	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	18.2	+11.2	48	28	−22	25	46	0.15	−0.05	.....	1.5	.....	19	8	1	nw.	C. M. Condit.
Williston	Williams	1,878	55	23.7	+15.6	52	27	−15	25	42	T.	−0.41	T.	T.	0	15	9	4	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	13.8	+ 8.9	46	28	−25	25	40	0.05	−0.47	0.05	0.5	1	9	14	5	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	5	19.0	+10.0	58	1	−23	25	57	0.00	−0.59	0.00	0.0	0	23	0	5	nw.	Gottlieb Herr.
Zap	Mercer	1,838	19	.....	.....	.....	.....	.....	.....	.....	0.00	−0.27	0.00	0.0	0	.....	.....	.....	.....	R. A. Norton.
Moorhead, Minn	Clay	935	53	15.4	+ 7.3	49	28	−15	25	36	0.06	−0.63	0.03	0.7	4	5	10	13	s.	U. S. Weather Bureau.
Averages	.....	.....	.....	19.5	+ 9.3	61	14	−30	23†	65	0.06	−0.43	0.34	0.7	1	13	8	7	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for February 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																											.01					0.01
Amenia	Red				T.	T.											T.					T.	T.										T.
Arnegard (near)	Missouri																	T.			T.								.05				0.05
Ashley	Missouri																								T.								T.
Beach	Lit. Missouri									T.											T.	T.			.30								0.30
Berthold Agency	Missouri																																0.00
Bismarck ***	Missouri					T.		T.		T.						T.		T.			T.	T.	T.		.03								0.03
Bottineau	Mouse			.08		T.			.02												.02	T.	T.										0.12
Bowman	Grand										T.							.02			T.	T.			.04								0.06
Cando	Devils Lake			.04		T.	T.	T.	T.							T.					T.		T.	T.									0.04
Carrington‖	James																			T.	T.												T.
Carson	Heart																								.10								0.10
Cavalier	Red	.05		.05	.02	.05										.02		.02															0.21
Cooperstown	Sheyenne			T.																	T.		T.		T.								T.
Corinth	Missouri							T.			T.						T				.04				.02				.07				0.13
Courtenay	James															T.							T.										T.
Crosby	Mouse																																0.00
Devils Lake ***	Devils Lake	T.		.05		T.	T.	T.	T.	T.		.01				T.	T.	T.		.01	.02	.01	T.			T.							0.10
Dickinson‖‖	Heart	T.			T.														T.			.01	T.	T.	.02	.02	T.						0.05
Dogden Butte	Mouse			T.														T.			T.	T.											T.
Drake‖‖	Mouse						T.															.03	T										0.03
Dunn Center	Knife																																0.00
Dunseith	Mouse			T.																	T.												T.
Eckman	Mouse			.03																	.08												0.11
Edgeley	James																								.02								0.02
Edmore	Devils Lake			.03	.01	T.	T.		T.	T.		.01	T.			.05		T.		T.	.02	.01	T.	T.		T.							0.13
Ellendale	James				T.																T.	T.			T.	T.							T.
Energy	Missouri																								T.								T.
Epping	Missouri																																......
Fairfield	Knife																	T.							.10								0.10
Fessenden‖‖	James				.02																.02					T.							0.04
Forman	Sheyenne					T.		T.				T.										T.											T.
Fort Yates	Missouri																				T.	T.			T								T.
Foxholm (near)	Mouse			.01				T.										T.			.03	.02	T.										0.09
Fryburg	Heart																						T.										T.
Fullerton	James				T.			T.													T.	.10			.03								0.13
Gaekle	James	T.																				.01											0.01
Garrison	Missouri																				T.												T.
Grafton	Red	T.		.10	T.							T.	T.			.02					T.	T.			T.								0.12
Grand Forks ***	Red	T.		.06	.03	T.	T.					.01				.02		T.			T.	.01	T.	T.		T.							0.13
Granville	Mouse			T.														T.			T.	T.											T.
Hankinson	Red																	T.															T.
Hannah	Pembina	T.		.02	T.	.02			T.	T.		T.				T.					T.	T				T.		T.					0.04
Hansboro	Devils Lake			.10			T.									T.																	0.10
Hettinger	Grand																		T.				T.		T.								T.
Hillsboro	Red			.02								.04			T.									T.	T.								0.06
Howard (near)	Missouri								T.									T.			T.	T.				T.							T.
Jamestown	James				T.																.12	.05			.02								0.19
Kenmare	Mouse			.03	.02																T.	T.											0.05
Langdon	Pembina																																0.00
Larimore	Red			.12												T.							T.										0.12
Linton	Missouri																					T.			T.								T.
Lisbon	Sheyenne																									.05							0.05
McClusky	Missouri																								T.								T.
McLeod	Sheyenne							T.				T.								.02	T.	T.	.01										0.03
Maddock	Sheyenne			.04			T.	T.	T.												T.	T.				T.							0.04
Mandan‖‖	Missouri				T.					T.										T.		T.		.03	.02				T.				0.05
Manfred	James			.08						T.											.03	.02											0.13
Marmarth	Lit. Missouri							T.														T.			.04								0.04
Mary	Lit. Missouri																								T.								T.
Max‖‖	Missouri																				T.												T.
Mayville	Red			.03		T.						T.				T.					T.		T.		T.								0.03
Minot	Mouse			.02		T.		T.										T.			.08	T.	T.			T.							0.10
Mohall	Mouse			T.			T.	T.														T.											T.
Mott	Cannon Ball																	T.							.08								0.08
Napoleon ‖‖	Missouri																		T.			.02	.02			.02							0.06
New England	Cannon Ball																								.11								0.11
New Salem	Heart																				T.				.04								0.04
Oakes	James				T.																	.02			T.								0.02
Park River	Red					T.		.25								T.																	0.25
Parshall	Missouri																				T.												T.
Pembina ***	Red	.04	.06	.02	.05	.09	.02		.03				T.	T.			.03		.06		.03	T.	T.	T.			T.		T.				0.43
Petersburg	Red			.10	.01	T.						T.				T.					.02	T.											0.13
Pettibone	James			T.			T.				T.							T.			T.	T.	T.		.02	T.							0.02
Portal‖‖	Mouse			.09																													0.09
Powers Lake	Missouri															.19				.34													0.53
Richardton	Heart																								T.								T.
Rugby [near]	Mouse																																......
Ryder	Missouri									T.																.02							0.02
Sanish‖‖	Missouri																			T.	T.	T.											T.
Sharon	Red			.01		T.	T.		T.			T.				T.		T.			.01	T.	T.	T.	T.	T.							0.02
Stanton	Missouri																								.02								0.02
Steele	Missouri					T.															T.	T.			.01								0.01
Stowers	Cannon Ball																	T					T.		T.								T.
Tioga	Missouri																T.					T.				T.							T.
Towner	Mouse			.15																	.05	T.	T.			T.							0.20
Trotters	Lit. Missouri																								.04								0.04
Turtle Lake	Missouri																				T.												T.
Valley City	Sheyenne			.01			T.		T.									T.				T.		.02		T.							0.03
Velva	Mouse			.05		T.												T.			T.	T.		T.	T.	T.							0.05
Wahpeton	Red																		.02				.02		.02								0.06
Washburn	Missouri																								T.								T.
Westhope	Mouse																																0.15
Williston ***	Missouri									T.								T.			T.	T.	T.		T.								T.
Willow City	Mouse			.05			T.																										0.05
Wishek‖‖	Missouri																																0.00
Zap	Knife																																0.00
Moorhead, Minn ***	Red	T.		.03	.01	T.	T.		T.			T.	T.			T.	T.	T.			T.	.01	T.	T.	.01	T.							0.06

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for February 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	19	29	31	13	30	10	9	13	24	29	31	36	33	34	26	27	31	24	26	28	15	12	12	5	14	10	33	52	....	....	....	23.5
	Minimum...	0	7	18	1	8	8	-3	-2	7	11	19	21	23	23	12	17	22	-5	-1	-1	-2	-8	-15	-14	-18	-20	-8	15	....	....	....	4.1
Arnegard (near)	Maximum...	40	43	37	36	35	37	37	32	36	40	42	45	48	43	45	43	33	27	38	31	15	8	6	4	0	20	42	50	....	....	....	32.6
	Minimum...	19	28	22	20	17	22	17	22	23	22	22	29	29	30	29	29	22	4	22	13	-3	-4	-13	-7	-20	-15	10	31	....	....	....	15.0
Ashley	Maximum...	50	49	42	29	32	32	25	27	33	49	52	50	56	53	46	44	39	22	35	34	28	10	10	7	0	11	43	55	....	....	....	34.4
	Minimum...	11	22	24	6	11	15	12	15	10	26	16	27	24	28	16	25	18	-7	-3	21	-3	-10	-4	-13	-20	-19	-5	28	....	....	....	9.7
Beach	Maximum...	52	47	45	37	34	46	39	49	39	44	48	54	46	48	49	48	44	30	42	36	15	12	10	7	0	10	50	51	....	....	....	36.9
	Minimum...	25	26	11	15	15	22	25	25	23	24	29	32	27	27	27	23	23	8	17	14	0	2	-2	-3	-24	-12	5	32	....	....	....	15.6
Berthold Agency	Maximum...	53	50	45	40	32	40	30	32	32	45	50	45	50	40	45	45	35	25	40	35	10	8	8	5	4	12	52	54	....	....	....	34.4
	Minimum...	20	18	25	30	23	20	15	18	18	24	20	34	28	30	24	20	15	4	15	4	0	-5	-12	-5	-24	-18	-4	35	....	....	....	13.3
Bismarck	Maximum...	53	44	44	40	33	37	25	32	30	50	54	46	53	49	46	44	34	25	39	31	13	10	8	3	2	12	51	56	....	....	....	34.4
	Minimum...	20	31	21	19	20	19	15	17	17	25	22	31	28	31	23	24	9	1	7	11	1	-5	-10	-11	-19	-16	-2	32	....	....	....	12.9
Bottineau	Maximum...	34	36	32	29	28	25	17	15	24	32	38	37	39	38	37	34	32	16	31	33	16	2	-3	-4	-1	8	34	46	....	....	....	25.2
	Minimum...	-3	20	17	6	16	11	2	5	10	12	10	20	22	24	20	12	12	-6	5	14	-8	-14	-21	-18	-25	-23	-3	24	....	....	....	4.9
Bowman	Maximum...	56	49	43	41	33	50	38	46	35	45	51	49	55	50	51	48	34	30	42	31	18	11	15	8	0	12	52	51	....	....	....	37.3
	Minimum...	24	27	30	21	13	20	21	19	20	24	23	29	32	29	24	21	20	10	12	18	0	1	0	-3	-16	-19	-3	30	....	....	....	15.2
Cando	Maximum...	36	36	33	30	27	24	13	13	24	33	34	37	35	38	37	34	35	29	31	31	23	6	2	-2	10	9	33	39	....	....	....	26.1
	Minimum...	-3	20	15	9	2	9	-10	3	8	14	12	9	21	23	-16	21	8	-10	-2	11	-5	-14	-22	-19	-22	-25	-2	21	....	....	....	2.1
Carrington §§	Maximum...	39	49	44	25	30	17	25	30	37	53	36	41	40	37	38	42	41	40	33	11	4	1	-1	1	11	39	48	50	....	....	....	30.8
	Minimum...	20	26	8	10	16	0	-2	9	12	22	23	26	26	24	24	27	-2	-2	7	0	-8	-17	-16	-19	-18	-15	1	33	....	....	....	7.7
Carson	Maximum...	53	48	42	40	38	50	33	32	33	50	46	46	50	52	43	33	26	42	30	26	16	15	0	0	-4	8	52	55	....	....	....	34.1
	Minimum...	20	28	25	22	22	20	14	20	18	18	28	20	25	23	18	15	0	10	15	-4	-6	-11	-10	-12	-24	-20	-5	18	....	....	....	10.2
Crosby	Maximum...	40	40	40	36	30	39	25	28	33	40	40	40	45	43	45	38	35	24	40	29	12	5	3	0	3	19	44	47	....	....	....	30.8
	Minimum...	13	28	26	20	19	19	19	15	24	25	30	30	27	32	26	20	16	2	10	12	-3	-4	-12	-11	-14	-14	8	31	....	....	....	14.1
Devils Lake	Maximum...	36	32	31	27	24	16	13	13	27	35	38	35	36	36	35	34	32	15	33	28	8	0	-2	-7	-2	10	34	41	....	....	....	23.5
	Minimum...	1	22	3	4	10	6	-7	5	9	17	18	26	23	22	19	22	-3	-4	3	5	-5	-14	-19	-16	-20	-17	1	30	....	....	....	5.0
Dickinson §§	Maximum...	51	47	35	39	33	47	31	37	31	47	52	47	54	47	49	47	32	27	43	28	13	12	10	1	-1	15	51	52	....	....	....	34.9
	Minimum...	21	27	26	24	22	21	18	15	15	21	23	24	29	28	24	19	19	5	7	15	-3	-2	-5	-4	-25	-22	-14	14	....	....	....	12.2
Drake	Maximum...	40	38	28	32	27	28	20	22	29	38	41	42	44	40	38	36	28	22	34	27	9	1	0	-4	2	11	41	49	....	....	....	27.2
	Minimum...	6	25	25	14	18	19	8	8	13	18	22	27	27	29	26	24	25	2	8	12	-1	-10	-17	-14	-18	-15	-12	9	....	....	....	9.9
Dunn Center	Maximum...	48	42	40	39	37	40	31	32	30	42	49	53	45	51	46	44	32	28	41	31	16	9	9	8	3	10	51	53	....	....	....	34.3
	Minimum...	21	36	27	24	25	22	20	16	21	23	30	32	32	26	32	22	22	6	11	15	-1	-1	-10	-10	-21	-12	5	31	....	....	....	14.9
Dunseith	Maximum...	39	39	32	23	27	22	13	12	22	40	42	42	42	41	36	34	31	14	30	29	14	-1	-2	-4	-3	8	30	47	....	....	....	25.0
	Minimum...	-2	27	15	5	11	7	-3	8	6	17	15	25	20	27	17	15	6	-11	0	10	-10	-13	-20	-20	-22	-18	-5	23	....	....	....	4.6
Edgeley	Maximum...	48	45	35	27	25	25	18	21	31	50	53	49	55	53	47	42	35	29	31	30	29	11	8	5	6	11	49	53	....	....	....	32.9
	Minimum...	6	25	22	24	14	20	8	12	11	15	19	29	30	39	18	18	19	-7	-7	17	0	-13	-16	-13	-20	-15	-5	21	....	....	....	9.7
Ellendale	Maximum...	44	47	45	26	27	31	20	23	32	44	53	43	55	54	45	40	40	19	30	31	16	10	11	4	3	14	40	49	....	....	....	32.0
	Minimum...	8	24	23	4	17	19	11	14	13	18	14	28	22	28	24	28	17	-5	-5	16	1	-10	-13	-10	-19	-14	-5	18	....	....	....	9.5
Fessenden §§	Maximum...	39	38	34	32	25	21	21	20	29	39	40	38	43	40	38	39	29	21	35	25	11	0	1	0	-3	12	40	50	....	....	....	27.0
	Minimum...	5	22	25	10	17	20	1	5	12	16	19	28	24	25	24	27	27	0	6	11	-3	-11	-18	-18	-21	-17	-6	25	....	....	....	9.1
Foxholm (near)	Maximum...	41	38	38	35	33	28	23	24	30	38	43	41	44	40	40	37	35	20	34	31	15	2	-1	-3	1	12	41	46	....	....	....	28.8
	Minimum...	10	27	21	16	18	17	6	10	15	25	23	26	28	29	22	20	13	-1	10	12	-3	-12	-16	-15	-21	-17	1	30	....	....	....	10.5
Fullerton	Maximum...	46	45	45	33	25	28	19	22	31	48	53	47	55	52	45	40	40	18	31	32	15	8	8	40	3	14	39	56	....	....	....	33.5
	Minimum...	8	21	20	5	15	17	10	13	13	18	17	28	22	28	24	27	15	-5	-6	15	2	-12	-17	-10	-20	-14	-3	18	....	....	....	9.0
Garrison	Maximum...	42	42	40	38	31	32	34	32	32	38	43	44	44	42	40	43	43	25	40	33	20	6	5	5	3	14	49	52	....	....	....	32.6
	Minimum...	14	27	27	19	20	16	13	15	16	20	22	29	30	32	25	23	18	4	10	16	-1	-4	-10	-7	-16	-14	-1	41	....	....	....	13.7
Grafton	Maximum...	21	33	27	17	24	20	9	8	24	37	40	41	38	39	34	33	30	15	27	27	13	8	3	4	0	10	34	43	....	....	....	23.5
	Minimum...	-6	15	10	-3	-1	-12	-11	-6	3	19	15	21	21	30	9	21	1	-8	-1	11	-4	-9	-18	-14	-20	-14	1	20	....	....	....	2.5
Grand Forks	Maximum...	31	34	29	15	21	10	11	11	23	37	39	38	36	38	29	30	27	13	26	25	10	6	3	-5	0	11	32	42	....	....	....	22.2
	Minimum...	-3	16	3	-1	-3	-7	-10	-3	4	18	16	21	22	18	10	21	-3	-9	-1	5	-4	-10	-17	-14	-18	-15	0	20	....	....	....	2.0
Granville	Maximum...	41	42	28	39	35	30	25	25	28	41	43	44	45	43	42	41	37	24	38	35	17	3	1	-1	2	14	42	50	....	....	....	30.5
	Minimum...	9	28	14	13	20	19	19	12	15	20	22	39	26	33	27	23	14	2	10	16	-2	-10	-20	-15	-22	-18	9	33	....	....	....	12.0
Hansboro	Maximum...	34	35	27	25	24	18	15	13	22	35	40	38	40	38	32	34	32	18	30	30	12	10	-3	-5	-3	8	32	47	....	....	....	24.2
	Minimum...	-5	25	13	2	12	6	-12	2	10	12	15	20	22	28	18	18	5	-4	-2	10	-8	-12	-21	-22	-22	-20	-1	20	....	....	....	3.9
Hettinger	Maximum...	59	49	42	42	34	43	27	38	30	48	55	58	57	52	54	46	35	28	43	33	19	18	18	12	0	10	53	54	....	....	....	37.8
	Minimum...	21	26	30	20	17	18	15	15	20	22	22	28	27	28	23	17	20	9	10	18	0	-1	-3	-4	-17	-19	-4	33	....	....	....	14.0
Hillsboro	Maximum...	22	43	31	19	19	22	10	10	24	38	40	40	40	40	33	30	30	25	27	25	15	10	9	5	14	10	33	45	....	....	....	25.3
	Minimum...	-2	17	15	0	0	3	-5	5	6	17	19	23	29	22	6	12	9	-6	3	15	0	-6	-14	-11	-16	-12	-1	20	....	....	....	5.3
Howard (near)	Maximum...	39	36	37	34	30	31	30	25	33	32	38	40	38	38	37	38	37	23	33	27	17	10	2	-4	2	19	44	44	....	....	....	28.9
	Minimum...	14	20	25	19	14	14	15	18	18	20	19	20	20	24	19	15	19	-2	10	14	10	-10	-20	-16	-23	-15	13	27	....	....	....	11.4
Jamestown §§	Maximum...	38	39	40	24	31	25	19	18	30	41	46	40	45	44	40	42	33	18	31	29	15	5	4	2	0	13	44	47	....	....	....	28.7
	Minimum...	8	27	18	11	17	17	1	10	9	20	20	30	24	31	24	26	6	-3	-1	14	-1	-12	-20	-15	-23	-19	-6	21	....	....	....	8.4
Kenmare	Maximum...	32	42	40	34	35	28	30	22	27	32	40	44	44	46	43	43	40	26	23	38	25	5	2	2	-2	4	16	44	....	....	....	28.8
	Minimum...	17	27	26	21	21	19	10	12	14	21	27	29	29	32	28	24	24	3	5	17	0	-6	-13	-12	-15	-12	-11	15	....	....	....	12.6
Langdon§§	Maximum...	35	32	20	23	14	14	10	12	38	38	35	40	40	33	30	28	25	19	24	20	10	0	2	-8	0	5	30	40	....	....	....	21.8
	Minimum...	-8	8	8	4	-10	12	-10	-10	2	8	18	19	20	10	20	15	15	-19	-15	0	-19	-18	-30	-28	-30	-29	-5	-4	....	....	....	-2.7
Larimore	Maximum...	26	35	24	19	24	24	6	9	24	37	39	35	37	38	31	32	30	15	28	26	11	4	5	-4	-3	13	35	42	....	....	....	22.9
	Minimum...	-5	12	10	-2	4	2	-11	-1	5	18	19	24	23	29	13	23	3	-8	0	11	-6	-10	-19	-15	-19	-15	-1	22	....	....	....	3.8
Linton	Maximum...	55	50	44	40	37	36	27	30	36	52	55	50	59	53	50	46	40	24	39	37	28	15	12	10	1	14	54	58	....	....	....	37.6
	Minimum...	19	23	20	7	22	14	12	15	15	18	10	27	16	19	11	24	14	-11	-2	14	-3	-14	-18	-7	-27	-27	-7	26	....	....	....	7.5
Lisbon	Maximum...	36	41	43	22	28	25	24	19	31	46	50	45	48	48	39	35	35	16	32	31	26	13	8	4	4	13	38	55	....	....	....	30.5
	Minimum...	5	25	19	6	11	17	7	11	11	20	19	31	21	28	23	26	11	-5	2	18	0	-12	-15	-12	-21	-14	0	22	....	....	....	9.1
McClusky	Maximum...	40	38	36	34	31	32	24	24	25	37	40	38	42	40	38	40	35	22	34	30	16	5	4	0	1	13	45	52	....	....	....	29.1
	Minimum...	5	23	18	9	13	13	9	12	18	12	18	19	25	28	25	21	17	-1	4	14	-1	-10	-16	-11	-22	-18	-3	28	....	....	....	8.9
Maddock	Maximum...	37	36	33	25	28	26	16	17	26	36	37	37	38	37	36	38	34	17	34	32	13	3	2	-3	0	11	37	46	....	....	....	26.0
	Minimum...	-2	23	16	7	15	13	-6	7	9	16	20	25	25	28	22	24	9	-2	3	11	-7	-11	-19	-15	-22	-17	0	26	....	....	....	7.1
Marmarth	Maximum...	56	51	45	42	35	51	44	54	44	47	53	52	58	52	56	50	44	33	44	38	19	20	27	8	4	14	54	54	....	....	....	41.0
	Minimum...	24	24	30	22	15	26	26	20	22	26	19	30	27	23	22	20	22	13	15	19	2	2	4	-2	-17	-22	3	31	....	....	....	15.9
Minot	Maximum...	42	40	35	36	34	30	27	26	29	40	46	43	46	42	41	41	37	24	37	36	16	4	3	13	4	15	45	49	....	....	....	31.5
	Minimum...	12	28	25	20	21	21	11	15	18	16	21	10	28	33	19	22	16	2	11	16	-1	-9	-17	-4	-20	-15	4	25	....	....	....	11.9
Mohall	Maximum...	41	38	38	35	29	30	17	23	30	37	42	42	44	41	41	41	28	24	34	28	11	3	1	-2	1	14	41	48	....	....	....	28.6
	Minimum...	26	24	20	18	21	18	7	8	13	17	24	26	28	33	25	23	20	1	5	3	0	-10	-21	-18	-24	-19	-7	24	....	....	....	10.2
Mott	Maximum...	52	46	40	43	37	38	26	33	31	43	56	46	55	48	47	45	40	23	32	30	22	13	10	18	6	20	47	57	....	....	....	35.9
	Minimum...	33	31	22	25	20	18	17	17	24	26	33	30	31	25	24	23	16	3	6	4	6	-2	-4	-3	-19	-22	12	32	....	....	....	15.3
Napoleon §§	Maximum...	50	42	40	35	31	36	24	26	34	47	54	43	54	49	45	46	33	22	39	31	15	9	8	4	0	11	48	55	....	....	....	33.2
	Minimum...	12	25	26	8	12	14	10	12	12	17	20	27	24	28	20	24	19	-10	0	19	-5	-13	-9	-14	-26	-22	5	11	....	....	....	9.1
New England	Maximum...	48	50	53	52	45	50	30	38	51	48	48	50	56	52	51	50	40	49	39	35	20	20	18	6	6	12	50	51	....	....	....	39.9
	Minimum...	30	31	27	23	18	19	15	17	22	22	28	30	28	21	20	16	16	6	[illegible]	0	3	-3	-4	-12	-24	-10	-3	24	....	....	....	13.8
New Salem	Maximum...	52	47	56	41	35	42	35	31	29	49	53	45	52	49	47	44	38	27	59	30	22	12	6	10	1	10	55	55	....	....	....	36.9
	Minimum...	17	28	28	21	22	16	15	13	16	23	21	24	29	30	24	20	16	-2	6	18	-2	-6	-10	-10	-21	-17	-3	18	....	....	....	13.7
Oakes	Maximum...	38	46	46	25	32	27	23	20	32	50	53	47	55	51	39	39	37	20	31	32	27	11	11	4	7	16	39	58	....	....	....	32.7
	Minimum...	6	23	20	4	14	18	10	11	13	19	13	31	19	27	25	27	19	-7	-5	16	-1	-15	-19	-12	-21	-17	-3	19	....	....	....	8.4
Pembina §§	Maximum...	28	22	25	12	12	4	-1	6	21	34	40	25	34	36	25	28	25	8	25	18	1	-2	-5	-12	-5	7	29	39	....	....	....	16.8
	Minimum...	-10	-1	9	-6	-6	-16	-18	-12	-12	5	7	8	15	16	-8	0	17	-9	-6	-10	-12	-20	-24	-25	-21	-20	-1	[illegible]	....	....	....	-5.8
Sharon	Maximum...	31	34	25	19	22	20	9	11	26	35	38	35	37	37	31	33	30	17	26	25	11	2	3	-2	-1	10	34	40	....	....	....	22.8
	Minimum...	-3	18	9	0	8	5	-7	5	7	18	15	25	22	27	15	24	3	-9	1	8	-5	-13	-19	-17	-23	-19	-2	24	....	....	....	4.2
Steele	Maximum...	45	42	44	35	33	35	27	26	35	44	49	44	50	46	42	43	36	23	40	35	28	14	5	4	1	10	45	53	....	....	....	33.4
	Minimum...	12	28	24	14	19	18	11	14	14	19	17	28	21	27	26	26	14	-3	3	21	-1	-4	-15	-8	-24	-19	-1	20	....	....	....	10.8
Towner	Maximum...	40	41	36	32	41	30	22	20	25	36	39	46	41	42	38	38	[illegible]	20	35	36	17	8	0	-3	0	11	40	49	....	....	....	29.3
	Minimum...	1	26	16	6	17	15	5	9	12	19	17	26	22	30	21	21	15	-2	7	13	-8	-15	-25	-18	-27	-22	-2	26	....	....	....	7.3
Valley City	Maximum...	37	39	39	37	28	25	18	31	43	44	43	45	41	37	37	35	35	18	30	20	20	13	5	4	8	12	39	58	....	....	....	29.9
	Minimum...	4	24	19	6	14	14	-1	10	20	21	28	22	28	20	26	17	-5	1	8	16	-3	-13	-17	-14	-20	-16	-3	21	....	....	....	8.0
Wahpeton	Maximum...	28	38	42	25	23	25	22	25	22	43	44	43	44	46	41	32	38	21	29	30	26	14	7	7	3	12	39	56	....	....	....	29.6
	Minimum...	3	20	24	6	13	18	12	8	10	18	17	26	25	29	19	24	19	-5	-1	17	4	-10	-15	-8	-18	-15	-1	18	....	....	....	9.2
Westhope	Maximum...	39	38	37	31	33	25	21	19	30	35	39	42	45	38	40	41	36	23	37	33	18	3	1	-1	0	15	42	48	....	....	....	28.8
	Minimum...	4	23	18	10	18	13	5	4	9	16	19	24	23	29	25	22	12	0	6	15	-10	-11	-21	-19	-22	-18	-4	24	....	....	....	7.6
Williston	Maximum...	43	40	39	35	29	35	29	22	36	40	40	42	45	42	44	34	34	27	39	29	8	6	5	0	2	22	52	49	....	....	....	31.7
	Minimum...	22	24	29	24	17	22	21	20	24	21	24	31	32	30	27	23	13	8	18	6	1	-3	-9	-9	-15	-8	10	34	....	....	....	15.7
Moorhead, Minn	Maximum...	31	36	36	20	22	21	16	12	24	38	43	38	36	42	29	31	32	13	27	26	10	2	1	[illegible]	[illegible]	9	35	49	....	....	....	24.5
	Minimum...	1	19	9	4	8	8	0	5	9	16	20	23	25	24	15	25	-1	-6	0	9	1	-7	-12	-10	-15	-10	-1	18	....	....	....	6.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 3-30-34—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLIII Bismarck, N. D., March 1934 No. 3

GENERAL SUMMARY

Generally pleasant weather prevailed throughout the State during March. During the first half the temperatures were decidedly above the normal, and only light scattered precipitation occurred. A storm was quite general on the 16th and thereafter frequent light precipitation with lower temperature was reported. Very little spring work on farms was accomplished. Livestock ranged freely on pastures, ranges, and harvested fields, but due to shortage of grass considerable yard feeding was necessary.

TEMPERATURE

The mean temperature for the State was 26.3°, or 2.2° above the normal, and 2.2° lower than the mean for March, 1933. The highest mean reported was 31.4° at Marmarth, Slope County; the lowest was 16.6° at Pembina, Pembina County. The highest temperature reported was 74° at Fort Yates, Sioux County on the 12th, 14th, and 15th; the lowest was −12° at Arnegard and Dickinson on the 9th, and at Hansboro on the 17th. The greatest monthly range of temperature was 80° at Ashley, Fort Yates, and Linton; the least was 52° at Hannah, Cavalier County. The greatest daily range of temperature was 66° at Fort Yates, Sioux County on the 18th.

PRECIPITATION

The average precipitation for the State was 0.49 inch, or 0.21 inch below the normal, and 0.04 more than the average for March 1933. The greatest monthly amount reported was 1.70 inches at New England, Hettinger County; the least was 0.02 inch at Cando, Towner County. The greatest amount recorded in any 24 consecutive hours was 1.03 inches at McLeod, Ransom County on the 29th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall was 3.6 inches.

MISCELLANEOUS PHENOMENA

Auroras: Bottineau, Napoleon, 15th; Corinth, 3d, 8th, 11th, 14th; Devils Lake, 6th, 14th; Dogden Butte, 5th, 15th; Drake, 4th, 14th; Eckman, 7th, 15th, 22d; Foxholm, 4th, 6th, 7th, 10th, 11th, 14th; Grand Forks, 9th, 11th; Hannah, 13th; Hettinger, 7th, 14th; Howard, 4th, 5th, 6th, 7th, 8th, 9th, 12th, 14th; New Salem, Trotters, Willow City, 4th; Pembina, 2d, 7th, 9th, 10th, 11th, 12th, 15th, 16th, 17th, 21st, 22d; Petersburg, 4th, 7th, 8th, 14th; Williston, 4th, 5th, 9th, 19th.

Fog: Ashley, Devils Lake, 31st; Bismarck, 16th; Grand Forks, 14th; New England, 6th, 16th.

Hail: Dogden Butte, 14th; Valley City, 2d.

Halos, lunar: Bismarck, 3d; Devils Lake, 3d, 21st; Foxholm, 21st; Grand Forks, 5th, 21st, 24th, 29th; Williston, 4th.

Halos, solar: Bismarck, 12th, 27th; Devils Lake, 4th, 7th, 8th, 12th, 27th, 28th, 31st; Eckman, 22d; Ellendale, 25th; Foxholm, 21st, 25th; Grand Forks, 6th, 12th; Petersburg, 29th; Moorhead, 1st, 4th, 10th, 22d, 25th, 29th, 31st.

Sleet: Bismarck, 4th, 31st; Devils Lake, 19th, 20th; Mandan, 3d; Napoleon, 16th; New England, 21st; Parshall, 14th, 19th; Williston, 16th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.15	30.86	9	29.42	4	10.5	32	nw.	5	78	58	59	53
Devils Lake	30.14	30.78	9	29.41	2	11.6	33	nw.	5	83	56	64	69
Grand Forks	30.13	30.71	9	29.43	4	......	35	nw.	5	82	....	72	....
Williston	30.15	30.93	9	29.38	4	9.9	32	nw.	5	79	63	62	57
Moorhead, Minn	30.15	30.78	9	29.41	3	10.7	29	nw.	5	82	58	60	65
Averages & ext's	30.14	30.93	9	29.38	4	10.7	35	nw.	5	81	59	63	61

† And other dates.

COMPARATIVE DATA FOR MARCH

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	24.2	+0.8	66	−35	0.83	+0.07	2.41	0.38	1.9	4	12	8	11
1893.	13.9	−9.5	68	−35	0.99	+0.23	3.14	0.12	10.0	5	13	7	11
1894.	24.8	+1.4	69	−22	1.45	+0.69	3.52	0.45	10.1	5	12	9	10
1895.	23.2	−0.2	75	−35	0.16	−0.60	1.06	0.00	1.0	2	16	10	5
1896.	15.7	−7.7	70	−35	1.18	+0.42	3.27	T.	8.0	8	12	10	9
1897.	11.9	−11.5	58	−48	1.27	+0.51	3.37	0.03	8.0	7	15	7	9
1898.	21.3	−2.1	79	−24	0.79	+0.03	2.16	0.16	6.7	5	13	8	10
1899.	7.5	−15.9	72	−30	1.00	+0.26	2.99	0.11	10.0	5	12	10	9
1900	20.3	−3.1	77	−24	1.01	+0.25	2.65	0.15	8.5	5	14	7	10
1901.	25.3	+1.9	85	−32	0.86	+0.10	2.56	0.06	5.2	5	15	8	8
1902.	27.4	+4.0	65	−25	2.73	+1.97	6.26	0.51	11.7	8	10	6	15
1903.	22.1	−1.3	80	−24	0.55	−0.21	1.58	0.00	5.1	3	12	6	13
1904.	18.2	−5.2	64	−26	1.33	+0.57	2.24	0.30	11.5	5	11	6	14
1905	32.5	+9.1	81	−25	0.87	+0.11	2.50	0.00	2.3	4	11	8	12
1906.	18.5	−4.9	67	−34	0.38	−0.38	2.00	T.	3.1	3	15	6	10
1907.	23.1	−0.3	83	−20	0.70	−0.06	3.25	T.	5.1	4	14	9	8
1908.	21.1	−2.3	68	−31	1.16	+0.40	2.90	0.08	12.1	8	10	9	12
1909.	24.0	+0.6	61	−24	0.32	−0.44	2.57	0.00	2.7	4	10	9	12
1910.	41.3	+17.9	90	− 7	0.97	+0.21	2.37	0.00	0.3	3	18	8	5
1911.	30.6	+7.2	78	−18	0.24	−0.52	1.21	0.00	1.6	2	16	10	5
1912.	15.4	−8.0	65	−28	0.33	−0.43	1.20	0.00	3.6	3	17	8	6
1913.	17.2	−6.2	70	−31	0.81	+0.05	2.75	T.	8.2	6	12	9	10
1914.	25.5	+2.1	76	−20	0.90	+0.14	1.82	0.24	9.2	5	10	9	12
1915.	22.9	−0.1	63	−23	0.22	−0.54	1.37	0.00	2.0	2	16	6	9
1916.	20.3	−3.1	69	−45	1.48	+0.72	4.12	0.30	13.5	6	11	9	11
1917.	22.2	−1.2	67	−39	0.39	−0.37	1.50	0.00	3.9	3	13	10	8
1918.	35.0	+11.6	82	−15	0.39	−0.37	1.20	0.00	2.9	2	16	8	7
1919.	17.8	−5.6	67	−35	0.82	+0.06	2.63	0.08	6.2	4	12	9	10
1920.	22.4	−1.0	67	−32	0.79	+0.03	2.18	T.	7.1	4	15	8	8
1921.	25.2	+1.8	75	−22	1.00	+0.24	2.69	0.04	9.1	6	9	12	10
1922.	25.8	+2.4	60	−30	0.72	−0.04	2.05	0.04	6.4	4	12	7	12
1923.	18.3	−5.1	65	−35	0.41	−0.35	1.68	T.	4.8	4	10	10	11
1924.	25.5	+2.1	58	−20	0.45	−0.31	1.45	T	4.4	4	10	9	12
1925.	27.4	+4.0	75	−26	0.67	−0.09	2.00	0.05	6.0	4	14	9	8
1926.	25.8	+2.4	83	−23	0.24	−0.52	1.27	0.00	1.8	3	13	10	8
1927.	30.4	+7.0	77	−10	0.74	−0.02	2.26	0.00	6.5	5	13	8	10
1928.	28.1	+4.7	85	−17	0.54	−0.22	2.60	0.00	4.8	3	15	8	8
1929.	30.5	+7.1	77	−15	0.78	+0.02	3.00	0.00	5.3	5	12	8	11
1930.	26.1	+2.7	62	−17	0.09	−0.67	0.80	0.00	0.9	1	17	8	6
1931.	25.7	+2.3	63	−24	0.94	+0.18	2.33	0.07	4.8	5	11	8	12
1932.	18.9	−4.5	64	−30	0.63	−0.13	2.40	T.	6.0	6	10	11	10
1933.	28.5	+5.1	70	−14	0.45	−0.31	1.85	T.	3.7	3	14	10	7
1934.	26.3	+2.9	74	−12	0.49	−0.27	1.70	0.02	3.6	4	11	11	9
Per..	23.4	....	90	−48	0.76	....	6.26	0.00	5.8	4	13	8	10

Climatological Data for March 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	8	...	...	...	...	...	...	...	0.76	...	...	...	6	...	...	...	...	H. A. Bury.
Amenia	Cass	954	38	23.6	-1.0	60	12	-6	16	46	0.93	+0.41	0.50	3.0	4	1	18	12	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	28.0	+2.7	60	19†	-12	9	45	0.40	-0.32	0.20	3.5	4	18	5	8	w.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	27.2	+2.9	71	12	-9	8	47	0.37	-0.65	0.16	6.5	4	12	10	9	nw.	H. D. Piper.
Beach	Golden Valley	2,759	28	30.2	+3.0	63	11	-3	9	46	1.06	+0.43	0.48	6.0	9	11	9	11	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	27.2	+1.2	65	11	-6	9	50	0.30	-0.39	0.20	2.0	2	17	3	11	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	28.2	+4.0	69	12	-3	9	49	0.62	-0.27	0.28	4.2	7	6	16	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	25.0	+4.9	54	11	-5	9	42	0.29	-0.40	0.17	2.0	3	13	14	4	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	20	30.0	+2.3	63	11†	-6	10	54	1.46	+1.00	0.44	9.0	10	17	4	10	nw.	George Larsen.
Cando	Towner	1,488	33	24.8	+2.6	52	12	-6	17	49	0.02	-0.66	0.02	T.	1	12	11	8	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	22.7	-0.7	61	11	-11	16	57	0.49	-0.18	0.45	3.2	2	17	4	10	nw.	L. A. Swanson.
Carson	Grant	2,500	22	26.6	+0.3	68	12	-8	9	55	1.00	+0.41	0.50	9.2	8	12	8	11	nw.	J. W. Evens.
Cavalier	Pembina	894	24	...	...	...	...	...	...	...	0.25	-0.43	0.20	2.5	2	11	13	7	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	...	...	...	...	...	...	...	0.82	+0.24	0.50	5.0	2	20	3	8	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	...	...	...	...	...	...	...	0.81	...	0.40	6.0	5	2	15	14	w.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	...	...	...	...	...	...	...	0.75	...	0.50	2.0	2	13	15	3	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	28.7	+5.2	65	11	-3	9	39	0.20	-0.31	0.20	2.0	1	1	19	11	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	23.0	+3.2	55	12	-6	17	41	0.43	-0.35	0.29	1.8	9	5	16	10	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	27.4	+2.1	64	11	-12	9	54	0.69	-0.10	0.24	5.4	13	5	18	8	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	26.8	...	59	11†	-11	17	51	0.59	...	0.45	5.0	3	18	4	9	nw.	R. L. Williams.
Drake	McHenry	1,634	5	24.1	...	58	11†	-7	17	44	0.17	...	0.07	1.4	4	15	5	11	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	29.7	+4.2	64	11	-11	9	46	0.59	-0.33	0.25	2.0	4	12	9	10	nw.	W. F. Moede.
Dunseith	Rolette	1,682	38	23.0	+2.8	54	11	-9	21	43	0.13	-0.53	0.09	0.8	2	9	6	16	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	27.0	+4.1	61	11	-2	9†	45	0.34	-0.14	0.12	2.0	5	3	26	2	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	28.0	+0.7	73	12	-6	17	55	0.24	-0.42	0.11	2 0	5	6	15	10	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	22.0	...	48	11†	-6	17	39	0.30	...	0.12	1.8	5	5	17	9	nw.	E. D. Warner.
Ellendale	Dickey	1,457	39	26.4	+0.8	63	12	-5	17	50	0.45	-0.38	0.21	2.0	7	16	6	9	nw.	J. E. Demmer.
Energy‡‡	McLean	1,750	22	29.5	...	65	11	-3	9	50	0.60	+0.10	0.25	2.0	4	7	19	5	nw.	H. S. Solenberger.
Epping	Williams	2,224	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. O. Wang.
Fairfield	Billings	...	5	...	...	...	...	...	...	...	1.17	...	0.40	8.0	5	15	5	11	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	25.1	+1.7	62	12	-7	17	50	0.46	-0.24	0.22	4.0	3	19	6	6	nw.	T. D. Monsen.
Forman	Sargent	1,249	41	...	...	...	...	...	...	...	0.31	-0.49	0.25	1.5	3	17	9	5	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	30.2	+3.9	74	12†	-6	9	66	0.65	-0.29	0.30	9.0	4	13	7	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	26.0	...	57	11†	-5	7†	42	0.38	-0.29	0.35	3.5	2	4	14	13	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Verne King.
Fullerton	Dickey	1,439	36	28.0	+1.2	71	12	-5	17	51	1.03	-0.15	0.45	3.5	5	14	11	6	s	F. O. Alin.
Gackle	Logan	1,951	4	26.5	...	67	12	...	...	...	0 31	...	0.22	1.8	5	13	11	7	nw.	A. H. Haut.
Garrison	McLean	1,901	57	28.4	+4.6	61	11	-4	9	44	0.37	-0.56	0.30	3.0	2	10	12	9	nw.	W. F. Robinson.
Grafton	Walsh	827	42	24.8	+3.6	50	12	-3	17	31	0.10	-0.56	0.06	2.3	2	14	8	9	nw.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	43	21.6	-0.8	53	12	-7	17†	33	0.29	-0.41	0.11	2.8	4	9	13	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	28.4	+4.3	60	11	-4	17	45	0.42	-0.06	0.30	3.0	3	5	13	13	nw.	W. A. Christianson.
Hankinson	Richland	1,068	5	27.6	...	68	12	-4	16	52	1.20	...	0.60	7.0	6	14	10	7	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	21.4	...	47	11	-5	9†	41	0.09	-0.57	0.08	0.9	2	4	26	1	nw.	James Muir.
Hansboro	Towner	1,597	26	22.6	+2.0	50	11	-12	17	44	0.10	-0.62	0.10	2.0	1	22	9	0	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	29.6	+1.0	65	11†	-8	9	52	0.44	-0.24	0.15	3.9	7	11	7	13	nw.	C. H. Plath.
Hillsboro	Traill	901	28	24.4	-1.2	57	12†	-5	17	51	0.41	-0.26	0.22	2.2	2	10	13	8	s.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	27	26.3	+4.4	55	13	-5	9	46	0.50	-0.52	0.40	4.6	2	13	8	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	42	26.9	+2.9	63	12	-7	17	52	0.72	-0.19	0.32	8.5	3	15	8	8	nw.	S. Calvelage.
Kenmare	Ward	1,799	3	25.5	...	59	12	-3	9	39	0.30	...	0.27	3.0	2	16	5	10	w.	R. Costello.
Langdon	Cavalier	1,615	38	20.9	+1.3	58	14	-8	9†	54	0.10	-0.71	0.10	0.0	1	11	19	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	24.3	+2.0	56	12	-7	17	41	0.14	-0.62	0.09	1.5	2	11	10	10	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	28.8	+1.1	73	12	-7	9	57	0.34	-0.14	0.13	3.1	5	8	14	9	nw.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	30	28.0	+0.9	68	12	-4	17	51	0.48	-0.04	0.26	2.0	4	7	19	5	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	16	27.1	...	69	11	-6	17	46	0.43	-0.31	0.30	2.0	4	13	11	7	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	29.2	+1.5	64	12	-4	17	50	1.45	+0.91	1.03	13.9	5	20	4	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	19	25.6	+1.0	58	12	-8	17	43	0.14	-0.25	0.08	1.0	2	5	19	7	nw.	A. T. Felland.
Mandan	Morton	1,750	20	27.0	+0.3	69	12	-6	9	53	0.58	-0.13	0.35	3.5	7	8	3	20	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	...	...	...	...	...	...	...	0.70	-0.05	0.25	3.5	6	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	25	31.4	+3.7	66	19	-5	9†	53	1.02	+0.44	0.40	13.3	10	11	6	14	nw.	S. P. Grane.
Mary	McKenzie	...	5	...	...	...	...	...	...	...	0.41	...	0.12	1.8	7	15	3	13	nw.	Fred Hartman.
Max	McLean	2,093	5	23.8	...	61	11	-5	8	51	0.42	...	0.40	4.2	2	19	1	11	nw.	A. W. Rice.
Mayville	Traill	975	38	26.3	+1.8	58	12	-6	17	46	0.07	-0.65	0.04	0.7	3	7	14	10	nw.	H. B. Addicott.
Minot	Ward	1,557	38	28.3	+5.5	59	12†	-7	17	50	0.42	-0.27	0.21	0.8	4	4	20	7	w.	Mark M. Chatfield.
Mohall	Renville	1,646	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	G. V. Davidson.
Mott	Hettinger	2,424	27	28.8	+1.9	68	12	-8	9	44	1.35	+0.43	0.36	14.0	7	11	7	13	w.	O. H. Opland.
Napoleon	Logan	1,955	42	26.4	+3.7	71	12	-8	9	58	0.60	-0.23	0.30	4.2	8	13	3	15	nw.	C. J. Hoof.
New England	Hettinger	2,400	40	30.0	+4.8	64	19	-8	9	46	1.70	+0.91	0.66	14.0	6	12	10	9	nw.	F. S. Sleight.
New Salem	Morton	2,163	30	28.8	+2.9	68	12	-7	9	50	0.28	-0.55	0.19	3.0	6	8	14	9	nw.	J. Christiansen.
Oakes	Dickey	1,318	5	28.2	...	71	12	-6	17	51	0.54	...	0.17	1.8	6	7	16	8	nw.	Eugene Naylor.
Park River	Walsh	998	30	22.0	-1.1	46	11†	-9	17	46	0.50	-0.03	0.25	5.0	2	14	6	11	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	27.7	...	60	11	-4	9	44	0.13	-0.09	0.06	3.0	3	2	23	6	nw.	C. E. Shubert.
Pembina	Pembina	789	60	16.6	-1.6	45	12†	-8	24	43	0.17	-0.70	0.05	2.5	6	2	15	14	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	4	...	...	...	...	...	...	...	0.20	...	0.19	2.0	2	15	12	4	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	26.8	+2.5	62	12	-6	17	53	0.36	-0.19	0.10	2.8	5	16	3	12	nw.	H. H. McCumber.
Portal	Burke	1,954	29	24.0	+6.3	61	11	-5	9	65	0.10	-0.54	0.10	1.0	1	14	7	10	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	29	25.1	...	57	13	2	6	36	0.67	-0.15	0.41	6.0	2	23	8	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	18	26.8	-0.3	64	11†	-9	9	51	0.33	-0.20	0.29	3.3	2	6	15	10	nw.	John Muggli.
Rugby (near)	Pierce	1,562	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. C. Erickson.
Ryder	Ward	2,108	5	...	...	...	...	...	...	...	0.17	...	0.10	1.0	3	...	...	...	...	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	24.6	...	61	11	-3	9	46	0.70	...	0.40	4.5	4	...	...	...	...	H. J. Bugge.
Sharon	Steele	1,516	10	23.5	...	58	12	-7	17	46	0.39	-0.21	0.30	3.5	5	8	11	12	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	...	...	...	...	...	...	...	0.53	+0.08	0.25	1.6	5	6	15	10	nw.	J. H. Giffey.
Steele	Kidder	1,857	40	28.7	+5.4	69	12	-4	9	45	0.15	-0.66	0.10	1.2	2	11	13	7	nw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	...	...	...	...	...	...	...	0.39	-0.40	0.19	3.8	5	15	6	10	...	Thos. D. Alkire.
Tioga	Williams	2,279	5	...	...	...	...	...	...	...	1.30	...	0.40	...	4	19	8	4	nw.	Anton Carlson.
Towner	McHenry	1,482	32	27.9	+5.8	61	11	-5	17	45	0.13	-0.60	0.12	1.5	2	7	17	7	w.	Karl Weber.
Trotters	Golden Valley	...	8	...	...	...	...	...	...	...	0.77	...	0.28	6.5	5	6	13	12	...	A. J. Nellermoe.
Turtle Lake	McLean	1,899	20	...	...	...	...	...	...	...	0.59	-0.15	0.35	2.0	3	...	...	...	...	M. A. Slettum.
Valley City	Barnes	1,245	28	27.3	+1.3	63	12	-8	17	51	0.12	-0.45	0.07	3.0	4	15	11	5	w.	I. C. Robertson.
Velva	McHenry	1,511	7	27.8	...	60	11	-10	17	53	0.31	...	0.18	5.0	3	4	16	11	w.	Oscar Anderson.
Wahpeton	Richland	962	42	28.3	+0.8	63	12	-4	17	43	0.45	-0.33	0.15	2.0	6	18	0	13	nw.	C. G. Luick.
Washburn	McLean	1,731	33	26.6	+2.2	66	11	-4	9	55	0.42	-0.16	0.27	...	4	9	13	9	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	27.4	+5.4	57	11†	0	7†	42	0.31	-0.15	0.18	0.7	4	11	19	1	nw.	C. M. Condit.
Williston	Williams	1,878	55	28.8	+5.9	60	11	-6	9	41	0.62	-0.07	0.42	5.5	7	11	15	5	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	24.0	+4.3	55	11	-3	9	33	0.20	-0.53	0.20	2.0	1	19	7	5	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	5	24.0	-2.3	70	12	-5	9†	57	0.34	-0.38	0.20	3.4	4	20	2	9	nw.	Gottlieb Herr.
Zap	Mercer	1,838	19	...	...	...	...	...	...	...	0.42	-0.21	0.12	1.5	5	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	53	24.2	+1.5	61	12	-5	17	38	0.83	-0.18	0.57	5.1	6	7	13	11	s.	U. S. Weather Bureau.
Averages	...	...	...	26.3	+2.2	74	12†	-12	9†	66	0.49	-0.21	1.03	3.6	4	11	11	9	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for March 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.20				T.			.94				T.						T.		.08	T.				T.		.16	.03		.25	0.76
Amenia	Red				.03	.20								T.		T.	.20	T.					T.									.50	0.93
Arnegard (near)	Missouri	T.							.05								.05						.20									.10	0.40
Ashley	Missouri	T.			T.																		.10						.16	.03		.08	0.37
Beach	Lit. Missouri	.06	.11		T.				.04	.04							T.					.04	.02			T.	T.	.48		.03		.24	1.06
Berthold Agency	Missouri				T.												.10					T.				T.	T.		T.			.20	0.30
Bismarck ***	Missouri	T.	T.		.03				.02		T.			.01			.05	T.				T.	.11	T.		T.	T.		.12	T.		.28	0.62
Bottineau	Mouse	.03			T.	T.					T.			T.	T.		.09				.17			T.								T.	0.29
Bowman	Grand		.06		.03		.04		.19					.01			.03					.15	.13	T.		T.			.38	.44			1.46
Cando	Devils Lake													T.							.02			T.							T.	T.	0.02
Carrington‖‖	James				T.								T.				.04						T.	T.					T.			.45	0.49
Carson	Heart		.06							.10							.02						.15	.05					.50	.10		.02	1.00
Cavalier	Red						T.														.20				.05								0.25
Cooperstown	Sheyenne	T.				T.												.50	T.		T.		T.									.32	0.82
Corinth	Missouri		T.		.40						.20	.04			.02		.15													T.			0.81
Courtenay	James				T.												.25					T.							T.			.50	0.75
Crosby	Mouse																.20																0.20
Devils Lake ***	Devils Lake				T.	T.					.01			.03	T.		.08			.02	.04	.01	.02	.02		T.						.20	0.43
Dickinson‖‖	Heart	.10		.04	T.	T.				.06	.02						.01	.01		T.			.07	.02			.01	.01	.07	.24	.03		0.69
Dogden Butte	Mouse	T.			.04									T.	T.		.45			T.			T.	T.								.10	0.59
Drake‖‖	Mouse	T.			.06				T.			T.		.01				.07						.03									0.17
Dunn Center	Knife								T.	T.							.14						.10						.10			.25	0.59
Dunseith	Mouse													T.			.09				T.			.04									0.13
Eckman	Mouse	.05			.04				T.		T.			T.			.12				.12											.01	0.34
Edgeley	James		.04			.01												.11						.01						.07			0.24
Edmore	Devils Lake	T.				T.			T.					.02			.07	T.			.12	T.	T.	.01								.08	0.30
Ellendale	James	T.		T.	.02						T.						.06						.02	.02					.08	.04		.21	0.45
Energy	Missouri	.10			.05												.20												T.			.25	0.60
Epping	Missouri																																
Fairfield	Knife		.01						.20													.20							.40			.36	1.17
Fessenden‖‖	James													T.			.21	.22						.03									0.46
Forman	Sheyenne	T.			T.	T.											.02							T.					.04			.25	0.31
Fort Yates	Missouri		T.	.10						.10							T.						.15						.30				0.65
Foxholm (near)	Mouse	T.			T.				T.		T.			T.		T.	.35						T.			T.			T.			.03	0.38
Fryburg	Heart																																
Fullerton	James	T.	.08		T.						T.			T.			.07						T.	.08					.45			.35	1.03
Gackle	James				.01									T.			.05						.01			T.			.02			.22	0.31
Garrison	Missouri				T.												.30						T.						T.			.07	0.37
Grafton	Red																.04				T.			T.	.06								0.10
Grand Forks ***	Red				T.	T.	T.	T.						T.	T.	T.	.11	T.			.04	T.		.05	T.							.09	0.29
Granville	Mouse	.04			T						T.			T.	T.		.30				.08		T.									T	0.42
Hankinson	Red		.10		.25												.10							.05					.10			.60	1.20
Hannah	Pembina					T.								T.			T.				.08	T		.01		T.					T.	T.	0.09
Hansboro	Devils Lake	T.															.10					T.										T.	0.10
Hettinger	Grand		.05				T.		.02	.02												.01	.06				T.		.15	.13			0.44
Hillsboro	Red				.19												.22								T.								0.41
Howard (near)	Missouri	T.							T.		T.					.40						.10	T.		T.			T.	T.				0.50
Jamestown	James			T.	T.												.28							T.					.12			.32	0.72
Kenmare	Mouse	T.			T.						T.						.27	.03			T.		T.										0.30
Langdon	Pembina																															.10	0.10
Larimore	Red													T.			.09				.05			T.									0.14
Linton	Missouri		T.	.05	.13						T.			T.			T.						.01	T.					.10	.05		T.	0.34
Lisbon	Sheyenne				.02												.10													.10		.26	0.48
McClusky	Missouri					.07											.01							.05					T.			.30	0.43
McLeod	Sheyenne	T.			T.	.25		T.										.09				T.		.02						1.03		.06	1.45
Maddock	Sheyenne	T.				T.								T.	T.		.06	T.			T.			.08								T.	0.14
Mandan‖‖	Missouri			T.					.03	T.			T.			.04	T.					.04	.03					.01	.08			.35	0.58
Manfred	James	T.			.25										.01		.25						.02	.04								.13	0.70
Marmarth	Lit. Missouri	.01		.05			.08		.12	.05							.01					.18	.11							.40		.01	1.02
Mary	Lit. Missouri		.03	.04					T.	.01							.10					.02							.09			.12	0.41
Max‖‖	Missouri												T.				.40							.02					T.				0.42
Mayville	Red		T.											T.			.04	.02			T.		T.	.01									0.07
Minot	Mouse	.08				.03					T.		T.	T.		T.	.21			T.	T.	T.	T.			T.						.10	0.42
Mohall	Mouse																																
Mott	Cannon Ball	T.	.18		.19				.11								T					.26	.15						.36	.10			1.35
Napoleon‖‖	Missouri		.02	.01		.04				.02		T.		T.				.10						.10			.01			.30			0.60
New England	Cannon Ball	.14	.26	.05			T.		.11														.48						.66				1.70
New Salem	Heart	.02	.01		.01				T.		T.			T.			.01						.04			T.			.19				0.28
Oakes	James	.02		T.	.17	.03						T.		T.			.10							T.						.07		.15	0.54
Park River	Red					T											.25				.25			T.								T.	0.50
Parshall	Missouri				.01						T.				T.		.06			T.		T.	T.			T.						.06	0.13
Pembina ***	Red		.05			T.	T.	T.	T.					.02	T.	T.		T.			.04	.03		.01	.02	T.	T.		T.				0.17
Petersburg	Red					T.								.01			.19				T.			T.									0.20
Pettibone	James	T.			T.						T.			T.			.07	.07				T.	.10	T.					T.	.02		.10	0.36
Portal‖‖	Mouse																.10																0.10
Powers Lake	Missouri																		.41									.26					0.67
Richardton	Heart								T.													T.	.04					.29				T.	0.33
Rugby [near]	Mouse																																
Ryder	Missouri			.03														.04														.10	0.17
Sanish‖‖	Missouri	.02														.40						.05									.23		0.70
Sharon	Red	.01				T.			T.					.02	T.		.30	T.			T	T.	T.	.01								.05	0.39
Stanton	Missouri	.12				T.								.01			.05						T						.10			.25	0.53
Steele	Missouri	T.			T.					T.				T.			T.						.05						T.			.10	0.15
Stowers	Cannon Ball	T.	.02	T.	T.		T.		.02	T.							T.					T.	.01	T.			T.		.15	.19		T.	0.39
Tioga	Missouri	.40			.40			T.	T.							.30	.20					T.											1.30
Towner	Mouse	T.			T.	T.										T.	.12															.01	0.13
Trotters	Lit. Missouri		.12																				.07			T.			.28	.04		.26	0.77
Turtle Lake	Missouri				.05												.19												T.			.35	0.59
Valley City	Sheyenne	T.	.01		.02	T.											.07							.02									0.12
Velva	Mouse				.02												.18						T.	T.					T.			.11	0.31
Wahpeton	Red			.01		.15								.02			.15							.02						.10			0.45
Washburn	Missouri	.05			T.						T.						.27	.06											T.	.04			0.42
Westhope	Mouse		.02														.07			.18												.04	0.31
Williston ***	Missouri	.04	T.		.01				.01		T.			T.	T.	T.	.42					T.	.05	T.		T.			.06			.03	0.62
Willow City	Mouse				T.												.20															T.	0.20
Wishek‖‖	Missouri					.20											.01							.03						.10			0.34
Zap	Knife	.06													.12								.10						.04			.10	0.42
Moorhead, Minn ***	Red	T.	T.		.07	T.	T.		T.					.01	T.	T.	.28	T.			T.	T.	T.	.03		T.			.07	T.		.37	0.83

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for March 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	49	51	52	54	36	30	20	18	22	36	48	60	48	42	28	30	32	32	42	28	32	30	34	36	32	46	27	28	42	40	40	36.9
	Minimum	22	29	28	30	24	10	0	−2	−4	−4	10	15	22	24	21	−6	−4	0	10	9	10	15	0	0	2	0	11	6	5	15	24	10.4
Arnegard (near)	Maximum	44	53	45	40	30	23	27	24	12	49	49	58	45	57	53	41	27	50	60	60	37	26	25	42	39	28	50	34	20	40	51	40.0
	Minimum	30	30	30	28	19	12	3	7	−12	0	24	24	22	28	28	7	3	5	32	34	21	13	5	5	20	14	20	12	5	6	24	16.1
Ashley	Maximum	57	56	54	46	37	27	25	20	16	31	66	71	66	59	52	49	23	35	55	60	50	26	28	37	42	32	54	55	20	32	33	42.4
	Minimum	30	22	32	30	18	9	−4	−9	−5	−2	22	30	20	12	30	6	−5	1	20	26	9	10	10	0	10	−1	7	11	5	10	15	11.9
Beach	Maximum	47	49	49	45	31	25	27	23	18	46	63	61	53	59	54	49	32	59	62	54	47	24	23	43	38	40	56	48	13	43	46	42.8
	Minimum	32	30	32	10	25	12	4	13	−3	0	29	26	21	29	32	10	9	21	32	35	23	14	9	4	16	16	22	13	8	0	26	17.7
Berthold Agency	Maximum	48	55	50	42	35	26	28	22	15	45	65	62	50	50	60	40	20	58	50	35	28	30	24	40	38	35	52	32	22	38	45	40.0
	Minimum	30	25	30	30	8	8	−4	10	−6	4	15	32	24	20	15	4	0	8	32	18	15	18	0	4	18	11	15	15	11	10	23	14.3
Bismarck	Maximum	54	58	51	43	31	20	24	20	14	37	67	69	44	60	53	42	23	60	57	54	29	23	24	37	30	31	58	36	20	30	37	39.9
	Minimum	33	28	33	30	20	11	2	12	−3	2	20	33	21	20	34	6	5	11	32	28	16	14	9	5	18	6	17	13	9	7	19	16.5
Bottineau	Maximum	45	44	42	42	34	22	23	22	15	33	54	53	47	51	48	44	18	44	46	46	37	25	24	32	31	28	48	47	22	40	43	37.1
	Minimum	31	25	31	28	19	2	−4	0	−5	6	12	27	16	23	30	5	−1	5	27	29	7	5	6	1	14	1	17	8	5	14	20	13.0
Bowman	Maximum	49	54	49	45	32	22	25	22	12	48	63	63	45	60	53	34	50	60	63	54	38	24	41	32	33	42	58	46	10	34	45	42.3
	Minimum	30	25	31	25	21	13	5	12	3	−6	30	32	23	22	32	5	10	32	33	32	22	12	0	20	18	18	19	10	5	−4	20	17.7
Cando	Maximum	44	44	44	44	44	25	21	21	16	25	48	52	50	50	51	43	43	41	43	47	45	26	26	28	27	31	49	48	20	41	49	38.3
	Minimum	32	26	32	24	21	4	−3	0	−4	6	26	16	12	20	30	13	−6	8	0	28	3	2	8	−2	−2	0	11	7	2	14	20	11.2
Carrington §§	Maximum	53	55	43	40	17	21	16	17	28	60	61	28	54	48	15	16	49	46	51	22	26	25	36	25	27	51	18	20	40	44	34	35.0
	Minimum	29	29	32	24	−4	−1	−4	−2	−4	9	23	18	15	25	15	−11	−8	14	29	9	7	9	3	5	0	0	11	6	5	16	23	10.4
Carson	Maximum	52	58	56	35	24	25	25	20	16	40	65	68	53	60	53	45	27	61	60	55	38	27	24	36	33	34	40	30	13	22	36	39.5
	Minimum	28	25	30	21	12	10	−1	8	−8	−4	20	32	23	15	30	7	3	6	30	35	18	10	5	1	15	10	15	10	6	−3	15	13.7
Crosby	Maximum	47	48	48	40	31	21	26	24	16	45	65	56	45	57	47	41	20	45	51	45	39	27	25	37	32	35	50	39	25	46	57	39.7
	Minimum	32	30	34	25	20	5	−1	5	−3	8	26	44	20	31	30	10	0	10	32	32	15	17	3	8	14	8	23	12	13	10	35	17.7
Devils Lake	Maximum	46	46	44	42	30	16	20	17	15	23	55	55	33	51	43	25	16	44	41	48	17	25	25	32	29	25	50	32	18	40	47	33.9
	Minimum	33	28	34	30	10	5	0	1	−2	9	15	31	16	21	25	−1	−6	3	25	16	6	4	3	1	6	0	12	8	4	15	22	12.1
Dickinson §§	Maximum	49	55	48	46	31	19	27	17	24	47	64	63	35	59	54	27	28	60	61	51	25	24	20	38	28	38	58	18	12	34	43	38.8
	Minimum	29	27	31	32	22	13	1	6	−12	−7	24	29	25	20	28	27	5	13	25	33	21	13	13	1	11	14	17	18	8	−3	10	15.9
Drake	Maximum	48	50	46	41	28	17	23	16	17	32	58	58	30	54	50	14	18	44	50	48	24	27	23	37	24	30	51	17	20	37	44	34.7
	Minimum	35	29	32	32	24	6	−1	3	−2	−1	14	33	19	19	28	14	−7	0	14	30	11	8	9	6	9	4	7	14	7	7	15	13.5
Dunn Center	Maximum	47	53	50	44	34	25	27	23	15	48	64	62	51	58	52	42	22	54	59	49	39	26	19	41	34	37	54	40	21	40	45	41.1
	Minimum	33	29	34	32	24	13	−2	11	−11	2	25	44	26	21	34	8	3	12	33	33	21	14	14	4	19	14	20	13	10	5	23	18.3
Dunseith	Maximum	45	44	43	42	37	18	21	20	15	23	54	53	49	50	49	42	19	44	45	46	33	25	23	30	29	26	46	45	20	39	43	36.1
	Minimum	27	23	33	27	16	−2	−6	−4	−7	5	17	29	13	18	29	1	−6	1	24	26	−9	−1	3	−5	10	−4	13	4	0	12	17	9.8
Edgeley	Maximum	59	58	56	50	45	30	21	21	18	31	67	73	42	60	60	40	20	55	54	51	35	27	32	36	44	30	49	45	22	36	39	42.1
	Minimum	28	27	31	27	25	8	−3	8	−5	2	17	31	20	10	30	18	−6	0	26	25	12	11	15	1	15	−1	5	11	5	15	17	13.8
Ellendale	Maximum	57	57	53	49	39	31	21	20	19	32	62	63	33	56	52	32	19	49	50	62	26	25	33	36	44	29	46	24	22	34	38	39.1
	Minimum	24	22	36	26	23	10	0	8	−2	−1	16	33	22	9	32	9	−5	−1	27	26	13	11	14	0	15	1	3	13	5	13	19	13.6
Fessenden §§	Maximum	50	51	48	43	32	24	23	15	17	35	61	62	30	55	50	28	28	46	49	50	24	26	23	36	23	29	50	20	26	40	49	36.9
	Minimum	32	28	30	32	24	6	−1	−1	−3	−2	11	30	19	19	28	12	−7	−4	27	29	9	7	12	3	16	−1	7	13	6	8	22	13.3
Foxholm (near)	Maximum	46	50	45	40	33	21	23	22	16	34	57	57	46	55	48	40	19	44	50	46	40	26	24	38	34	31	48	42	20	40	42	38.0
	Minimum	33	29	32	31	19	2	−5	1	−5	5	16	32	12	21	29	4	0	2	29	39	8	9	5	3	14	2	17	10	6	10	20	13.9
Fullerton	Maximum	55	56	53	51	36	29	21	19	18	32	67	71	62	50	52	44	20	44	48	60	45	30	32	37	48	28	47	45	23	35	41	41.9
	Minimum	23	25	35	28	22	9	0	8	−4	3	16	32	17	18	28	9	−5	12	22	28	13	12	18	2	14	1	4	13	5	14	19	14.2
Garrison	Maximum	49	55	48	41	36	25	24	24	15	40	61	59	52	57	53	50	21	47	53	48	47	25	24	40	40	35	53	42	20	22	40	40.2
	Minimum	33	28	31	34	25	9	1	7	−4	4	17	35	21	22	31	8	−2	4	22	37	15	14	10	6	20	14	18	14	10	10	18	16.6
Grafton	Maximum	44	43	46	47	43	26	22	25	18	25	42	50	47	46	47	31	19	39	39	47	35	25	27	23	29	30	41	40	24	41	48	35.8
	Minimum	32	30	37	29	24	8	0	3	1	9	8	26	17	18	30	7	−3	8	18	29	1	1	9	8	16	10	10	7	4	7	23	13.8
Grand Forks	Maximum	41	43	46	47	32	17	20	20	17	23	40	53	31	39	37	25	17	35	32	49	19	25	27	25	28	21	40	37	22	39	46	32.0
	Minimum	31	30	32	31	13	5	0	1	−2	6	9	26	17	19	25	3	−7	2	17	19	4	5	−1	−7	7	0	11	8	5	15	24	11.2
Granville	Maximum	50	53	49	45	39	25	25	24	17	30	60	59	50	57	56	45	21	47	52	48	45	25	20	39	36	32	52	45	23	40	45	40.5
	Minimum	33	29	29	32	23	6	−3	4	−3	9	22	32	20	24	33	7	−4	2	30	32	13	10	15	6	12	12	20	13	8	14	22	16.2
Hansboro	Maximum	48	45	48	40	32	14	19	19	15	23	50	50	42	48	48	37	20	40	40	44	27	30	22	27	27	27	46	46	20	40	47	34.9
	Minimum	32	28	30	28	14	2	−5	−3	−5	6	11	30	14	19	30	2	−12	13	21	25	−1	−1	4	−3	−2	−5	12	2	2	7	20	10.2
Hettinger	Maximum	52	55	50	47	36	26	26	24	18	47	65	65	55	62	54	49	32	61	64	55	42	21	25	38	34	38	60	49	14	28	40	43.0
	Minimum	32	23	32	32	21	14	3	13	−8	−5	26	31	26	21	32	7	5	15	27	32	23	13	6	−2	19	17	15	11	6	−5	17	16.1
Hillsboro	Maximum	41	46	45	45	42	26	26	19	18	26	43	57	57	39	39	31	18	31	31	46	40	30	30	29	34	36	45	45	24	40	42	36.2
	Minimum	30	28	35	30	25	20	2	5	0	3	6	6	19	20	18	10	−5	8	11	19	11	9	12	6	4	−2	4	12	6	20	23	12.7
Howard (near)	Maximum	45	48	44	37	30	20	26	20	18	46	48	40	55	51	40	20	48	41	46	35	32	25	38	30	34	43	35	24	43	52	52	37.6
	Minimum	34	29	30	20	15	5	−2	5	−5	6	32	20	23	27	5	0	2	32	31	19	15	0	9	9	9	19	10	10	7	24	24	15.0
Jamestown §§	Maximum	45	55	49	49	34	25	22	20	17	28	62	63	49	57	49	46	19	52	46	56	42	29	29	37	34	25	50	45	22	39	45	40.0
	Minimum	30	27	34	30	23	8	0	6	−3	4	14	30	19	15	33	5	−7	0	28	30	10	6	10	3	17	−1	6	12	5	16	19	13.8
Kenmare	Maximum	46	[illegible]	48	49	39	32	19	23	17	20	41	59	56	34	56	50	14	27	45	52	45	24	27	15	31	25	33	50	19	22	43	35.7
	Minimum	33	[illegible]	34	32	32	4	−2	1	−3	0	19	33	20	21	30	11	1	3	26	33	12	12	6	5	15	5	10	13	9	10	16	15.3
Langdon §§	Maximum	40	40	45	46	30	30	28	20	17	36	46	50	26	58	40	25	20	42	38	50	26	28	30	20	26	25	50	20	18	42	52	34.3
	Minimum	25	20	23	26	20	[illegible]	−5	−4	−8	−5	6	25	11	10	20	−5	10	10	18	−4	−3	0	−8	0	−5	3	0	1	−2	5	12	7.5
Larimore	Maximum	45	45	45	49	40	24	22	20	17	24	48	56	48	48	41	31	16	41	41	49	40	25	29	28	28	23	44	42	20	40	46	36.0
	Minimum	33	[illegible]	33	30	22	8	−6	3	−2	7	9	28	12	18	31	7	−7	0	20	28	4	1	10	−2	16	−2	10	9	4	13	21	12.6
Linton	Maximum	58	60	54	59	39	28	25	24	16	35	69	73	52	63	55	50	29	63	60	58	50	26	26	39	39	35	60	60	18	33	35	44.9
	Minimum	21	15	30	29	10	9	−2	8	−7	−2	20	24	21	10	31	9	0	6	27	25	15	12	13	−5	8	−2	14	14	7	16	16	12.6
Lisbon	Maximum	52	55	52	49	41	29	21	19	19	29	62	68	62	49	50	45	18	42	42	59	53	30	32	32	43	27	48	47	26	38	47	41.5
	Minimum	28	27	31	30	24	9	1	10	−3	4	8	28	22	11	30	10	−4	0	26	29	11	12	13	2	21	3	4	15	5	18	21	14.4
McClusky	Maximum	48	50	45	39	35	24	21	21	17	30	69	48	55	60	49	39	19	48	54	48	38	24	22	36	32	32	53	48	40	35	38	39.3
	Minimum	31	37	31	31	20	−5	−2	−4	−3	4	23	18	26	42	29	5	−6	6	24	32	9	10	8	7	19	3	14	10	13	19	12	14.9
Maddock	Maximum	47	50	47	46	38	24	20	20	16	25	56	58	49	53	49	42	17	44	48	50	44	27	25	35	35	29	51	48	20	40	48	38.7
	Minimum	33	28	33	29	22	4	−4	1	−5	5	15	30	16	20	21	4	−8	1	28	28	7	4	8	−4	17	−2	11	8	4	11	18	12.4
Marmarth	Maximum	49	54	50	45	35	27	25	26	18	45	65	65	54	65	55	49	35	64	66	55	43	25	24	48	39	42	62	52	12	38	48	44.6
	Minimum	29	24	33	30	21	15	7	13	−5	−5	29	31	25	24	34	12	9	19	30	30	24	15	12	4	19	18	22	12	8	−4	25	18.1
Minot	Maximum	48	52	47	44	35	32	25	24	18	33	58	59	59	56	54	57	22	45	52	48	44	26	26	39	38	39	51	49	21	41	45	41.5
	Minimum	35	27	35	22	23	6	−2	5	−2	9	14	32	21	23	32	7	−7	1	31	32	13	12	9	6	11	6	20	13	9	13	13	15.1
Mohall	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Mott	Maximum	53	60	56	48	30	21	22	18	17	38	47	68	37	58	55	40	28	62	59	52	30	26	23	38	38	35	50	39	27	32	36	40.1
	Minimum	30	34	33	26	16	5	12	2	−8	16	26	24	20	34	25	8	5	20	35	20	13	12	5	12	18	16	18	24	8	16	17	17.5
Napoleon §§	Maximum	57	57	51	46	33	18	25	18	16	33	67	71	32	61	53	23	21	60	58	56	30	26	25	38	35	33	58	21	19	35	38	39.2
	Minimum	32	25	30	31	20	8	−7	8	−8	−2	21	25	22	15	30	20	−5	2	25	31	10	9	13	−2	10	−3	10	20	4	11	16	13.6
New England	Maximum	51	56	49	47	40	30	29	24	18	47	63	62	53	60	55	47	32	60	64	56	47	27	21	37	57	47	40	22	28	34	44	43.5
	Minimum	32	25	32	26	20	15	5	13	−8	6	26	23	22	24	29	10	7	14	32	30	21	15	11	13	22	21	−4	−6	−3	18	21	16.5
New Salem	Maximum	52	53	51	47	40	22	25	20	13	40	63	68	54	60	53	49	25	58	53	51	44	25	24	36	51	33	57	50	29	27	33	42.3
	Minimum	34	28	39	36	22	10	−1	8	−7	−1	28	18	29	19	30	9	3	8	34	33	16	10	6	0	18	5	15	10	6	0	15	15.2
Oakes	Maximum	55	56	54	52	40	32	23	20	21	31	65	71	62	50	52	44	20	44	50	51	47	29	34	36	46	30	45	46	24	36	42	42.2
	Minimum	23	24	35	28	25	8	−1	9	−3	4	14	29	17	18	28	9	−6	12	23	29	13	12	15	0	18	1	5	12	4	11	21	14.1
Pembina §§	Maximum	39	40	42	42	25	10	21	7	15	24	38	45	20	42	34	9	15	38	31	41	11	24	23	23	15	17	38	12	18	38	45	27.2
	Minimum	25	26	25	25	25	5	−2	−2	−3	−3	5	11	16	14	20	6	−5	−5	3	15	−3	−4	0	−8	−6	−3	−2	5	0	1	9	6.1
Sharon	Maximum	43	45	44	48	37	18	20	17	16	25	55	58	43	49	44	29	20	43	37	50	29	26	26	29	28	25	43	40	21	40	44	35.2
	Minimum	31	29	32	30	18	2	−2	2	−2	4	9	28	16	18	29	3	−7	−2	21	28	4	2	6	−3	11	−2	9	9	3	14	20	11.8
Steele	Maximum	55	56	52	50	44	35	22	22	22	31	65	69	56	60	60	44	20	55	55	52	47	25	22	37	36	32	55	57	20	35	44	43.1
	Minimum	28	23	33	31	23	10	−2	7	−4	3	20	27	21	16	30	7	−2	11	28	31	12	11	11	−1	11	2	14	12	6	13	12	14.3
Towner	Maximum	48	51	50	49	45	36	23	25	17	28	61	58	53	55	53	46	21	45	51	51	46	30	39	37	35	32	51	48	20	42	47	41.7
	Minimum	32	26	33	30	23	5	−3	2	−3	6	21	28	19	21	31	6	−5	0	28	29	11	6	10	3	11	1	18	10	6	14	19	14.1
Valley City	Maximum	50	53	50	48	44	30	20	20	18	29	60	63	55	54	54	46	17	45	45	55	48	30	30	36	37	28	45	45	24	41	47	40.9
	Minimum	28	28	34	30	24	9	1	6	−1	6	9	29	19	15	32	8	−8	−3	24	27	9	6	13	1	20	0	7	12	5	17	19	13.7
Wahpeton	Maximum	51	54	54	49	42	31	22	20	20	27	49	63	60	42	48	45	16	34	39	59	54	30	38	32	48	33	45	45	30	40	45	40.8
	Minimum	28	26	33	30	26	11	2	9	−3	3	6	23	23	15	30	14	−4	0	20	29	15	16	18	2	24	5	9	23	10	20	21	15.8
Westhope	Maximum	48	50	46	41	36	24	25	25	18	26	57	55	50	53	49	45	19	48	52	49	38	27	27	36	36	33	57	44	22	42	44	39.4
	Minimum	35	29	34	29	22	5	0	0	3	11	20	32	18	25	31	6	3	6	29	29	8	8	7	4	13	1	19	9	8	14	21	15.5
Williston	Maximum	48	52	48	40	29	20	27	17	13	48	60	56	36	55	52	33	19	47	56	45	32	27	27	42	29	36	49	29	20	43	54	38.4
	Minimum	33	31	35	29	18	9	4	9	−6	7	28	35	24	28	33	8	9	13	33	32	22	18	6	12	18	16	26	14	12	11	30	19.3
Moorhead, Minn	Maximum	46	50	49	45	34	19	17	18	17	25	44	61	40	41	42	31	14	36	36	54	21	26	30	29	37	22	44	37	27	39	44	34.7
	Minimum	29	30	34	31	15	10	2	7	0	6	9	27	19	16	31	4	−5	−2	22	21	11	12	8	0	11	2	10	14	9	22	22	13.8

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 4-30-34—1050]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLIII Bismarck, N. D., April 1934 No. 4

GENERAL SUMMARY

April 1934 was the third driest April in the Climatological history of North Dakota, and it was the fourth consecutive month with precipitation below the normal. Light to moderate snow or rain fell at most places during the first decade, but amounts were very small and scattered after the 11th. Temperatures and sunshine averaged somewhat above the normal. Although the average wind velocity for the month was only slightly above the normal, dust storms were numerous and at times severe, particularly on the 14th, 18th, 21st, and 22d. As a result of the continued dry weather pastures, ranges, and livestock were in poor condition. Vegetation was backward and some farmers discontinued seeding at the end of the month due to the unfavorable weather and soil conditions.

TEMPERATURE

The mean temperature for the State was 43.7°, or 2.1° above the normal, and 3.7° higher than the mean for April, 1933. The highest mean reported was 47.6° at Marmarth, Slope County; the lowest was 38.3° at Pembina, Pembina County. The highest temperature reported was 95° at Steele, Kidder County on the 29th; the lowest was 7° at Cando, Towner on the 9th. The greatest monthly range of temperature was 82° at Steele, Kidder County; the least was 59° at Powers Lake, Burke County. The greatest daily range of temperature was 63° at Fort Yates, Sioux County, Jamestown, Stutsman County, and Lisbon, Ransom County on the 28th.

PRECIPITATION

The average precipitation for the State was 0.44 inch, or 0.95 inch below the normal, and 0.89 inch less than the average for April 1933. The greatest monthly amount reported was 1.28 inches at Grafton, Walsh County and Wahpeton, Richland County; there was none at Crosby, Divide County, and Portal and Powers Lake, Burke County. The greatest amount recorded in any 24 consecutive hours was 0.65 inch at Fullerton, Dickey County on the 1st. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 1.9 inches.

MISCELLANEOUS PHENOMENA

Auroras: Carson, 16th; Corinth, 5th, 21st; Devils Lake, 5th, 15th; Dogden Butte, 6th, 20th; Foxholm, 5th, 11th, 15th, 16th; Napoleon, Willow City, 15th; Parshall, 6th; Pembina, 5th, 6th; Petersburg, 5th, 19th; Trotters, 14th, 15th, 16th; Williston, 5th, 16th, 19th.

Fog: Bismarck, 2d, 15th, 30th; Bowman, Carson, New Salem, Sharon, 4th; Courtenay, 4th, 5th; Devils Lake, 1st, 2d, 4th; Moorhead, 1st, 2d, 4th, 5th; New England, 2d, 4th; Steele, Stowers, 2d.

Hail: Drake, Napoleon, 10th; Jamestown, Pembina, 18th; Valley City, 11th.

Halos, lunar: Bowman, Ellendale, Grand Forks, Oakes, Petersburg, Sharon, 20th; Devils Lake, 20th, 26th; Foxholm, 26th.

Halos, solar: Bismarck, 16th, 17th; Bowman, 20th; Devils Lake, 3d, 7th, 12th, 17th; Dogden Butte, 3d, 7th, 17th, 26th; Foxholm, 7th, 17th, 20th; Grand Forks, Petersburg, Sharon, 17th; Moorhead, 17th, 18th, 22d, 29th.

Sleet: Bowman, Moorhead, New England, Steele, 2d; Devils Lake, 5th, 11th; Pembina, 9th; Towner, 10th.

Thunderstorms: Bismarck, Carrington, Devils Lake, Fullerton, Oakes, 8th; Dogden Butte, 18th; Edmore, Foxholm, McLeod, Pettibone, Steele, Valley City, 9th; Moorhead, 9th, 18th; Pembina, 7th; Rugby, 8th, 17th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	Percentage of sunshine
Bismarck	29.98	30.44	12	29.48	22	11.5	36	nw.	21	71	41	38	70
Devils Lake	29.97	30.44	3	29.37	22	11.9	35	n.	21	73	48	51	66
Grand Forks	29.92	30.38	27	29.32	23	......	41	nw.	21	74	....	48	....
Williston	30.01	30.54	19	29.49	13	10.7	31	w.	22	69	40	34	79
Moorhead, Minn	29.95	30.44	27	29.38	21	10.9	35	n.	21	76	52	52	53
Averages & ext's	29.97	30.54	19	29.32	23	11.2	41	nw.	21	73	45	45	67

† And other dates.

COMPARATIVE DATA FOR APRIL

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	37.6	−4.0	75	− 2	2.65	+1.19	5.50	1.00	6.3	7	10	6	14
1893.	34.3	−7.3	77	− 8	1.73	+0.27	3.98	0.10	7.8	6	7	9	14
1894.	42.8	+1.2	92	12	3.06	+1.60	7.48	2.00	4.4	9	8	10	12
1895.	49.6	+8.0	87	10	2.23	+0.77	5.16	0.64	0.0	5	13	8	9
1896.	40.1	−1.5	92	2	4.37	+2.91	8.61	0.63	5.1	9	9	8	13
1897.	40.8	−0.8	93	7	1.01	−0.45	3.25	T.	1.1	5	12	8	10
1898.	41.9	+0.3	87	− 4	1.38	−0.08	4.16	0.15	0.5	5	14	9	7
1899.	38.0	−3.6	86	−22	1.36	−0.10	4.20	0.40	6.3	6	12	10	8
1900.	49.3	+7.7	93	11	0.85	−0.61	2.28	T.	T.	3	20	6	4
1901.	44.5	+2.9	92	10	0.98	−0.48	2.89	T.	0.3	4	12	9	9
1902.	40.2	−1.4	87	− 2	1.06	−0.40	3.84	T.	2.9	3	12	8	10
1903.	42.5	+0.9	83	8	1.23	−0.23	3.65	T.	2.7	5	16	6	8
1904.	37.4	−4.2	91	2	1.70	+0.24	4.62	0.13	8.1	5	13	5	12
1905	40.2	−1.4	83	3	0.63	−0.83	1.97	0.00	3.7	3	15	8	7
1906.	46.7	+5.1	88	8	1.50	+0.04	3.51	0.42	1.3	5	14	7	9
1907.	31.9	−9.7	80	− 6	0.57	−0.89	2.08	T.	4.2	4	10	9	11
1908.	43.9	+2.3	91	−19	1.47	+0.01	3.76	0.12	5.9	5	16	6	8
1909.	34.2	−7.4	80	3	0.81	−0.65	2.27	0.00	5.1	6	10	9	11
1910.	48.0	+6.4	96	4	1.30	−0.16	3.45	0.07	2.9	4	16	8	6
1911.	41.5	−0.1	90	− 5	1.30	−0.16	3.14	T.	6.3	5	15	6	9
1912.	44.4	+2.8	88	2	2.34	+0.88	4.79	0.90	1.7	7	14	8	8
1913.	46.8	+5.2	94	11	0.71	−0.75	2.00	T.	2.4	4	16	6	8
1914.	40.9	−0.7	84	2	1.66	+0.20	4.10	0.20	2.8	6	9	10	11
1915.	50.3	+8.7	99	5	1.08	−0.38	2.41	0.29	T.	5	15	8	7
1916.	39.2	−2.4	79	− 6	1.40	−0.06	3.35	T.	2.9	5	10	10	10
1917.	37.2	−4.4	73	5	1.68	+0.22	4.22	0.24	5.6	7	9	9	12
1918.	41.4	−0.2	81	0	2.15	+0.69	3.69	0.75	3.0	7	12	8	10
1919.	42.3	−0.7	79	6	1.50	+0.04	4.23	0.55	6.2	6	11	9	10
1920.	32.1	−9.5	63	−11	0.83	−0.63	2.39	0.10	2.1	5	13	8	9
1921.	41.1	−0.5	91	1	1.81	+0.35	4.72	0.27	3.8	7	14	7	9
1922.	42.3	+0.7	89	− 2	0.92	−0.54	3.15	T.	2.3	6	10	9	11
1923.	38.7	−2.9	89	−15	1.45	−0.01	3.82	T.	7.2	5	13	8	9
1924.	39.3	−2.3	84	6	2.55	+1.09	5.91	0.50	7.5	9	8	9	13
1925.	47.8	+6.2	85	10	1.64	+0.18	4.24	0.36	T.	6	11	10	9
1926.	42.8	+1.2	98	− 4	0.28	−1.18	1.56	0.00	0.9	3	17	8	5
1927.	41.4	−0.2	95	7	1.70	+0.24	2.95	0.41	2.3	7	10	8	12
1928.	35.9	−5.7	84	− 6	0.88	−0.58	2.30	0.08	5.0	5	12	10	8
1929.	41.5	−0.1	85	− 9	1.31	−0.15	3.03	0.04	3.4	6	12	9	9
1930.	47.3	+5.7	86	8	1.25	−0.21	3.67	0.10	0.5	6	14	7	9
1931.	44.1	+2.5	87	3	0.43	−1.03	2.38	0.00	0.7	2	18	8	4
1932.	44.1	+2.5	79	0	2.16	+0.70	6.00	0.38	0.7	8	9	9	12
1933.	40.0	−1.6	84	2	1.33	−0.13	2.90	0.13	7.3	5	11	9	10
1934.	43.7	+2.1	95	7	0.44	−1.02	1.28	0.00	1.9	3	15	8	7
Per..	41.6	....	99	−22	1.46	....	8.61	0.00	3.4	5	12	8	10

Climatological Data for April 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	8	......	......	......	......	......	......	......	0.44	......	0.30	0.0	3	......	......	......	......	H. A. Bury.
Amenia	Cass	954	38	41.5	−0.5	83	28	15	27	52	0.54	−1.26	0.25	2.0	5	2	21	7	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	44.0	+2.9	87	28	16	3	50	0.50	−0.97	0.50	5.0	1	24	4	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	44.7	+2.1	89	29	13	24	56	T.	−1.92	T.	T.	0	17	9	4	nw.	H. D. Piper.
Beach	Golden Valley	2,759	28	46.5	+4.5	81	28	20	16	45	0.26	−0.96	0.26	T.	1	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	43.6	+0.1	86	28	18	15†	52	0.38	−0.71	0.38	2.0	1	21	2	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	45.4	+3.3	86	28	19	24	48	0.32	−1.20	0.26	2.1	4	17	8	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	42.7	+3.6	81	28†	15	24	55	0.40	−0.49	0.21	2.0	3	16	7	7	nw.	N. D. School of Forestry.
Bowman	Bowman	2.961	20	44.9	+2.3	82	28	18	16	46	0.50	−0.63	0.24	0	4	23	4	3	nw.	George Larsen.
Cando	Towner	1,488	33	40.9	+0.2	84	29	7	9	53	0.27	−0.81	0.16	2.0	5	3	13	14	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	41.3	+1.7	87	27	11	14	57	0.12	−1.11	0.05	T.	3	20	5	5	w.	L. A. Swanson.
Carson	Grant	2,500	22	45.8	+3.1	87	26	19	16	61	0.15	−1.33	0.10	0.5	2	21	5	4	nw.	J. W. Evens.
Cavalier	Pembina	894	24	......	......	......	......	......	......	......	0.89	−0.33	0.31	......	6	10	13	7	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	......	......	......	......	......	......	......	0.17	−1.39	0.10	0	2	20	1	9	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	......	......	......	......	......	......	......	0.02	......	0.02	......	1	15	13	2	nw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	......	......	......	......	......	......	......	1.08	......	0.50	4.0	4	10	13	7	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	43.4	+3.2	85	28	12	16	52	0.00	−1.12	0.00	0.0	0	13	10	7	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	41.0	+2.2	83	29	18	24	42	0.58	−0.94	0.21	2.3	8	6	13	11	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	43.8	+1.7	84	28	18	17	51	0.70	−0.53	0.39	3.0	7	12	15	3	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	44.5	......	87	28	14	24	52	0.37	......	0.28	0.5	3	14	9	7	nw.	R. L. Williams.
Drake	McHenry	1.634	5	41.8	......	85	28	20	24	55	0.56	......	0.33	2.0	4	12	11	7	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	44.8	+3.0	86	28	18	17	51	0.20	−1.18	0.15	1.0	2	18	5	7	nw.	W. F. Moede.
Dunseith	Rolette	1,682	38	41.6	+1.7	81	28	18	3†	56	0.25	−0.56	0.17	1.0	3	11	5	14	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	43.4	+2.8	85	28	19	17†	60	0.23	−0.73	0.08	0.5	4	11	16	3	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	44.8	+2.1	92	29	16	27	56	0.65	−1.12	0.43	4.0	5	10	16	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	40.0	......	85	29	17	24†	54	1.05	+0.04	0.33	3.3	9	9	9	12	n.	E. D. Warner.
Ellendale	Dickey	1,457	39	44.2	+0.6	85	29	17	24	50	0.47	−1.63	0.16	3.0	5	15	6	9	nw.	J. E. Demmer.
Energy‡‡	McLean	1,750	22	46.0	......	87	28	16	24	51	0.68	−0.45	0.60	6.0	2	14	14	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	26	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	5	......	......	......	......	......	......	......	0.30	......	0.20	3.0	2	24	3	3	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	42.0	+1.3	87	28	14	24	55	0.35	−1.16	0.20	0.0	4	12	9	9	nw.	T. D. Monsen.
Forman	Sargent	1,249	41	......	......	......	......	......	......	......	0.64	−1.51	0.25	0.0	6	20	3	7	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	46.9	+2.0	89	28	16	24	63	0.10	−1.49	0.10	0.0	1	18	9	3	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	43.0	......	85	28	16	17	52	0.05	−1.30	0.04	T.	2	9	10	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	......	......	......	......	......	......	......	0.34	−0.99	0.22	3.0	2	18	9	3	nw.	Verne King.
Fullerton	Dickey	1,439	36	44.6	+1.8	92	29	15	24	57	0.95	−1.14	0.65	6.5	5	13	10	7	nw.	F. O. Alin.
Gackle	Logan	1,951	4	42.8	......	89	28	17	12†	50	0.32	......	......	2.5	3	17	6	7	nw.	A. H. Haut.
Garrison	McLean	1,901	57	42.7	+0.4	86	28	18	24	50	0.63	−0.59	0.40	4.0	2	19	7	4	nw.	W. F. Robinson.
Grafton	Walsh	827	42	43.7	+3.1	87	29	17	27	54	1.28	−0.12	0.38	T.	4	12	6	12	nw.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	43	41.3	−0.4	90	29	19	27	51	0.91	−0.93	0.28	8.2	8	6	17	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	44.2	+3.4	87	28	16	24	55	0.50	−0.55	0.22	0.5	4	14	11	5	nw.	W. A. Christianson.
Hankinson	Richland	1,068	5	45.6	......	92	28†	19	26	51	0.45	......	0.20	0.0	4	15	5	10	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	40.4	......	80	29	19	24	52	0.38	−0.89	0.10	2.0	5	......	......	......	nw.	James Muir.
Hansboro	Towner	1,597	26	40.5	+1.6	80	29	10	23	55	0.65	−0.84	0.30	7.0	3	13	9	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	45.8	+3.0	82	28†	17	16	48	0.20	−0.80	0.10	1.0	2	20	7	3	nw.	C. H. Plath.
Hillsboro	Traill	901	28	43.8	+1.0	90	29	20	27	49	1.11	−0.74	0.47	2.0	6	8	12	10	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	27	42.3	+3.2	84	28	17	16	54	T.	−1.30	T.	T.	0	17	6	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	42	42.6	+0.5	92	29	17	24†	63	0.42	−1.31	0.15	1.5	5	12	11	7	nw.	S. Calvelage.
Kenmare	Ward	1,799	3	44.4	......	85	28	20	17	45	0.01	......	0.01	0.0	1	16	12	2	nw.	R. Costello.
Langdon	Cavalier	1,615	38	39.2	+1.4	85	29	18	24†	52	0.60	−0.74	0.40	6.0	2	17	7	6	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	43.2	+2.8	90	29	18	27	52	1.18	−0.50	0.42	6.5	5	13	6	11	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	45.2	+2.5	89	29	10	16	57	0.10	−1.42	0.05	T.	3	12	14	4	nw.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	30	44.2	+1.8	90	28†	17	27	63	0.66	−1.18	0.37	2.0	6	11	12	7	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	16	43.3	......	86	28	13	24	59	0.42	−1.00	0.19	1.0	3	15	9	6	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	46.2	+2.0	91	29	17	25†	49	1.00	−1.17	0.60	6.3	6	18	4	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	19	43.0	+2.0	85	28	13	24	54	0.23	−1.12	0.09	0.0	4	11	9	10	nw.	A. T. Felland.
Mandan	Morton	1,750	20	45.2	+2.5	86	28	19	24	49	0.63	−0.79	0.30	2.0	4	16	1	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	......	......	......	......	......	......	......	0.47	−0.88	0.20	......	5	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	25	47.6	+4.6	83	28†	16	16	50	0.39	−0.65	0.30	4.5	4	14	12	4	nw.	S. P. Grane.
Mary	McKenzie	......	5	......	......	......	......	......	......	......	0.27	......	0.21	2.0	2	21	3	6	nw.	Fred Hartman.
Max	McLean	2,093	5	42.6	......	87	29	15	23	55	0.74	......	0.60	0.8	2	16	3	11	nw.	A. W. Rice.
Mayville	Traill	975	38	44.8	+1.8	91	29†	19	24	44	0.99	−0.71	0.47	1.0	6	5	16	9	n.	H. B. Addicott.
Minot	Ward	1,557	38	44.2	+3.4	85	28	21	3†	48	0.16	−1.07	0.13	T.	2	13	12	5	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	40	42.8	+2.3	87	28	17	24	57	0.07	−0.87	0.05	0.0	2	14	14	2	nw.	G. V. Davidson.
Mott	Hettinger	2,424	27	46.0	+4.2	88	29	20	24	45	T.	−1.40	T.	0.0	0	13	12	5	nw.	O. H. Ophund.
Napoleon	Logan	1,955	42	43.6	+2.2	90	28†	17	12†	54	0.25	−1.36	0.12	1.0	5	18	0	12	nw.	C. J. Hoof.
New England	Hettinger	2,400	40	45.0	+2.7	88	29	19	18	51	0.32	−0.71	0.32	2.0	1	19	5	6	nw.	F. S. Sleight.
New Salem	Morton	2,163	30	45.8	+3.4	86	28	16	24	51	0.57	−0.65	0.41	4.1	4	16	8	6	nw.	J. Christiansen.
Oakes	Dickey	1,318	5	45.7	......	91	28†	16	24	54	0.66	......	0.23	1.0	5	14	5	11	nw.	Eugene Naylor.
Park River	Walsh	998	30	42.8	+1.5	86	30	18	27	53	0.55	−0.77	0.25	2.5	5	12	8	10	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	42.2	......	85	29	18	17†	50	0.17	−0.97	0.10	0.7	2	9	17	4	nw.	C. E. Shubert.
Pembina	Pembina	789	60	38.3	−0.3	85	29	16	27	55	0.74	−0.70	0.28	1.8	8	3	15	12	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	4	......	......	......	......	......	......	......	0.71	......	0.34	1.1	5	14	10	6	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	43.9	+3.0	86	28†	14	24	54	0.78	−0.55	0.40	4.0	2	17	6	7	nw.	H. H. McCumber.
Portal	Burke	1,954	29	43.6	+2.2	85	27	20	3	51	0.00	−1.12	0.00	0.0	0	22	1	7	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	29	43.8	......	81	26†	22	19	44	0.00	−1.58	0.00	0.0	0	24	4	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	18	44.4	+3.3	85	28	18	3	53	0.23	−1.25	0.23	2.3	1	14	12	4	nw.	John Muggli.
Rugby (near)	Pierce	1,562	5	......	......	......	......	......	......	......	0.51	......	0.20	0.5	4	14	11	5	nw.	W. B. Paterson.
Ryder	Ward	2,108	5	......	......	......	......	......	......	......	0.10	......	0.10	1.0	1	......	......	......	......	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	43.3	......	85	28	20	23†	56	0.58	......	0.50	T.	2	......	......	......	......	H. J. Bugge.
Sharon	Steele	1,516	10	41.6	......	88	29	16	27	53	0.75	−0.77	0.44	3.7	6	11	9	10	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	......	......	......	......	......	......	......	0.55	−0.42	0.43	6.5	2	17	9	4	nw.	H. J. Giffey.
Steele	Kidder	1,857	40	46.8	+3.6	95	29	13	24	58	0.27	−0.92	0.20	1.0	3	16	9	5	nw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	......	......	......	......	......	......	......	0.04	−1.12	0.04	T.	1	25	3	2	......	Thos. D. Alkire.
Tioga	Williams	2,279	5	......	......	......	......	......	......	......	T.	......	T.	0.0	0	25	4	1	nw.	Anton Carlson.
Towner	McHenry	1,482	32	45.1	+3.2	87	28	15	24	56	0.43	−0.67	0.17	0.0	4	13	10	7	e.	Karl Weber.
Trotters	Golden Valley	......	8	......	......	......	......	......	......	......	0.22	......	0.12	1.0	2	12	9	9	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	20	......	......	......	......	......	......	......	0.29	−0.90	0.15	2.0	3	......	......	......	......	M. A. Slettum.
Valley City	Barnes	1,245	28	44.8	+2.2	90	29	16	27	54	0.73	−0.79	0.42	2.0	7	18	3	9	n.	I. C. Robertson.
Velva	McHenry	1,511	7	45.4	......	87	28	16	24	51	0.18	......	0.16	T.	2	8	17	5	nw.	Oscar Anderson.
Wahpeton	Richland	962	42	45.6	+1.2	92	29†	17	27	53	1.38	−0.87	0.60	3.0	6	15	0	15	nw.	C. G. Luick.
Washburn	McLean	1,731	33	44.5	+0.7	89	28	20	24	55	0.82	−0.31	0.39	4.0	3	18	6	6	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	44.2	+4.3	85	28	19	24	58	0.08	−0.83	0.04	0.0	2	13	15	2	nw.	C. M. Condit.
Williston	Williams	1,878	55	45.6	+3.6	83	28	22	16	42	0.30	−0.90	0.30	3.0	1	24	3	3	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	40.8	+1.2	83	28	11	24	59	0.39	−0.61	0.14	1.0	3	15	10	5	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	5	41.2	−0.7	86	29	13	24	56	0.31	−0.73	0.20	3.1	3	17	5	8	nw.	Gottlieb Herr.
Zap	Mercer	1,838	19	......	......	......	......	......	......	......	0.41	−0.64	0.24	2.4	2	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	53	42.4	+1.8	88	29	21	24	47	0.66	−1.52	0.20	4.9	12	5	9	16	n.	U. S. Weather Bureau.
Averages	......	......	......	43.7	+2.1	95	29	7	9	63	0.44	−0.95	0.65	1.9	3	15	8	7	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for April 1934

Stations	Drainage Basin	Day of Month 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri	T.		.03	.11	.30																											0.44
Amenia	Red	T.	.25		.10					.07	T.	.08							.04														0.54
Arnegard (near)	Missouri		.50																														0.50
Ashley	Missouri	T.	T.	T.																													T.
Beach	Lit. Missouri		T.		.26																												0.26
Berthold Agency	Missouri		.38			T.										T.																	0.38
Bismarck ***	Missouri	T.	.26		.01	.02										T.			.03				T.										0.32
Bottineau	Mouse	.18				.01				T.	.21				T.	T.																	0.40
Bowman	Grand		.08	.03	.15	.24																											0.50
Cando	Devils Lake	.06			T	.02			.01		.16	.02			T.		T.			T.													0.27
Carrington‖‖	James	T.			.05	.03					.04	T.							T.														0.12
Carson	Heart		.10																.05														0.15
Cavalier	Red	.31				.24				.08	.10	.15											.01										0.89
Cooperstown	Sheyenne		T.		.07	T.				T.	.10								T.	T.													0.17
Corinth	Missouri								.02					T.															T.				0.02
Courtenay	James	.50		.30	.20						.08																						1.08
Crosby	Mouse																																0.00
Devils Lake ***	Devils Lake	.09			.02	.17			.03	.01	.21	.02			T.	T.	T	.03	T.	T.		T.	T.	T.									0.58
Dickinson‖‖	Heart	.08	.02	.08		.39				.04					.04				.05														0.70
Dogden Butte	Mouse	.05	.04			.28					T.					T.																	0.37
Drake‖‖	Mouse	.19				.33				.03		.01								T.													0.56
Dunn Center	Knife		.15																.05														0.20
Dunseith	Mouse					.07					.17	.01				T.																	0.25
Eckman	Mouse	.08				.04				.04	.07								T.														0.23
Edgeley	James	.43	.07		.06	.07						.02																					0.65
Edmore	Devils Lake	.22				.33				.12	.20	.10			.01	.02	T.		.04	.01		T.	T.	T.			T.						1.05
Ellendale	James	.16	.14			.08				.07	.02																						0.47
Energy	Missouri		.60			.08			T.																								0.68
Epping	Missouri																																
Fairfield	Knife		.20		.10																												0.30
Fessenden‖‖	James	.20	T.			.05					T.	.05							T.										.05				0.35
Forman	Sheyenne	.25	.15	.10	T.	.09				.02		.03							T.														0.64
Fort Yates	Missouri			.10																													0.10
Foxholm (near)	Mouse	T.				.04				.01	T.				T.	T.			T.														0.05
Fryburg	Heart		.12		T.	.22								T.																			0.34
Fullerton	James	.65		.04	T.	.04				.07	.15	T.																					0.95
Gackle	James		.23		.04						.05																						0.32
Garrison	Missouri		.40			.23																											0.63
Grafton	Red	.38				.20					.34	.36				T.			T.														1.28
Grand Forks ***	Red	.20			.06	.05				.01	.28	.15			T.	T.	T.	T.	.14	.02		T.	T.	T.									0.91
Granville	Mouse	.10			.02	.22				.16	T.												T.										0.50
Hankinson	Red		.10		.20				.10		.05																						0.45
Hannah	Pembina	.10				.08				.02	.08	.10	T.		T.	T.	T.		T.	T.			T.	T.									0.38
Hansboro	Devils Lake	.25				.10				T.	.30																						0.65
Hettinger	Grand		T.	.10	.10																												0.20
Hillsboro	Red	.47				.05				.26	.20	.07								T.		.06											1.11
Howard (near)	Missouri									T.	T.					T.	T.			T.									T.				T
Jamestown	James		.15		.09					.07	.04	.07																					0.42
Kenmare	Mouse	T.				.01				T.																							0.01
Langdon	Pembina	T.								.40	.20																						0.60
Larimore	Red	.37				.22				.04	.42	.13								T.													1.18
Linton	Missouri	T	.05	.02	.03											T.																	0.10
Lisbon	Sheyenne	.37	.18			.05				.01		.04							.01														0.66
McClusky	Missouri	.10	.13			.19																											0.42
McLeod	Sheyenne	.60	.22	.01		.10				.04		.03																		T.			1.00
Maddock	Sheyenne	.08				.09				.05	T.	.01							T.														0.23
Mandan‖‖	Missouri	.30	.26		.03													.04															0.63
Manfred	James	.20				.09				.02	T.	.10							.06														0.47
Marmarth	Lit. Missouri		.04	.02	.03	.30																											0.39
Mary	Lit. Missouri		.21			.06																											0.27
Max‖‖	Missouri		.60			.14																											0.74
Mayville	Red	.47	T.			.15				.07	.19	.07							.04	T.													0.99
Minot	Mouse	T.	T.			.03				.13					T.								T.										0.16
Mohall	Mouse								.02		.05																						0.07
Mott	Cannon Ball	T.																															T.
Napoleon‖‖	Missouri	.12		.05		.06						.01							.01														0.25
New England	Cannon Ball				.32																												0.32
New Salem	Heart	.06	.41			.04										T.			.06														0.57
Oakes	James	.23	.12			.10				.03		.18																					0.66
Park River	Red	.25				.02				.08	.10	.10																					0.55
Parshall	Missouri		T.	.07		.10																											0.17
Pembina ***	Red	.24	T.			.28	.05		.08	.02	T	.03	T.			T.	.02	T.		T.		T.	T.	.02									0.74
Petersburg	Red	.34				.16				.05	.11	.05							T.	T.		T.											0.71
Pettibone	James	.38	.40			T.				T.	T.	T.				T.			T.	T.			T.	T.									0.78
Portal‖‖	Mouse																																0.00
Powers Lake	Missouri																																0.00
Richardton	Heart		.23																														0.23
Rugby [near]	Mouse	.12				.20			.14		.05							T.															0.51
Ryder	Missouri		.10																									T.		T.			0.10
Sanish‖‖	Missouri	T.	.50		.08																												0.58
Sharon	Red	.44			T.	.10				.02	.15	.02	T.		T.	T.			.02	T.		T.	T.	T.			T.						0.75
Stanton	Missouri		.43				.12																										0.55
Steele	Missouri	.20	.03		T.	.04																											0.27
Stowers	Cannon Ball		T.	.04												T.		T.					T										0.04
Tioga	Missouri		T.																														T.
Towner	Mouse	.06				.17			.10		.10																						0.43
Trotters	Lit. Missouri		.12			.10																											0.22
Turtle Lake	Missouri	.05	.09			.15		T.		T.																							0.29
Valley City	Sheyenne	.42	.07	.01		.07				.11		.04				T.			.01	T.													0.73
Velva	Mouse	.02				.16					T.				T.	T.			T.														0.18
Wahpeton	Red	.60	.20	.25		.15				.06		.02																					1.28
Washburn	Missouri	.33		.39		.10										T.																	0.82
Westhope	Mouse					.04					.04																						0.08
Williston ***	Missouri		.30						T.							T.													T.				0.30
Willow City	Mouse	.13				.12					.14				T.	T.			T.												T.		0.39
Wishek‖‖	Missouri	.10		.20		.01																											0.31
Zap	Knife		.24		.17																												0.41
Moorhead, Minn ***	Red	.20	.11	.02	.01	.14				.04	.04	T.	T.		T.	T.		.01	.03	.01		T.	.02	T.			T.			.03			0.66

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	38	43	42	49	52	60	61	58	48	42	45	42	47	44	38	46	58	55	49	50	70	56	47	50	72	48	58	83	82	72	..	53.5
	Minimum	30	31	30	32	28	30	32	32	34	29	28	29	24	26	28	21	29	30	32	25	29	40	34	18	20	23	15	31	47	47	..	29.5
Arnegard (near)	Maximum	39	40	42	45	50	56	72	63	57	56	51	58	71	46	37	50	67	61	56	67	67	72	45	60	74	80	80	87	64	67	..	59.3
	Minimum	27	32	16	19	30	30	32	34	28	28	29	24	24	27	21	18	19	22	23	27	45	40	30	19	29	30	40	42	43	31	..	28.6
Ashley	Maximum	35	35	35	35	48	65	69	65	62	65	65	51	57	56	44	52	69	66	49	53	73	77	77	51	73	67	68	86	89	82	..	60.6
	Minimum	30	30	30	30	30	27	28	39	34	38	33	21	20	31	25	18	20	40	28	20	30	19	32	13	30	25	20	30	46	48	..	28.8
Beach	Maximum	48	40	42	38	48	61	70	72	59	66	54	58	74	65	38	50	66	64	52	65	69	80	67	60	71	67	77	81	78	74	..	61.8
	Minimum	29	30	24	27	31	33	38	34	30	31	32	24	30	25	21	20	23	35	27	24	46	35	33	24	32	32	35	45	45	42	..	31.2
Berthold Agency	Maximum	42	35	42	40	52	58	58	75	56	65	52	55	65	45	42	50	70	55	55	63	70	70	56	55	74	70	80	86	80	68	..	59.5
	Minimum	20	30	22	22	28	30	28	28	32	40	25	23	22	28	18	18	18	22	25	28	30	30	30	18	32	36	30	36	44	40	..	27.8
Bismarck	Maximum	38	34	42	38	50	60	70	67	49	65	50	53	60	48	37	50	71	53	53	58	72	80	51	53	71	54	76	86	84	70	..	58.1
	Minimum	32	31	27	32	33	32	32	40	35	38	34	28	22	34	28	24	24	40	31	29	43	35	30	19	32	30	28	45	52	42	..	32.7
Bottineau	Maximum	40	37	50	49	50	56	71	69	43	39	47	50	52	52	38	51	56	51	52	56	63	74	58	54	66	63	78	81	81	66	..	56.4
	Minimum	29	30	21	27	33	29	31	33	30	29	32	25	24	28	21	20	19	30	30	23	40	37	33	15	27	21	23	47	46	38	..	29.0
Bowman	Maximum	47	40	37	34	45	60	70	75	62	63	49	55	50	45	38	52	66	60	51	63	70	79	65	58	70	60	76	82	81	71	..	59.1
	Minimum	29	29	24	31	31	30	33	38	31	41	34	22	28	27	22	18	22	30	29	25	37	33	32	24	30	31	33	39	47	41	..	30.7
Cando	Maximum	35	37	44	48	49	56	67	52	39	38	40	45	47	40	34	41	58	50	49	51	66	73	74	53	64	64	72	80	84	68	..	53.9
	Minimum	31	31	25	27	29	32	33	33	7	29	30	28	25	26	24	22	27	31	30	25	28	31	27	16	26	25	19	38	51	32	..	27.9
Carrington §§	Maximum	35	44	42	49	56	67	52	40	46	43	47	53	49	37	45	63	52	50	55	69	75	43	51	71	48	73	87	85	61	77	..	55.5
	Minimum	30	27	27	31	33	31	34	32	30	30	23	21	21	11	22	21	29	17	22	26	30	31	15	23	25	22	30	38	49	31	..	27.1
Carson	Maximum	54	33	36	35	38	64	64	76	70	55	50	55	65	45	36	53	70	55	48	60	70	80	64	55	75	87	76	85	85	70	..	60.4
	Minimum	29	29	24	30	30	30	34	36	35	37	31	29	23	32	23	19	24	23	29	23	43	34	33	20	33	26	28	44	50	45	..	31.2
Crosby §§	Maximum	48	38	50	53	52	58	73	65	46	55	50	48	68	54	36	49	65	51	55	66	63	78	50	60	68	58	81	85	76	59	..	58.6
	Minimum	29	30	20	24	27	31	30	33	27	33	30	32	34	20	28	12	21	22	26	25	40	33	29	21	23	27	29	31	44	33	..	28.1
Devils Lake	Maximum	35	37	44	48	49	54	67	52	39	38	40	45	47	40	33	41	58	50	49	51	66	73	41	50	67	43	73	80	83	61	..	51.8
	Minimum	31	31	25	27	34	32	33	33	32	29	32	28	25	32	24	22	27	35	30	25	37	31	22	18	34	25	24	43	53	31	..	30.2
Dickinson §§	Maximum	40	32	38	38	49	57	72	70	51	63	50	54	70	45	38	49	69	52	52	63	70	80	50	58	71	59	77	84	80	67	..	58.3
	Minimum	26	30	24	24	32	31	31	36	30	30	31	22	26	30	24	20	18	26	27	26	35	35	35	19	27	28	31	36	43	45	..	29.3
Drake §§	Maximum	33	37	45	46	50	55	69	53	40	52	47	49	55	41	34	45	62	50	51	56	67	77	42	53	72	50	76	85	82	58	..	54.4
	Minimum	27	30	23	25	32	33	32	33	34	32	32	25	26	31	24	23	22	24	30	25	29	30	34	20	23	27	24	30	51	42	..	29.1
Dunn Center §§	Maximum	42	34	39	40	49	56	71	67	42	60	51	56	69	62	39	48	69	52	53	63	69	80	51	50	72	60	79	86	80	62	..	58.4
	Minimum	30	31	24	25	32	31	31	32	31	32	45	24	24	38	34	20	18	35	29	28	39	35	34	31	21	26	29	39	45	43	..	31.2
Dunseith	Maximum	39	36	49	48	47	55	67	66	43	37	44	46	53	51	36	40	54	55	50	55	62	73	63	52	62	61	76	81	80	78	..	55.3
	Minimum	26	27	18	23	31	27	32	30	29	27	30	24	23	27	19	26	20	33	28	23	39	30	28	18	31	24	20	42	51	32	..	27.9
Edgeley	Maximum	36	35	37	36	50	64	70	67	56	62	49	51	64	61	45	53	70	66	51	56	75	79	78	51	78	59	72	89	92	88	..	61.0
	Minimum	19	29	28	29	31	29	30	32	35	31	35	26	20	29	29	18	20	32	30	21	30	28	30	23	24	26	16	50	46	45	..	28.7
Ellendale	Maximum	37	34	39	37	45	63	69	61	48	62	45	50	53	50	44	52	68	54	48	53	75	77	47	50	74	77	51	81	85	78	..	56.9
	Minimum	31	31	32	31	34	29	33	38	38	34	36	26	22	33	24	19	26	42	32	24	32	33	36	17	24	33	28	37	44	50	..	31.6
Fessenden §§	Maximum	34	36	41	48	50	55	68	53	39	53	45	49	54	43	35	58	63	50	56	61	68	77	42	53	72	49	75	87	75	50	..	54.6
	Minimum	29	30	25	28	32	31	29	34	34	30	33	24	22	32	25	23	21	33	29	22	35	31	31	14	28	25	20	36	49	45	..	29.5
Foxholm (near)	Maximum	42	39	46	48	50	56	70	68	50	50	50	51	58	55	35	45	60	54	54	59	66	78	64	54	69	60	78	85	79	72	..	58.2
	Minimum	20	28	17	24	30	31	31	32	27	29	29	24	22	26	20	18	16	32	22	20	42	30	31	17	34	21	26	41	52	35	..	27.7
Fullerton	Maximum	37	35	39	38	46	63	68	60	54	59	46	49	52	49	43	51	68	64	48	52	75	78	74	53	73	51	71	88	92	86	..	58.7
	Minimum	32	32	33	32	32	30	34	40	36	33	36	27	22	28	27	19	24	36	32	24	29	29	36	15	23	26	19	31	49	48	..	30.5
Garrison	Maximum	40	35	44	42	51	58	72	63	52	62	50	54	62	51	39	50	67	58	53	57	59	53	43	55	73	55	58	86	82	61	..	56.2
	Minimum	32	28	22	27	32	32	33	35	32	42	34	26	25	32	20	21	20	22	25	28	30	28	34	18	33	27	27	36	40	35	..	29.2
Grafton	Maximum	49	41	48	47	50	56	63	64	67	39	43	44	48	47	50	48	55	54	49	50	62	66	65	52	62	57	71	79	87	85	..	56.6
	Minimum	32	32	29	26	34	31	30	35	33	28	28	32	28	30	25	28	30	37	33	29	33	30	33	21	28	28	17	38	44	41	..	30.8
Grand Forks	Maximum	36	42	46	40	48	56	61	53	43	37	43	42	47	44	37	41	55	53	47	49	62	71	43	50	69	43	70	80	90	63	..	52.0
	Minimum	32	32	31	30	32	31	31	35	33	29	29	31	26	30	26	26	31	35	32	27	33	30	27	20	30	24	19	41	51	35	..	30.6
Granville	Maximum	41	40	48	48	52	59	72	57	47	50	52	61	60	40	34	45	62	52	54	59	66	77	60	55	72	65	78	87	83	65	..	58.0
	Minimum	30	32	22	24	33	33	30	38	31	34	28	24	30	23	21	22	19	34	29	39	44	30	34	16	35	23	23	40	49	40	..	30.3
Hansboro	Maximum	45	40	45	48	48	55	66	60	40	35	40	45	52	50	32	37	52	48	52	55	67	70	52	55	60	45	75	76	80	65	..	53.0
	Minimum	28	26	20	24	33	28	30	32	32	30	28	27	22	30	22	20	22	32	28	24	35	35	10	32	32	24	20	35	47	32	..	28.0
Hettinger	Maximum	47	36	35	35	37	63	69	72	60	63	50	56	67	51	36	53	67	61	52	62	72	76	67	56	71	64	77	82	82	76	..	59.8
	Minimum	30	29	24	31	30	29	33	41	33	42	34	34	27	31	29	17	19	44	28	23	42	32	36	18	29	32	30	37	42	44	..	31.7
Hillsboro	Maximum	42	39	40	45	45	58	68	68	60	43	43	42	44	46	40	43	58	58	58	45	64	72	72	50	72	59	69	82	90	75	..	56.3
	Minimum	30	30	34	30	35	33	32	34	35	29	27	31	27	33	29	25	32	28	35	29	33	31	30	21	24	29	20	48	46	50	..	31.4
Howard (near)	Maximum	41	32	48	49	49	57	70	57	57	52	49	58	70	38	36	44	59	50	55	64	69	76	64	58	70	58	79	84	76	53	..	57.4
	Minimum	27	28	21	21	28	34	30	32	25	28	28	31	28	25	18	17	22	22	22	23	28	39	30	22	28	28	25	40	38	28	..	27.2
Jamestown §§	Maximum	34	36	40	39	48	60	70	60	50	47	42	48	51	47	40	49	67	53	49	53	71	76	47	51	70	50	71	89	92	69	..	55.6
	Minimum	30	30	31	31	32	31	28	38	35	30	32	27	23	34	30	21	23	29	30	26	30	29	34	17	23	27	17	26	47	49	..	29.7
Kenmare	Maximum	44	43	40	50	49	51	59	69	55	43	55	50	55	61	40	35	63	62	55	64	64	75	62	57	69	65	77	85	83	75	..	58.5
	Minimum	29	30	22	23	31	33	33	33	27	29	30	25	29	28	21	23	20	32	26	21	49	35	33	24	37	24	32	40	53	35	..	30.2
Langdon §§	Maximum	34	40	40	50	50	55	64	44	35	37	40	45	50	40	34	38	55	55	50	50	56	66	38	40	61	40	70	79	85	53	..	49.8
	Minimum	21	30	30	29	38	30	31	32	32	26	20	28	25	30	21	25	28	30	30	25	28	26	28	18	28	29	18	35	35	48	..	28.5
Larimore	Maximum	42	39	45	44	49	56	63	63	49	36	42	44	47	45	41	40	58	56	49	51	67	73	66	51	70	57	70	78	90	83	..	55.5
	Minimum	31	31	29	26	34	31	32	34	32	27	23	31	26	29	25	24	30	36	33	28	32	32	32	21	27	27	18	45	48	49	..	30.8
Linton	Maximum	37	35	39	38	52	66	72	70	65	70	63	55	61	60	46	53	72	69	54	59	75	80	79	55	74	70	75	88	89	86	..	63.6
	Minimum	15	32	29	31	30	24	32	35	34	33	31	23	14	27	26	10	15	23	16	23	25	28	28	11	30	25	24	35	46	47	..	26.7
Lisbon §§	Maximum	48	37	41	42	48	64	68	66	58	48	43	48	51	50	45	52	67	55	47	50	74	76	49	51	74	49	70	90	90	78	..	57.6
	Minimum	30	32	34	31	35	29	27	40	39	31	32	29	24	29	31	22	23	34	32	26	30	29	37	19	26	30	17	27	51	47	..	30.8
McClusky	Maximum	37	34	43	45	49	56	68	66	49	58	47	50	58	55	42	47	62	55	51	55	68	78	68	53	71	64	76	86	83	81	..	58.5
	Minimum	28	29	22	25	30	30	30	32	31	32	31	24	20	30	23	18	14	37	30	21	39	29	30	13	26	23	17	42	46	42	..	28.1
Maddock	Maximum	43	38	45	48	51	56	68	68	49	45	46	50	53	57	41	45	62	60	52	55	69	75	68	52	72	62	73	85	83	80	..	58.4
	Minimum	29	30	22	22	32	30	28	32	34	28	32	22	20	31	22	20	20	34	26	19	33	25	29	13	28	20	19	39	46	44	..	27.6
Marmarth	Maximum	52	44	42	35	45	63	73	78	69	64	56	58	75	68	41	56	68	59	55	67	72	81	63	60	74	65	78	83	83	76	..	63.4
	Minimum	39	29	25	32	32	29	43	33	38	41	42	20	28	31	24	16	21	37	32	19	38	34	34	24	29	34	28	35	42	42	..	31.7
Minot §§	Maximum	42	39	49	48	52	58	72	68	54	54	50	52	61	60	40	46	63	39	53	62	66	78	58	75	71	54	77	85	81	57	..	58.8
	Minimum	29	31	21	25	25	32	28	30	31	34	33	28	24	30	23	21	28	28	29	22	29	31	35	27	31	28	29	38	51	38	..	29.6
Mohall	Maximum	36	39	49	52	52	59	59	73	45	42	50	53	61	42	33	46	62	57	54	62	67	81	47	57	64	54	80	88	80	52	..	56.6
	Minimum	28	31	21	23	33	31	30	27	30	32	32	24	23	28	20	23	19	32	26	20	46	32	33	17	32	24	23	41	50	36	..	28.9
Mott	Maximum	49	55	36	38	62	70	68	69	72	60	54	54	67	57	52	59	67	65	50	61	71	68	54	51	68	56	51	77	88	76	..	60.8
	Minimum	31	30	25	32	29	30	32	38	32	39	36	22	24	32	28	27	22	30	28	24	34	38	33	20	28	34	30	44	47	40	..	31.3
Napoleon §§	Maximum	35	33	37	36	51	65	71	63	51	67	49	52	58	48	40	51	72	55	51	57	74	80	44	56	74	54	74	90	90	75	..	58.4
	Minimum	30	30	28	27	30	28	28	37	33	33	31	17	17	31	25	17	18	37	27	18	32	30	33	18	25	22	20	45	51	45	..	28.8
New England	Maximum	47	42	34	44	52	60	64	70	64	65	58	59	70	62	45	52	50	54	60	60	68	81	68	59	74	61	78	85	88	87	..	62.0
	Minimum	24	26	23	26	30	32	34	32	32	32	29	30	22	30	24	21	21	19	26	24	30	35	24	24	26	26	28	34	41	39	..	28.1
New Salem	Maximum	39	35	38	35	48	58	70	66	62	81	68	57	61	50	42	50	70	70	53	57	69	81	71	53	70	62	75	86	85	67	..	61.0
	Minimum	31	30	22	31	32	32	33	38	32	37	37	26	23	31	26	19	23	26	27	26	32	35	26	16	28	26	24	51	49	47	..	30.5
Oakes	Maximum	40	36	40	40	47	66	69	68	57	57	44	50	53	50	45	54	68	63	48	53	75	77	75	57	76	69	70	91	91	86	..	60.5
	Minimum	32	32	33	31	33	30	32	38	38	32	34	27	22	31	28	20	25	39	32	23	32	30	36	16	22	26	18	38	49	48	..	30.9
Pembina §§	Maximum	36	37	43	46	46	53	60	48	36	35	41	40	45	40	32	36	51	47	47	44	56	59	38	48	58	38	71	73	85	44	..	47.8
	Minimum	25	29	28	28	32	31	32	33	33	28	26	29	27	29	25	26	29	30	32	27	28	31	32	22	26	28	16	24	35	44	..	28.8
Sharon	Maximum	37	36	43	40	48	55	63	57	45	34	40	43	48	42	36	43	60	52	48	50	70	73	59	51	71	49	60	79	88	66	..	53.2
	Minimum	31	30	28	29	33	30	31	33	32	27	25	28	25	31	25	21	28	36	31	25	33	28	31	18	27	26	16	46	52	42	..	29.9
Steele	Maximum	36	36	40	42	50	60	78	61	57	70	59	50	60	46	44	49	75	75	57	55	70	85	70	53	73	70	75	90	95	83	..	62.1
	Minimum	32	30	27	31	31	28	31	38	34	34	34	25	21	33	28	20	19	24	30	23	35	27	34	13	26	45	45	39	58	48	..	31.4
Towner	Maximum	41	38	48	49	54	59	72	72	52	47	50	52	57	67	45	46	55	66	59	59	76	82	75	55	73	67	78	87	84	83	..	61.6
	Minimum	29	31	21	22	32	29	29	33	32	31	34	21	21	31	22	20	17	34	28	22	42	27	33	15	28	25	22	39	49	40	..	28.6
Valley City	Maximum	45	37	41	40	48	59	65	68	54	43	43	47	51	51	45	48	66	65	52	52	71	74	75	51	72	71	70	85	90	87	..	58.9
	Minimum	29	30	31	29	32	30	25	36	36	28	30	28	24	30	30	33	34	36	31	25	29	30	33	18	25	26	16	44	50	46	..	30.8
Wahpeton	Maximum	40	40	42	43	44	60	67	67	62	49	46	43	50	49	48	53	63	64	51	50	75	73	73	50	75	74	65	90	92	92	..	59.7
	Minimum	21	33	36	31	35	31	37	42	40	31	31	30	25	28	29	22	29	39	33	24	28	20	35	22	25	27	17	45	53	49	..	31.6
Westhope	Maximum	44	39	51	51	53	59	72	73	47	46	48	50	57	56	37	42	61	61	54	61	63	79	66	57	66	65	80	85	81	76	..	59.3
	Minimum	28	31	20	24	33	32	30	31	30	31	34	24	24	29	22	22	21	32	30	22	45	29	33	19	25	25	22	41	47	37	..	29.1
Williston	Maximum	37	37	45	48	50	58	74	67	47	58	51	57	70	42	38	47	67	51	54	67	64	78	50	60	72	59	80	83	77	61	..	58.3
	Minimum	31	29	25	27	33	35	33	33	30	39	33	26	34	30	23	22	26	38	27	26	46	38	35	28	36	33	38	46	53	35	..	32.9
Moorhead, Minn	Maximum	36	36	43	42	46	58	66	59	47	38	42	41	46	45	40	45	60	51	44	47	69	73	48	48	70	44	65	82	88	73	..	53.1
	Minimum	30	32	34	31	34	32	32	35	31	29	29	31	26	33	29	24	33	37	32	28	32	33	28	21	23	26	22	50	51	43	..	31.7

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 5-28-34—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

JUL 11 1934

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLIII   Bismarck, N. D., May 1934   No. 5

GENERAL SUMMARY

May was the fifth consecutive month with temperature above and precipitation below the normal. The average temperature was the highest of record for May in North Dakota since the climatological service was established. Temperatures of 100° or more were recorded on many days at most stations during the last week of the month. This was also the third driest May of record in the State. The accumulated deficiency in precipitation for the section since the beginning of 1934 exceeds four inches. While dust storm were less numerous than in April, both inconvenience and damage were caused by them. At the close of the month many early planted fields of small grains were suffering from drought, and many late planted fields had not as yet germinated. Pastures and ranges were unusually backward, and the condition of livestock formed a serious problem.

TEMPERATURE

The mean temperature for the State was 63.6°, or 10.8° above the normal, and 8.8° higher than the mean for May, 1933. The highest mean reported was 69.3° at Fort Yates, Sioux County; the lowest was 57.6° at Pembina, Pembina County. The highest temperature reported was 111° at Langdon, Cavalier County on the 30th; the lowest was 18° at Edmore, Ramsey County on the 11th. The greatest monthly range of temperature was 88° at Edmore. Ramsey County; the least was 68° at Bismarck Lake, Burleigh County. The greatest daily range of temperature was 62° at Park, River, Walsh County on the 11th.

PRECIPITATION

The average precipitation for the State was 0.35 inch, or 2.05 inches below the normal, and 2.80 inches less than the average for May 1933. The greatest monthly amount reported was 1.36 inches at Napoleon, Logan County; there was none at Zap, Mercer County. The greatest amount recorded in any 24 consecutive hours was 1.28 inches at Napoleon, Logan County on the 28th. The average number of days with 0.01 inch or more of precipitation was 3.

MISCELLANEOUS PHENOMENA

Auroras: Bottineau, Eckman, Velva, 2d; Corinth, 9th, 13th; Foxholm, 5th, 10th; Pembina, 3d; Williston, 2d, 3d.

Fog: Bismarck, Foxholm, 6th; Eckman, 3d; Moorhead, 3d, 4th, 21st.

Hail: Fullerton, 31st; Grand Forks, Jamestown, 1st; Larimore, 2d; Oakes, 12th.

Halos, solar: Devils Lake, 11th, 15th, 22d, 28th; Dogden Butte, 24th; Moorhead, 5th, 11th, 16th, 22d; Petersburg, 15th, 16th; Rugby, 27th; Tagus, 3d; Williston, 3d, 11th.

Sleet: Devils Lake, 1st.

Thunderstorms: Bismarck, 18th, 20th. 29th; Devils Lake, 18th, 19th, 29th, 30th; Dogden Butte, 8th, 19th, 28th; Edmore, 1st, 2d, 18th, 30th; Foxholm, 1st, 18th; Fullerton, 19th, 27th, 30th, 31st; Garrison, 5th, 7th; Grand Forks, 1st, 27th, 30th, 31st; Hankinson, 2d, 8th; Jamestown, 1st; McLeod, 19th; Marmarth, 7th, 20th, 27th, 29th; Mohall, Parshall, Trotters, 8th; Moorhead, 1st, 2d, 8th, 12th, 20th, 27th, 30th, 31st; Napoleon, 20th, 27th; Oakes, 11th, 19th; Pembina, 1st, 30th; Pettibone, 8th, 19th, 20th, 27th; Rugby, 8th, 18th, 23d, 27th; Sharon, 1st, 2d, 20th, 31st; Velva, 1st, 8th, 19th; Westhope, 15th, 31st; Williston, 8th, 29th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck........	29.86	30.40	24	29.26	30	10.5	38	nw.	9	53	32	27	70
Devils Lake.....	29.88	30.40	24	29.24	30	11.3	34	nw.	9	57	32	29	75
Grand Forks....	29.84	30.37	24	29.26	30	......	38	nw.	1	57	....	31	....
Williston........	29.87	30.33	10	29.28	30	9.6	39	nw.	8	57	28	23	78
Moorhead, Minn	29.86	30.39	24	29.29	31	10.2	30	se.	19	57	32	32	71
Averages & ext's	29.86	30.40	24	29.24	30	10.4	39	nw.	8	56	31	28	74

† And other dates.

COMPARATIVE DATA FOR MAY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	46.6	−6.7	96	13	2.21	−0.13	5.36	0.35	3.9	12	6	8	17
1893	52.2	−1.1	97	19	1.61	−0.73	4.79	0.40	0.7	6	11	8	12
1894	54.6	+1.3	98	23	1.51	−0.83	3.15	0.24	0.0	5	16	9	6
1895	54.4	+1.1	101	15	2.48	+0.14	4.22	0.90	0.0	8	10	11	10
1896.	56.9	+3.6	103	22	4.89	+2.55	8.61	1.98	0.0	13	6	14	11
1897	55.4	+2.1	97	16	0.71	−1.63	1.84	T.	T.	4	16	10	5
1898	52.7	−0.6	92	14	1.98	−0.36	4.56	0.01	0.0	5	15	9	7
1899.	50.6	−2.7	91	16	3.49	+1.15	7.79	1.26	0.4	8	9	9	13
1900	59.2	+5.9	106	15	0.69	−1.65	2.27	0.05	0.0	3	18	8	5
1901	60.0	+6.7	99	19	0.31	−2.03	0.98	T.	T.	2	21	4	6
1902.	55.9	+2.6	94	24	3.57	+1.23	4.98	0.78	0.4	10	13	6	12
1903	54.3	+1.0	96	11	3.12	+0.78	7.83	1.17	T.	4	14	8	9
1904	54.2	+0.9	93	20	1.76	−0.58	3.42	0.11	T.	6	14	9	8
1905	50.1	−3.2	88	10	3.05	+0.71	7.24	1.12	4.0	8	12	8	11
1906	50.8	−2.5	99	11	4.63	+2.29	8.08	2.35	0.4	12	9	8	14
1907.	44.0	−9.3	84	6	1.11	−1.23	3.81	T.	3.1	6	12	10	9
1908	50.8	−2.5	88	9	2.97	+0.63	5.35	0.56	0.9	8	13	7	11
1909	51.0	−2.3	98	5	4.29	+1.95	8.60	2.30	0.1	10	12	9	10
1910	50.7	−2.6	94	10	0.96	−1.38	2.21	0.15	0.1	6	12	11	8
1911	55.0	+1.7	99	6	2.88	+0.54	7.54	0.43	T.	8	14	9	8
1912	54.2	+0.9	90	16	4.52	+2.18	9.13	2.29	0.7	11	10	10	11
1913.	51.2	−2.1	100	11	1.68	−0.66	4.00	0.50	0.2	9	10	10	11
1914	55.2	+1.9	95	16	2.12	−0.22	4.21	0.86	1.0	8	16	8	7
1915.	51.1	−2.2	98	15	3.16	+0.82	5.00	1.14	0.4	9	10	10	11
1916.	51.0	−2.3	95	7	2.22	−0.12	5.16	0.45	0.3	8	11	11	9
1917.	51.2	−2.1	98	15	0.30	−2.04	2.08	0.00	0.1	2	20	7	4
1918.	51.7	−1.6	99	6	2.30	−0.04	4.63	0.30	0.5	9	10	11	10
1919.	55.5	+2.2	101	16	3.25	+0.91	7.74	0.66	0.4	9	16	8	7
1920.	53.9	+0.6	89	20	1.74	−0.60	3.78	0.56	0.1	7	13	10	8
1921	53.8	+0.5	90	21	2.46	+0.12	5.62	1.03	T.	9	13	10	8
1922	56.3	+3.0	93	24	3.11	+0.77	6.82	1.23	0.1	12	10	11	10
1923.	54.1	+0.8	100	13	1.77	−0.57	4.63	0.03	0.2	6	15	10	6
1924.	46.9	−6.4	84	15	0.79	−1.55	3.32	0.02	0.0	5	12	10	9
1925.	53.6	+0.3	111	10	1.44	−0.90	4.85	0.38	T.	4	17	9	5
1926.	58.5	+5.2	105	10	2.18	−0.16	4.02	0.43	0.0	7	13	11	7
1927.	48.0	−5.3	87	13	5.62	+3.28	9.30	2.60	3.2	14	6	8	17
1928.	58.2	+4.9	107	16	1.15	−1.19	3.34	0.22	0.0	5	18	7	6
1929.	49.1	−4.2	92	8	2.99	+0.65	7.29	0.65	0.4	7	16	9	6
1930.	50.8	−2.5	98	18	2.62	+0.28	5.99	0.96	0.7	9	12	8	11
1931.	53.1	−0.2	100	10	1.41	−0.93	3.40	T.	0.3	6	16	7	8
1932.	55.9	+2.6	98	25	2.14	−0.20	4.50	0.21	2.2	6	13	9	9
1933.	54.8	+1.5	98	19	3.15	+0.81	5.41	1.43	T.	9	9	10	12
1934.	63.6	+10.3	111	18	0.35	−1.99	1.36	0.00	0.0	3	17	10	4
Per..	53.3	....	111	5	2.34	....	9.30	0.00	0.5	7	13	9	9

Climatological Data for May 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	8	...	...	...	...	...	...	...	0.57	...	0.24	0	4	...	...	...	...	H. A. Bury.
Amenia	Cass	954	38	64.9	+10.9	105	30	27	12	56	0.80	−2.05	0.60	0	2	1	23	7	s.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	64.2	+11.5	103	29	26	13	53	0.28	−1.78	0.18	0	2	27	3	1	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	67.4	+13.9	107	30	27	22	51	0.06	−2.34	0.06	0	1	26	3	2	nw.	H. D. Piper.
Beach	Golden Valley	2,759	28	64.2	+12.8	98	29	27	13	45	0.32	−2.26	0.08	0	5	16	13	2	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	64.6	+10.5	103	27	26	9	55	0.23	−2.21	0.15	0	2	23	5	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	65.6	+11.1	102	30	34	22	44	0.09	−2.23	0.06	0	3	10	13	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	62.8	+11.5	106	30	28	11†	46	0.23	−1.86	0.15	0	3	22	4	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2.872	20	63.3	+11.1	99	28†	26	13	45	0.30	−2.12	0.28	0	2	25	4	2	nw.	George Larsen.
Cando	Towner	1,488	33	62.0	+10.0	103	30	26	11†	53	0.15	−2.17	0.06	0	4	7	18	6	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	61.9	+ 9.4	105	29	28	11†	52	0.17	−2.46	0.05	0	4	20	6	5	w.	L. A. Swanson.
Carson	Grant	2,500	22	65.0	+11.9	106	27	24	13	55	0.44	−1.85	0.31	0	3	20	9	2	nw.	J. W. Evens.
Cavalier	Pembina	894	24	...	...	...	...	...	...	...	0.23	−2.48	0.18	0	4	16	12	3	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	...	...	...	...	...	...	...	0.13	−2.25	0.09	0	2	20	1	10	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	...	...	...	...	...	...	...	0.29	...	0.26	0	3	10	18	3	nw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	...	...	...	...	...	...	...	0.24	...	0.12	0	2	15	13	3	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	61.2	+10.0	98	27†	25	13	52	0.37	−1.64	0.30	0	3	10	11	10	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	61.3	+ 8.7	106	30	28	11	50	0.68	−1.35	0.42	0	8	10	12	9	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	62.9	+10.7	102	29	23	13	54	0.18	−2.18	0.08	0	5	11	15	5	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	63.0	...	103	30	28	3	51	0.42	...	0.15	0	4	18	10	3	nw.	R. L. Williams.
Drake	McHenry	1.631	5	61.8	...	106	30	28	13	47	0.27	...	0.15	0	4	11	14	6	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	63.1	+10.4	100	29	27	13	51	0.49	−2.03	0.22	0	3	18	8	5	nw.	W. F. Moede.
Dunseith	Rolette	1,682	38	61.2	+ 9.1	105	30	25	11†	52	0.28	−1.56	0.15	0	6	15	9	7	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	62.0	+10.6	107	30	24	13	52	0.39	−1.72	0.15	0	8	11	19	1	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	66.3	+12.6	108	30	25	11	56	0.11	−2.55	0.07	0	2	7	22	2	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	59.6	...	106	30	18	11	50	0.32	−1.76	0.10	0	8	13	12	6	n.	E. D. Warner.
Ellendale	Dickey	1,457	39	64.8	+ 9.1	107	30	30	11	52	0.74	−2.34	0.57	0	2	19	10	2	nw.	J. E. Demmer.
Energy ‡‡	McLean	1,750	22	65.0	...	102	27†	28	13	47	0.46	−1.76	0.25	0	2	15	16	0	nw.	H. S. Solenberger.
Epping	Williams	2,224	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. O. Wang.
Fairfield	Billings	...	5	...	...	...	...	...	...	...	0.26	...	0.15	0	2	24	6	1	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	62.4	+10.4	108	30	24	11	51	0.12	−2.26	0.10	0	2	16	10	5	nw.	T. D. Monsen.
Forman	Sargent	1,249	41	...	...	...	...	...	...	...	0.40	−2.47	0.27	0	3	27	2	2	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	69.3	+13.2	107	28	28	21	52	0.02	−1.95	0.02	0	1	21	6	4	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	61.7	...	105	30	27	1†	50	0.08	−1.89	0.06	0	2	9	14	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	...	...	...	...	...	...	...	0.14	−2.10	0.05	0	4	24	6	1	sw.	Verne King.
Fullerton	Dickey	1,439	36	65.7	+11.7	110	30	27	11	54	0.57	−2.63	0.54	0	2	20	9	2	nw.	F. O. Alin.
Gackle	Logan	1,951	4	63.8	...	104	30	25	11	53	0.35	...	0.19	0	2	20	11	0	ne.	A. H. Haut.
Garrison	McLean	1,901	57	63.4	+10.7	103	30	29	13	45	0.58	−1.65	0.32	0	3	16	10	5	se.	W. F. Robinson.
Grafton	Walsh	827	42	63.1	+ 9.8	107	30	23	11	56	0.48	−1.71	0.26	0	4	12	13	6	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	43	62.0	+ 8.3	105	30	24	11	55	0.90	−1.71	0.37	0	6	8	20	3	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	62.0	+10.4	105	30	24	13	51	0.24	−1.69	0.11	0	5	12	13	6	se.	W. A. Christianson.
Hankinson	Richland	1,068	5	68.0	...	104	28†	31	10	51	0.43	...	0.25	0	6	23	4	4	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	61.1	...	106	30	22	11	52	0.16	−1.97	0.08	0	3	8	21	2	nw.	James Muir.
Hansboro	Towner	1,597	26	59.6	+ 8.9	105	30	20	11	53	0.35	−1.96	0.15	0	4	17	11	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	66.0	+12.4	101	27†	28	13	48	0.06	−2.29	0.06	0	1	22	7	2	nw.	C. H. Plath.
Hillsboro	Traill	901	28	63.2	+ 9.3	105	30	26	11	50	0.79	−2.40	0.74	0	2	20	9	2	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	27	60.6	+10.8	100	27	25	1	50	0.17	−2.21	0.17	0	1	19	7	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	42	63.3	+ 9.8	107	29	29	11	60	0.62	−2.16	0.30	0	3	14	16	1	nw.	S. Calvelage.
Kenmare	Ward	1,799	3	63.6	...	100	30	29	1	47	0.70	...	0.30	0	5	12	13	6	nw.	R. Costello.
Langdon	Cavalier	1,615	38	58.3	+ 7.4	111	30	25	13	51	0.55	−1.66	0.20	0	4	25	2	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	63.1	+10.5	107	30	25	11	52	0.44	−2.32	0.44	0	1	20	5	6	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	67.6	+13.4	108	30	24	22	54	0.07	−2.21	0.03	0	4	14	16	1	n.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	30	64.9	+11.0	107	30	31	11†	54	0.90	−2.13	0.69	0	6	13	13	5	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	16	63.4	...	105	30	27	13	49	0.93	−1.72	0.35	0	4	23	3	5	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	67.9	+13.4	106	30	27	11	49	0.22	−3.10	0.20	0	2	22	3	6	se.	J. G. Carlson.
Maddock	Benson	1,604	19	62.8	+10.1	107	30	20	11	58	0.61	−1.59	0.49	0	2	10	18	3	nw.	A. T. Felland.
Mandan	Morton	1,750	20	65.6	+11.7	102	28†	30	24	44	0.17	−2.25	0.07	0	4	14	0	17	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	...	...	...	...	...	...	...	0.14	−2.21	0.08	0	2	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	25	64.5	+13.3	100	28	23	13	53	0.25	−2.22	0.10	0	3	16	11	4	nw.	S. P. Grane.
Mary	McKenzie	...	5	...	...	...	...	...	...	...	0.38	...	0.28	0	3	28	1	2	nw.	Fred Hartman.
Max	McLean	2,093	5	62.2	...	104	30	26	13	48	0.55	...	0.30	0	2	16	4	11	se.	A. W. Rice.
Mayville	Traill	975	38	64.7	+10.0	102	30	25	11	59	0.28	−2.74	0.25	0	3	10	14	7	n.	H. B. Addicott.
Minot	Ward	1,557	38	62.6	+10.4	105	30	28	13	49	0.24	−1.80	0.09	0	5	8	19	4	n.	Mark M. Chatfield.
Mohall	Renville	1,646	40	62.2	+ 9.9	107	30	27	1	49	0.54	−1.47	0.22	0	5	13	14	4	se.	John Behan.
Mott	Hettinger	2,424	27	66.7	+13.2	104	28	25	13	55	0.05	−2.33	0.02	0	3	15	9	7	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	42	65.6	+13.2	107	30	25	24	55	1.36	−1.00	1.28	0	4	24	1	6	nw.	C. J. Hoof.
New England	Hettinger	2,400	40	65.4	+13.4	...	...	...	...	...	0.36	−1.71	...	...	...	...	...	...	...	F. S. Sleight.
New Salem	Morton	2,163	30	65.4	+13.0	105	30	30	13†	49	0.26	−1.99	0.20	0	2	27	3	1	nw.	J. Christiansen.
Oakes	Dickey	1,318	5	67.4	...	110	30	28	11	51	0.34	...	0.15	0	4	11	16	4	nw.	Eugene Naylor.
Park River	Walsh	998	30	62.0	+ 9.0	107	30	20	11	62	0.24	−2.13	0.12	0	4	9	14	8	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	61.6	...	101	31	24	13	44	0.21	−1.90	0.08	0	4	9	19	3	nw.	C. E. Shubert.
Pembina	Pembina	789	60	57.6	+ 4.8	106	30	23	11	54	0.24	−2.19	0.10	0	7	5	18	8	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	4	...	...	...	...	...	...	...	0.23	...	0.10	0	5	15	12	4	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	63.6	+11.8	106	30	27	13	52	0.13	−2.49	0.10	0	3	25	1	5	nw.	H. H. McCumber.
Portal	Burke	1,954	29	61.2	+10.7	101	29	26	1	48	0.40	−1.77	0.28	0	4	19	8	4	w.	R. G. Wegener.
Powers Lake	Burke	2,205	29	64.4	...	102	31	30	2	43	0.33	−1.84	0.31	0	2	22	9	0	w.	Geo. B. Gee.
Richardton	Stark	2,467	18	64.3	+11.7	103	28	24	13	48	0.06	−2.43	0.06	0	1	16	14	1	nw.	John Muggli.
Rugby (near)	Pierce	1,562	5	...	...	...	...	...	...	...	0.25	...	0.14	0	3	8	22	1	w.	W. B. Paterson.
Ryder	Ward	2,108	5	...	...	...	...	...	...	...	0.42	...	0.18	0	4	...	...	...	...	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	63.2	...	100	27†	23	13	40	0.16	...	0.08	0	3	...	...	...	...	H. J. Bugge.
Sharon	Steele	1,516	10	62.0	...	107	30	26	11	55	0.15	−2.95	0.09	0	4	16	7	8	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	...	...	...	...	...	...	...	0.14	...	0.11	0	2	23	5	3	se.	H. J. Giffey.
Steele	Kidder	1.857	40	66.0	+12.6	110	30	26	24	54	0.32	−2.26	0.30	0	2	19	9	3	nw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	...	...	...	...	...	...	...	0.42	−1.96	0.25	0	3	26	2	3	...	Thos. D. Alkire.
Tagus	Mountrail	2,179	5	...	...	...	...	...	...	...	0.08	...	0.06	0	2	26	4	1	w.	J. C. Abbott.
Tioga	Williams	2,279	5	...	...	...	...	...	...	...	0.31	...	0.16	0	4	22	4	5	nw.	Anton Carlson.
Towner	McHenry	1,482	32	64.2	+11.0	106	30	24	13	52	0.30	−1.91	0.14	0	3	17	9	5	w.	Karl Weber.
Trotters	Golden Valley	...	8	...	...	...	...	...	...	...	0.23	...	0.10	0	3	20	8	3	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	20	...	...	...	...	...	...	...	0.68	−1.64	0.20	0	5	...	...	...	...	M. A. Slettum.
Valley City	Barnes	1,245	28	65.1	+11.6	107	30	28	11†	55	0.34	−2.57	0.25	0	3	24	4	3	n.	I. C. Robertson.
Velva	McHenry	1,511	7	63.8	...	105	30	28	13	52	0.41	...	0.26	0	4	8	19	4	nw.	Oscar Anderson.
Wahpeton	Richland	962	42	68.1	+12.5	106	28†	26	15	58	0.53	−2.15	0.20	0	6	25	0	6	nw.	C. G. Luick.
Washburn	McLean	1,731	33	64.7	+10.9	102	30	31	13	42	0.29	−1.85	0.16	0	2	21	7	3	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	62.4	+10.6	106	30	26	13	50	0.45	−1.49	0.20	0	4	11	18	2	...	D. W. Drake.
Williston	Williams	1,878	55	64.1	+10.1	99	29	30	13	42	0.33	−1.73	0.19	0	3	18	10	3	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	61.0	+ 9.5	107	30	21	1†	56	0.12	−1.80	0.07	0	2	18	12	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	5	61.2	+10.5	105	30	25	1	61	0.10	−2.78	0.10	0	1	19	7	5	nw.	E. W. Davis.
Zap	Mercer	1,838	19	...	...	...	...	...	...	...	0.00	−2.39	0.00	0	0	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	53	63.6	+ 8.5	104	30	30	11	50	1.15	−1.74	0.74	0	11	9	14	8	s.	U. S. Weather Bureau.
Averages	...	...	...	63.6	+10.8	111	30	18	11	62	0.35	−2.05	1.28	0.0	3	17	10	4	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for May 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.16					T.	T.	.06			.24							T.	T.	T.										.11	0.57
Amenia	Red		.60																			T.							T.			.20	0.80
Arnegard (near)	Missouri									.10											.18												0.28
Ashley	Missouri		.06																									T.					0.06
Beach	Lit. Missouri		.06							.05			.08								.06									T.		.07	0.32
Berthold Agency	Missouri							T.	T.	T.										.08	.15											T.	0.23
Bismarck ***	Missouri		T.	T.						T.			T.						.02	T.	.06	T.						T.				.01	0.09
Bottineau	Mouse						T.	T	T.	T.						.15		.05														.03	0.23
Bowman	Grand		.02					T.		T.											T.											.28	0.30
Cando	Devils Lake	T.	.01		T.			T.							T.					.05	.06		T.								T.	.03	0.15
Carrington‖	James			T.								T.	.03						.05	.05	.04		T.								T.		0.17
Carson	Heart		.08																		.05									T.		.31	0.44
Cavalier	Red	.01			.02														.02	.18													0.23
Cooperstown	Sheyenne			T									.04								T.	T.					T.				.09	T.	0.13
Corinth	Missouri			.02		T.		.01									T.				.26												0.29
Courtenay	James	.12		T.																	.12	T.	T.					T.			T.	T.	0.24
Crosby	Mouse								.02		.05										.30												0.37
Devils Lake ***	Devils Lake	.02	T.	.07			T.	T.	T.	T.			.01	T.		T.		T.	.18	.24	.13	T.	T.						T.	T.	.02	.01	0.68
Dickinson‖	Heart		.01						.08		.03		.05					T.	T.	T.	.01										T.	T.	0.18
Dogden Butte	Mouse				T.									.01						.11	.15		T.						T.			.15	0.42
Drake‖	Mouse				.01				T.					T						.09		.15		.02								T.	0.27
Dunn Center	Knife										.16									.11	.22												0.49
Dunseith	Mouse				.04			.02		.01											.15		.05									.01	0.28
Eckman	Mouse					.03	.01	.05		.02			.01								.15	.02	T.									.10	0.39
Edgeley	James		.04																												.07		0.11
Edmore	Devils Lake	.03	.04	T.	.10		.03	T.		T.			.01	T.		T.	T.	T.	.01	.06	.04	T.	T.					T.			T.	T.	0.32
Ellendale	James		.17																									T.				.57	0.74
Energy	Missouri									T.										.25	.21											T.	0.46
Epping	Missouri																																
Fairfield	Knife									.15											.11												0.26
Fessenden‖	James		T.																	.02		.10											0.12
Forman	Sheyenne		.06										T.							.07												.27	0.40
Fort Yates	Missouri		T.	.02																												T.	0.02
Foxholm (near)	Mouse				.02		T.	T.						T.					T.		.06	T.									T.		0.08
Fryburg	Heart		T.					T.	T.	.03			.05								.04									T.	T.	.02	0.14
Fullerton	James																			T.								.03				.54	0.57
Gackle	James								.19																							.16	0.35
Garrison	Missouri							.32		T.										.12	.14											T.	0.58
Grafton	Red		T.	T.																.26	.07			.02								.13	0.48
Grand Forks ***	Red	.37	.17	T.	T.			T.		T.			.02	T.		T.				.13	.01		T.					T.			T.	.20	0.90
Granville	Mouse	.01			.03								.02							.07	.11											T.	0.24
Hankinson	Red		.25	T.					.05				.04						.02									.02				.05	0.43
Hannah	Pembina	T.	T.		T.		T.	T.	T.	T.			T.	T.						.03	.08		.05					T.			T.	T.	0.16
Hansboro	Devils Lake				.10																.05	.05	.15										0.35
Hettinger	Grand		T																		T.											.06	0.06
Hillsboro	Red		.74							.05																					T.		0.79
Howard (near)	Missouri				T.														T.	T.	.17										T.		0.17
Jamestown	James	.19	T.							.13																						.30	0.62
Kenmare	Mouse	.30			.05		.04			.01											.30												0.70
Langdon	Pembina		.20		T.															.15				.05								.15	0.55
Larimore	Red		.44										T.							T.	T.	T.									T.		0.44
Linton	Missouri		.01	.03														T.			.02							T.				.01	0.07
Lisbon	Sheyenne		.04	.69	.02					.01			.03							.11													0.90
McClusky	Missouri								.23											.35	.20											.15	0.93
McLeod	Sheyenne			.20																.02											T.		0.22
Maddock	Sheyenne		T.	T.										T.						.49	.12		T.					T.			T.	T.	0.61
Mandan‖	Missouri		T.	T.															.03	.07										.04		.03	0.17
Manfred	James			T.																.08	.06											T.	0.14
Marmarth	Lit. Missouri		.10					T.		.05											T.	T.						T.		T.		.10	0.25
Mary	Lit. Missouri		T.							.05										.05	.28												0.38
Max‖	Missouri				T.									T.						.30	.25												0.55
Mayville	Red		.25	T.	.01					T.			.02							T.	T.	T.										T.	0.28
Minot	Mouse	.05			.03									T.						.09	.04	.03											0.24
Mohall	Mouse			.05		T.		T.	.21				T.								.22	.05	.01										0.54
Mott	Cannon Ball		.01																		.02											.02	0.05
Napoleon‖	Missouri			.01																	.02								1.28		.05		1.36
New England	Cannon Ball																																
New Salem	Heart																				.06											.20	0.26
Oakes	James		.15	.05									.12							T.											.02		0.34
Park River	Red		T.	T.	.03															.12	.05										.04		0.24
Parshall	Missouri				.03				.05		T.									.08	.05												0.21
Pembina ***	Red	T.	.01	.01	.04		T.		.02		.10		.02	T	T.		T.	T.	T.	.04		T.	T.	T.					T.		T.		0.24
Petersburg	Red		.06		T.			T.						.01						.10	.03										.03		0.23
Pettibone	James		T.	T.						.02			.01	T.						T.	.10							T.			T.	T.	0.13
Portal‖	Mouse			.04					.05	.03										.28													0.40
Powers Lake	Missouri		.02																		.31												0.33
Richardton	Heart																				T.									.06		T.	0.06
Rugby [near]	Mouse			.02									T.						T.		.09											.14	0.25
Ryder	Missouri		.05															.18	.18													.01	0.42
Sanish‖	Missouri				T														.08	.04	.04												0.16
Sharon	Red	T.	.01	T.	T.			T.					T.	T.		T.				T.	.09	T.	T.					T.			.02	.03	0.15
Stanton	Missouri							.03													.11											T.	0.14
Steele	Missouri		T.						.30												.02											T.	0.32
Stowers	Cannon Ball		.09					T.		T.											.08											.25	0.42
Tagus	Mouse	T.			.02					T.				T.							.06												0.08
Tioga	Missouri			.03						.02										.16	.10												0.31
Towner	Mouse												.03								.13											.14	0.30
Trotters	Lit. Missouri								.03		.10										.10												0.23
Turtle Lake	Missouri							.14		.04										.15	.15											.20	0.68
Valley City	Sheyenne		.25							.02											T.							.07					0.34
Velva	Mouse	T.	T.		T.		T.	T.	T.	T.			T.	.01						.13	.26		T.									.01	0.41
Wahpeton	Red		.03	.10					.05	.05			.10							.20													0.53
Washburn	Missouri																				.13											.16	0.29
Westhope	Mouse																				.20	.02	.04					T.				.19	0.45
Williston ***	Missouri			.02			T.		T.	.12							T.		T.	T.	.19									T.		T.	0.33
Willow City	Mouse		T.	T.	T			T.	T.	T.											.07											.05	0.12
Wishek‖	Missouri																												.10				0.10
Zap	Knife																																0.00
Moorhead, Minn ***	Red	.24	.50	.05			T.		.07	.01			.02			T.				.01	.13		T.					.01			.03	.08	1.15

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	90	65	56	74	85	81	86	92	80	87	85	82	80	72	76	90	88	90	90	90	67	71	80	89	90	92	98	100	92	105	90	84.3
	Minimum	35	39	35	38	40	42	43	45	62	56	47	27	30	38	35	56	50	49	55	60	57	29	34	38	42	43	42	59	58	64	63	45.5
Arnegard (near)	Maximum	59	83	75	78	91	81	93	99	81	70	77	57	71	83	92	98	98	80	84	75	62	73	66	74	87	100	100	102	103	101	98	83.6
	Minimum	28	35	33	34	45	49	49	58	45	38	39	37	26	43	39	52	50	50	50	52	45	32	32	30	41	50	60	62	61	63	61	44.8
Ashley	Maximum	91	88	66	75	85	83	91	101	99	68	67	66	67	72	88	96	101	97	95	93	76	73	70	71	83	89	103	105	99	107	101	86.0
	Minimum	40	37	36	42	42	62	48	60	54	47	30	52	34	40	38	56	57	54	60	62	52	27	41	30	38	47	61	65	61	73	65	48.7
Beach	Maximum	62	57	75	77	91	83	93	94	87	68	80	66	68	81	88	93	89	85	81	79	65	69	65	73	83	97	97	97	98	91	75	80.9
	Minimum	34	37	35	34	54	49	53	55	42	36	41	41	27	40	46	52	59	60	57	53	47	35	45	37	44	52	65	60	62	66	54	47.5
Berthold Agency	Maximum	69	62	72	78	94	84	92	95	70	70	68	65	72	80	92	95	96	90	88	83	82	72	68	72	85	98	103	100	100	102	78	83.1
	Minimum	33	32	35	40	51	58	45	54	26	48	39	42	28	40	42	40	60	56	62	56	40	30	31	40	44	55	63	58	54	74	48	46.0
Bismarck	Maximum	75	55	64	75	94	82	91	96	78	68	69	62	69	72	90	94	92	92	84	76	62	71	64	69	83	92	101	102	97	102	79	80.6
	Minimum	36	36	39	44	50	57	51	63	53	47	37	43	34	42	49	61	69	57	64	57	42	34	42	34	47	59	69	63	64	77	52	50.7
Bottineau	Maximum	59	55	52	74	93	88	78	97	84	64	63	64	72	68	81	84	86	84	85	82	71	64	65	70	81	93	98	91	92	106	93	78.6
	Minimum	29	30	30	34	47	55	50	54	47	43	28	42	28	38	42	54	56	52	54	51	42	40	39	38	39	55	64	68	68	73	64	46.9
Bowman	Maximum	63	57	73	76	91	79	91	95	79	68	79	65	65	80	86	92	91	92	84	75	63	71	64	68	84	96	98	99	99	91	69	80.1
	Minimum	37	36	37	32	48	52	57	59	44	38	39	39	26	43	43	49	50	60	58	57	49	34	46	35	41	51	56	58	60	57	52	46.5
Cando	Maximum	65	59	58	73	92	90	92	95	95	72	63	66	69	71	79	86	86	84	86	85	81	64	63	69	80	88	99	95	91	103	95	80.5
	Minimum	29	29	29	43	39	41	40	55	45	31	26	49	26	32	33	52	51	47	56	61	42	33	35	31	36	54	63	60	50	70	57	43.5
Carrington §§	Maximum	53	59	74	93	81	87	96	70	65	63	80	69	66	83	92	86	91	82	73	60	68	64	69	83	96	97	98	91	105	80	88	79.4
	Minimum	32	31	34	41	54	42	45	59	39	29	28	28	32	40	47	53	47	55	55	52	33	34	29	40	46	55	65	55	61	63	50	44.4
Carson	Maximum	64	72	66	76	94	84	92	98	80	70	73	60	79	68	90	96	97	93	90	80	63	74	64	70	85	95	106	105	81	83	79	81.5
	Minimum	40	34	46	35	37	54	68	56	56	40	42	44	24	40	46	54	62	59	60	52	47	32	44	32	44	58	66	62	65	68	54	48.4
Crosby §§	Maximum	54	59	72	76	90	77	75	95	62	67	73	56	75	77	91	94	86	78	83	74	61	65	64	73	85	97	98	89	98	97	80	78.1
	Minimum	27	28	35	35	40	55	42	45	52	41	41	40	25	38	43	51	56	56	51	52	35	37	35	35	43	45	55	58	58	65	53	44.3
Devils Lake	Maximum	60	46	57	73	92	79	84	95	71	63	60	66	70	64	78	87	82	90	82	72	59	64	61	69	80	89	100	94	90	106	79	76.2
	Minimum	31	32	35	43	42	57	44	61	58	34	28	40	28	34	37	54	55	49	58	58	41	38	39	34	43	50	66	65	54	72	58	46.4
Dickinson §§	Maximum	60	60	73	75	91	79	93	95	63	68	77	48	68	81	89	94	93	88	84	76	59	70	64	73	84	97	99	101	102	98	73	79.8
	Minimum	32	33	33	36	44	53	51	55	55	38	40	43	23	27	40	49	60	59	55	56	48	30	42	33	41	50	55	55	58	66	65	46.0
Drake §§	Maximum	65	52	59	75	92	80	89	96	63	65	65	60	71	68	85	90	90	88	83	74	59	69	62	69	82	92	102	94	93	106	67	77.6
	Minimum	31	32	30	36	45	56	46	57	57	49	30	34	28	37	41	50	58	50	53	57	49	38	36	34	39	52	65	65	56	61	58	46.1
Dunn Center §§	Maximum	62	61	70	76	92	79	93	96	62	67	75	53	69	78	88	94	91	85	81	75	58	70	62	73	84	97	98	98	100	98	75	79.4
	Minimum	32	34	31	38	45	52	47	54	57	43	37	45	27	47	37	50	62	57	55	50	51	33	35	32	45	54	59	57	54	70	62	46.8
Dunseith	Maximum	56	51	62	72	90	87	78	95	94	61	60	60	70	70	81	84	83	85	84	82	68	62	68	71	82	91	96	96	91	105	104	78.6
	Minimum	27	26	28	30	42	59	50	55	43	43	25	41	25	34	37	55	53	50	55	49	37	34	37	32	40	51	61	63	55	67	52	43.7
Edgeley	Maximum	92	89	79	90	87	88	90	101	99	70	67	70	68	70	85	100	96	93	91	76	75	73	71	68	81	89	102	106	99	108	104	86.4
	Minimum	36	36	36	41	57	44	46	60	59	51	25	50	39	36	35	55	46	46	53	42	28	34	36	28	38	46	69	64	59	69	69	46.2
Ellendale	Maximum	90	51	61	73	86	83	86	97	77	67	65	68	66	65	81	94	92	91	86	88	60	70	62	65	77	84	98	102	92	107	90	79.8
	Minimum	38	41	36	46	45	53	52	58	61	53	30	57	41	43	37	49	52	53	61	58	55	32	41	33	39	49	63	60	64	70	71	49.7
Fessenden §§	Maximum	70	52	63	75	94	84	90	98	68	64	65	63	71	68	85	91	89	93	84	73	59	69	62	71	84	92	104	98	95	108	80	79.4
	Minimum	31	31	31	38	43	57	42	54	64	49	24	40	27	36	37	47	55	46	58	50	50	34	36	29	36	49	68	62	55	66	62	45.4
Foxholm (near)	Maximum	54	54	63	73	90	86	84	94	89	65	66	64	72	69	86	87	86	84	83	78	69	68	61	70	81	94	97	95	96	105	88	79.1
	Minimum	27	29	28	38	49	56	40	53	51	45	31	41	27	36	36	50	55	47	50	52	38	35	36	32	39	54	65	60	52	69	52	44.3
Fullerton	Maximum	93	48	59	76	86	85	90	101	78	68	68	67	67	68	84	97	96	93	95	92	75	73	67	68	81	89	101	106	95	110	93	83.0
	Minimum	39	38	36	47	55	56	51	60	57	50	27	51	40	42	38	43	48	52	61	58	50	32	39	29	37	47	62	61	63	69	62	48.4
Garrison	Maximum	62	55	65	62	92	81	92	93	79	68	70	68	62	74	88	92	93	88	84	79	67	71	63	71	82	94	102	97	97	103	84	79.9
	Minimum	32	32	33	32	50	56	48	54	59	35	40	43	29	42	43	50	64	52	58	45	43	34	38	32	42	55	62	60	58	70	60	46.8
Grafton	Maximum	75	51	57	75	92	92	89	92	91	67	62	69	71	70	79	87	82	89	90	88	68	70	63	71	80	90	103	101	91	107	98	81.6
	Minimum	31	34	30	43	36	62	43	58	59	46	23	52	33	31	31	43	51	46	57	50	46	26	42	34	36	46	66	57	46	63	62	44.6
Grand Forks	Maximum	89	46	58	76	89	80	84	91	76	62	62	72	70	62	78	86	76	90	82	76	60	70	64	70	79	88	99	95	87	105	82	77.5
	Minimum	34	36	37	46	44	58	46	60	60	36	24	45	36	34	37	61	52	46	61	53	41	30	39	31	40	52	65	60	53	66	56	46.4
Granville	Maximum	61	55	62	77	93	70	88	96	64	65	67	64	74	71	87	90	89	90	85	77	62	70	62	72	83	93	102	94	95	105	70	78.5
	Minimum	30	32	28	40	42	59	40	58	55	45	32	41	24	37	43	50	57	50	55	57	44	35	36	28	36	51	69	59	50	72	55	45.5
Hansboro	Maximum	50	50	60	70	91	83	80	96	90	65	58	60	70	66	76	84	77	87	84	75	65	65	60	70	80	100	100	92	91	105	95	77.3
	Minimum	28	28	22	38	38	58	47	56	53	42	20	40	28	26	28	42	52	42	52	54	38	28	37	28	36	52	52	62	47	69	54	41.8
Hettinger	Maximum	69	61	71	76	92	86	90	96	85	70	78	74	75	79	87	93	95	94	87	80	73	74	55	71	84	95	101	101	99	96	90	83.1
	Minimum	38	35	38	37	51	55	61	52	47	38	39	45	28	40	42	45	59	62	58	56	51	32	46	35	44	78	61	57	62	71	54	48.9
Hillsboro	Maximum	90	50	57	75	87	82	87	92	92	65	62	72	69	70	77	88	84	90	87	90	80	69	66	70	80	88	97	96	90	105	90	80.5
	Minimum	40	35	36	46	42	47	47	60	59	50	26	50	35	36	33	55	50	48	49	55	50	32	38	33	41	44	50	58	57	63	62	46.0
Howard (near)	Maximum	53	60	54	70	88	70	84	94	70	87	76	63	74	76	90	95	86	82	74	77	60	67	62	72	82	98	100	91	99	94	77	78.2
	Minimum	25	34	28	34	38	34	50	50	30	40	28	38	26	44	40	57	61	62	57	50	38	38	34	35	38	52	54	50	54	64	52	43.1
Jamestown §§	Maximum	50	60	75	90	83	89	99	72	65	64	67	67	67	83	95	81	90	86	82	63	70	63	69	82	89	101	102	93	107	86	87	79.9
	Minimum	34	38	35	36	41	55	49	53	60	52	29	34	35	37	35	40	54	50	66	57	59	30	38	35	36	47	60	61	60	66	67	46.7
Kenmare	Maximum	54	59	67	79	89	80	81	95	93	65	65	65	73	74	87	89	88	85	85	81	72	67	63	70	82	95	98	94	95	100	75	79.5
	Minimum	29	52	33	40	48	56	45	55	52	45	36	42	30	41	40	55	57	55	50	54	40	41	40	39	46	55	65	59	56	74	53	47.8
Langdon §§	Maximum	51	37	58	76	91	78	88	92	68	61	60	70	71	62	80	78	80	90	71	60	60	56	47	64	70	92	105	93	90	111	69	73.5
	Minimum	28	30	28	31	40	50	46	50	59	46	29	38	25	28	35	48	46	42	52	51	42	29	35	29	39	51	64	70	50	69	56	43.1
Larimore	Maximum	81	49	57	74	90	87	85	93	90	65	62	70	70	69	78	85	83	91	87	80	70	70	65	71	80	89	103	99	90	107	88	79.9
	Minimum	31	34	35	44	38	60	44	56	59	49	25	48	34	35	35	56	49	45	60	55	47	28	42	35	40	41	63	61	53	65	68	46.3
Linton	Maximum	90	75	66	76	94	86	92	104	93	73	70	67	69	74	90	93	100	97	90	87	79	75	73	72	85	93	105	106	99	108	100	86.6
	Minimum	40	37	40	38	40	57	50	60	65	42	36	32	30	27	46	53	63	57	64	56	47	24	39	34	46	57	65	56	65	76	64	48.0
Lisbon §§	Maximum	91	46	55	71	86	85	89	101	79	62	69	72	69	67	82	97	88	91	91	88	69	73	67	68	81	87	97	102	93	107	93	81.2
	Minimum	37	42	32	37	46	58	46	57	63	55	31	38	42	42	35	51	54	53	59	58	55	31	40	38	33	42	63	67	61	69	71	48.6
McClusky	Maximum	77	58	57	74	93	88	91	97	88	66	66	74	69	71	88	92	92	92	89	78	68	69	63	69	83	91	102	98	95	105	91	81.7
	Minimum	30	30	29	37	45	56	43	53	49	41	30	41	27	34	42	49	56	43	53	54	46	32	30	31	39	45	62	62	62	89	57	45.1
Maddock	Maximum	62	62	61	75	93	90	87	98	96	65	64	67	70	70	84	91	90	92	90	81	73	67	63	70	82	91	100	98	95	107	100	81.7
	Minimum	30	29	31	40	35	58	37	58	58	48	20	48	27	34	38	51	55	45	45	43	44	35	36	29	32	46	64	60	52	70	60	43.8
Marmarth	Maximum	70	60	75	78	91	84	92	95	79	70	79	75	68	83	90	94	92	91	87	82	70	75	67	73	80	96	98	100	95	93	86	82.8
	Minimum	40	39	36	34	46	54	53	53	46	34	45	50	23	38	37	44	49	53	60	58	49	32	45	42	44	45	58	58	52	61	54	46.2
Minot §§	Maximum	60	56	69	76	91	79	86	96	63	66	67	56	72	73	89	91	89	87	84	76	60	70	63	73	84	94	99	93	96	105	72	78.5
	Minimum	31	32	30	35	45	59	42	53	56	48	34	41	28	41	40	48	59	51	56	57	45	35	38	32	44	59	70	57	52	68	59	46.6
Mohall	Maximum	54	55	64	76	91	80	79	96	62	65	66	53	73	70	88	88	87	85	86	81	69	67	64	72	83	96	99	97	97	107	100	79.0
	Minimum	27	31	30	40	44	56	45	56	52	45	34	43	29	40	41	50	57	49	51	51	39	36	38	35	34	47	64	61	53	68	53	45.3
Mott	Maximum	67	63	74	78	94	88	93	99	92	71	79	69	70	82	94	97	96	93	87	85	82	73	68	71	84	96	102	104	100	99	90	85.2
	Minimum	38	37	38	35	47	53	54	56	47	35	37	45	25	40	39	52	63	59	59	55	51	34	45	31	45	55	61	70	61	69	57	48.2
Napoleon §§	Maximum	91	53	69	78	93	86	94	104	73	70	69	61	69	72	89	97	100	96	90	88	64	75	66	73	86	92	105	101	96	107	83	83.5
	Minimum	36	36	37	37	45	54	48	59	58	48	29	52	30	37	42	57	58	51	61	54	50	28	35	25	38	55	65	58	60	74	62	47.7
New England	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
New Salem	Maximum	69	62	56	70	94	90	91	95	94	71	70	69	69	75	90	94	95	95	90	85	62	62	70	75	82	90	101	102	101	105	97	83.0
	Minimum	33	33	36	44	52	56	50	57	49	46	36	45	30	36	41	57	63	57	57	61	52	32	36	30	39	60	56	53	59	68	57	47.8
Oakes	Maximum	90	85	57	78	87	88	92	103	96	68	66	68	70	68	85	101	94	94	93	92	84	75	69	69	83	87	98	108	95	110	100	85.6
	Minimum	39	43	36	44	40	56	47	60	60	55	28	51	41	40	37	53	52	52	61	59	54	30	39	32	36	49	64	63	64	70	67	49.1
Pembina §§	Maximum	57	37	58	71	91	76	80	90	70	52	59	62	67	57	76	78	68	88	82	69	55	64	59	69	80	89	100	89	86	106	74	72.9
	Minimum	31	34	30	36	37	46	44	51	57	41	23	31	33	31	31	43	51	46	50	49	46	27	37	34	36	48	59	59	49	62	60	42.3
Sharon	Maximum	86	46	54	74	90	81	86	93	82	63	58	68	68	66	76	89	81	89	82	75	62	68	65	68	79	88	102	98	88	107	89	78.1
	Minimum	31	33	34	42	39	56	45	57	60	45	26	46	32	34	38	51	51	45	59	56	46	28	38	37	44	45	64	60	54	69	60	46.0
Steele	Maximum	80	70	67	75	95	83	94	101	95	77	66	75	67	70	86	95	95	92	84	76	74	72	69	72	96	94	102	102	99	110	93	84.7
	Minimum	33	33	35	39	45	57	48	56	45	48	32	45	29	39	43	53	58	50	60	54	49	27	37	26	42	60	66	59	58	78	62	47.3
Towner	Maximum	63	58	60	76	95	91	88	100	96	78	67	70	72	72	86	91	89	88	89	85	76	69	67	73	84	94	102	98	93	106	102	83.2
	Minimum	29	31	29	41	43	57	39	60	53	48	30	44	24	37	43	51	56	49	57	54	46	34	37	28	36	52	65	55	49	71	54	45.2
Valley City	Maximum	91	87	74	76	89	89	88	99	96	65	64	69	68	68	80	95	89	90	90	83	77	71	69	70	83	95	100	101	100	107	98	84.5
	Minimum	36	36	34	43	36	42	44	59	59	33	28	50	37	38	33	49	53	50	60	55	53	28	35	32	32	42	63	61	59	68	70	45.7
Wahpeton	Maximum	91	90	76	76	87	88	90	99	97	65	64	75	69	68	80	99	93	90	91	91	88	88	72	69	81	88	95	106	99	106	104	86.3
	Minimum	44	43	37	37	40	52	50	65	65	55	28	50	43	45	26	53	52	55	61	58	30	55	41	33	40	51	69	66	60	68	74	49.9
Westhope	Maximum	58	56	64	78	94	81	79	97	89	66	68	66	75	71	80	92	89	86	88	80	70	68	65	73	85	95	101	91	95	106	89	80.5
	Minimum	30	31	27	30	43	59	38	52	53	46	32	42	26	40	42	52	58	50	50	53	41	39	40	30	35	49	60	57	51	69	51	44.4
Williston	Maximum	57	59	73	75	89	77	90	95	63	67	77	56	72	77	90	94	88	78	77	72	59	67	63	73	83	98	96	94	99	93	78	78.4
	Minimum	30	38	30	40	56	53	50	62	50	42	48	38	30	50	49	58	65	60	54	55	42	41	37	44	47	58	62	59	62	68	59	49.8
Moorhead, Minn	Maximum	90	65	56	74	85	81	86	92	78	63	61	69	67	61	75	88	81	87	90	82	64	67	64	68	78	86	94	97	89	104	91	78.5
	Minimum	40	36	36	49	46	61	53	64	58	42	30	44	39	40	36	55	53	53	61	59	44	33	40	35	39	52	63	65	61	69	57	48.8

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 6-28-34—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIII BISMARCK, N. D., JUNE 1934 No. 6

GENERAL SUMMARY

The temperature for the month averaged slightly above and the precipitation slightly below the normal. The month opened with generally high temperature which resulted in showery conditions during the first decade, the heaviest rainfall occurring on the 7th, with other showery periods on the 16-17th and 25th. Droughty conditions prevailed in nearly all sections at the opening of June, and while considerably relieved in some parts during the first decade, all sections were in need of moisture at the end of the month. Early planted small grains generally headed short, while many late planted fields were either pastured or summer fallowed. Pastures and livestock improved considerably.

TEMPERATURE

The mean temperature for the State was 64.3°, or 1.8° above the normal, and 6.4° lower than the mean for June, 1933. The highest mean reported was 69.8° at Wahpeton, Richland County; the lowest was 60.0° at Powers Lake, Burke County. The highest temperature reported was 100° at Hankinson, Richland County on the 2d; the lowest was 29° at Garrison, McLean County on the 11th. The greatest monthly range of temperature was 62° at Fort Yates, Sioux County; the least was 42° at Bismarck, Burleigh County, Gackle, Logan County, and Washburn, McLean County. The greatest daily range of temperature was 54° at Berthold Agency, McLean County on the 1st.

PRECIPITATION

The average precipitation for the State was 3.04 inches, or 0.41 inch below the normal, and 1.29 inches more than the average for June 1933. The greatest monthly amount reported was 5.52 inches at Wahpeton, Richland County; the least was 1.09 inches at Powers Lake, Burke County. The greatest amount recorded in any 24 consecutive hours was 2.75 inches at Napoleon, Logan County on the 7th. The average number of days with 0.01 inch or more of precipitation was 11.

MISCELLANEOUS PHENOMENA

AURORAS: Carson, 14th; Corinth, 9th; Devils Lake, 11th, 14th; Dogden Butte, 12th; Foxholm, 12th, 14th; Grand Forks, 2d; New Salem, 3d.

FOG: Bismarck, Petersburg, Steele, 8th; Devils Lake, 8th, 12th, 17th, 22d, 26th; Dogden Butte, 5th, 26th; Fessenden, Granville, New Salem, 26th; Foxholm, 8th, 26th; Grafton, 27th; Rugby, 1st; Tagus, 5th, 7th, 8th.

HAIL: Carrington, 19th; Carson, Rugby, 29th; Corinth, 27th; Hankinson, 8th; Howard, 16th, 26th; McLeod, 7th, 20th; Marmarth, 1st; Mohall, Tagus, 7th, Napoleon, 7th, 19th.

HALOS, solar: Bismarck, 15th; Devils Lake, 4th; Grand Forks, Petersburg, 2d, 3d.

THUNDERSTORMS occurred somewhere in the State on all days except the 12th and 14th. The greatest number were reported on the 6th, 7th, 13th, 19th, and 25th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck........	29.85	30.21	30	29.53	13	10.2	27	nw.	10	75	44	46	60
Devils Lake.....	29.87	30.18	6	29.60	19	10.0	25	ne.	6	79	48	51	61
Grand Forks....	29.83	30.09	6	29.57	19†	......	31	e.	7	80	....	53	....
Williston........	29.85	30.23	30	29.33	26	9.9	34	w.	27	74	50	44	60
Moorhead, Minn	29.84	30.13	30	29.43	20	9.1	38	nw.	19	76	52	49	66
Averages & ext's	29.84	30.23	30	29.33	26	9.8	38	nw.	19	77	48	49	62

† And other dates.

COMPARATIVE DATA FOR JUNE

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	60.5	−2.5	94	28	3.35	−0.08	7.44	1.62	0	8	11	9	10
1893.	67.4	+4.4	103	33	3.38	−0.05	5.54	0.86	0	9	13	10	7
1894.	68.8	+5.8	103	25	3.44	+0.01	7.70	1.07	0	7	17	6	7
1895.	59.7	−3.3	97	29	4.67	+1.24	6.74	2.44	0	12	8	13	9
1896.	65.6	+2.6	97	37	3.80	+0.37	7.08	0.94	0	9	16	9	5
1897.	61.7	−1.3	109	20	3.75	+0.32	10.40	0.20	0	9	11	10	9
1898.	62.6	−0.4	105	26	3.19	−0.24	6.80	0.68	0	9	10	10	10
1899.	62.2	−0.8	105	30	3.81	+0.38	9.02	1.40	0	10	12	11	7
1900.	66.9	+3.9	109	27	1.39	−2.04	3.45	0.27	0	5	15	11	4
1901.	61.6	−1.4	95	22	6.14	+2.71	9.71	2.94	0	15	10	11	9
1902.	58.0	−5.0	97	28	3.65	+0.22	6.30	1.00	0	11	12	9	9
1903.	62.4	−0.6	96	27	1.44	−1.99	3.13	0.04	0	4	17	8	5
1904.	61.4	−1.6	100	30	5.77	+2.34	9.84	2.01	0	11	13	8	9
1905.	59.7	−3.3	97	32	4.52	+1.09	8.17	2.38	0	12	10	7	13
1906.	62.0	−1.0	95	32	4.06	+0.63	8.81	0.70	0	11	13	8	9
1907.	61.9	−1.1	95	25	2.85	−0.58	5.58	1.34	0	10	12	10	8
1908.	60.4	−2.6	93	27	3.37	−0.06	7.15	1.30	0	10	12	9	9
1909.	62.9	−0.1	98	28	3.21	−0.22	7.65	1.10	0	10	12	11	7
1910.	67.3	+4.3	111	19	1.83	−1.60	5.35	0.00	0	6	16	9	5
1911.	66.9	+3.9	108	25	3.12	−0.31	7.47	0.70	0	9	13	10	7
1912.	61.8	−1.2	104	28	2.06	−1.37	4.53	0.14	0	6	16	8	6
1913.	65.8	+2.8	101	27	2.35	−1.08	6.95	0.81	0	8	16	9	5
1914.	62.2	−0.8	93	29	6.26	+2.83	13.28	2.43	0	13	9	11	10
1915.	56.7	−6.3	94	20	5.00	+1.57	10.56	1.01	0	12	9	12	9
1916.	58.0	−5.0	92	29	3.89	+0.46	6.78	1.50	0	11	10	11	9
1917.	59.7	−3.3	103	19	2.09	−1.34	6.20	0.80	0	8	13	11	6
1918.	63.3	+0.3	102	27	1.63	−1.80	3.92	0.09	0	7	14	11	5
1919.	67.2	+4.2	108	22	2.31	−1.12	8.70	0.52	0	5	15	10	5
1920.	62.2	−0.8	98	26	3.62	+0.19	7.42	0.50	0	11	12	12	6
1921.	68.2	+5.2	108	30	3.51	+0.08	7.65	0.75	0	9	14	10	6
1922.	63.5	+0.5	108	30	3.78	+0.35	7.54	0.64	0	9	15	8	7
1923.	66.1	+3.1	100	30	3.82	+0.39	10.27	0.91	0	8	13	12	5
1924.	58.6	−4.4	89	26	4.17	+0.74	7.57	1.85	0	11	10	12	8
1925.	61.5	−1.5	98	30	6.07	+2.64	12.97	3.16	0	14	11	10	9
1926.	60.7	−2.3	104	22	2.65	−0.78	5.66	0.66	0	9	13	9	8
1927.	61.2	−1.8	99	22	2.84	−0.59	6.69	1.03	0	9	11	13	6
1928.	58.2	−4.8	92	24	5.07	+1.64	10.61	1.88	0	12	10	10	10
1929.	61.4	−1.6	98	21	1.44	−1.99	7.99	0.15	0	7	16	9	5
1930.	63.3	+0.3	96	30	3.09	−0.34	6.71	0.13	0	10	13	11	6
1931.	68.4	+5.4	110	27	2.35	−1.08	9.27	0.11	0	8	14	10	6
1932.	67.0	+4.0	98	34	3.83	+0.40	8.22	1.11	0	10	14	10	6
1933.	70.7	+7.7	110	33	1.75	−1.68	4.49	0.38	0	7	18	10	2
1934.	64.3	+1.3	100	29	3.04	−0.39	5.52	1.09	0	11	12	10	8
Per..	63.0	....	111	19	3.43	....	13.28	0.00	0.0	9	13	10	7

Climatological Data for June 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	8	......	......	...	...	....	...	......	2.43	....	1.17	0	8	......	......	......	......	H. A. Bury.
Amenia	Cass	954	38	65.8	+2.4	90	29	42	7†	38	4.27	+0.48	1.15	0	11	0	27	3	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	62.3	+0.6	92	1	36	3	51	1.90	−1.26	1.05	0	7	24	1	5	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	67.4	+5 0	95	18	41	12	41	3.09	−0.45	1.40	0	8	14	9	7	nw.	H. D. Piper.
Beach	Golden Valley	2,759	28	63.8	+2.1	94	26	42	10	45	2.29	−1.60	1.10	0	11	11	11	8	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	64.2	+1.4	92	1	38	1	54	2.46	−1.42	1.11	0	8	14	10	6	e.	C. L. Hall.
Bismarck	Burleigh	1,674	59	66.0	+2.3	90	1	48	7	42	3.39	+0.04	1.43	0	12	10	10	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	63.0	+1.7	88	1†	34	5	44	2.22	−1.09	1.03	0	10	16	7	7	nw.	N. D. School of Forestry.
Bowman	Bowman	2.872	20	63.0	+0.5	93	26	41	17	42	3.17	−0.32	0.98	0	10	16	11	3	nw.	George Larsen.
Cando	Towner	1,488	33	63.8	+2.3	88	30	40	1	47	2.93	−0.67	0.56	0	12	3	20	7	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	63.8	+0.8	88	1	40	11	39	3.91	+0.40	1.06	0	12	9	10	11	w.	L. A. Swanson.
Carson	Grant	2,500	22	66.2	+3.8	94	1	41	3	44	3.50	−0.57	0.93	0	8	17	10	3	nw.	J. W. Evens.
Cavalier	Pembina	894	24	......	......	...	...	....	...	......	3.15	+0.23	0.57	0	11	14	11	5	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	......	......	...	...	....	...	......	4.12	+0.56	1.28	0	13	15	4	11	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	......	......	...	...	....	...	......	1.36	....	0.45	0	11	0	15	15	e.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	......	......	...	...	....	...	......	2.20	....	0.91	0	8	12	13	5	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	61.2	+0.1	90	1	36	3	41	2.07	−1.09	0.72	0	11	8	7	15	w.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	63.0	+1.1	88	1	43	12	39	3.59	+0.03	0.81	0	18	10	8	12	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	62.0	+0.3	90	1†	41	1	49	3.88	+0.69	1.34	0	15	10	13	7	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	63.0	......	87	1	38	15	39	2.72	....	0.79	0	13	12	9	9	nw.	R. L. Williams.
Drake	McHenry	1.634	5	63.0	......	88	1	41	3†	39	3.23	....	0.77	0	14	8	14	8	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	62.3	+0.3	89	1	40	1	49	2.96	−1.05	1.35	0	12	12	6	12	s.	W. F. Moede.
Dunseith	Rolette	1,682	38	61.9	+1.0	87	2	41	3†	42	2.08	−1.00	0.58	0	14	8	11	11	ne.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	62.6	+1.0	90	29	40	3†	48	1.57	−1.37	0.54	0	12	8	17	5	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	66.6	+3.7	95	2	35	8	44	3.61	−0.08	2.07	0	8	10	16	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	61.2	......	89	2	37	12	46	4.48	+1.76	0.94	0	14	11	9	10	nw.	E. D. Warner.
Ellendale	Dickey	1,457	39	66 0	0.0	90	22	46	15	43	4.13	−0.46	2.62	0	7	17	9	4	nw.	J. E. Demmer.
Energy ‡‡	McLean	1,750	22	63.5	......	91	1	39	3	50	4.57	+1.09	1.46	0	8	9	18	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	26	......	......	...	...	....	...	......	......	....	......	.....	.....	......	......	.....	......	A. O. Wang.
Fairfield	Billings	......	5	......	......	...	...	....	...	......	2.06	....	0.77	0	10	14	11	5	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	63.8	+2.1	93	1	41	12†	51	2.09	−1.74	0.85	0	9	14	8	8	se.	T. D. Monsen.
Forman	Sargent	1,249	41	......	......	...	...	....	...	......	2.53	−0.96	1.01	0	9	19	6	5	sw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	68.9	+2.7	96	22	34	9	51	3.06	−0.44	1.89	0	7	18	7	5	e.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	62.4	......	88	1	40	3†	45	1.81	−1.28	0.95	0	7	7	12	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	......	......	...	...	....	...	......	3.16	−0.23	0.80	0	12	16	6	8	e.	Verne King.
Fullerton	Dickey	1,439	36	68.1	+4.7	92	2	44	12†	40	3.04	−0.71	1.73	0	6	17	10	3	s.	F. O. Alin.
Gackle	Logan	1,951	4	65.7	......	87	29	45	12	36	4.45	....	2.36	0	9	17	8	5	nw.	A. H. Haut.
Garrison	McLean	1,901	57	63.6	+1.4	89	1	29	11	49	3.42	0.00	1.16	0	9	17	6	7	nw.	W. F. Robinson.
Grafton	Walsh	827	42	65.0	+2.2	91	2†	40	7	43	3.42	+0.06	0.91	0	13	12	8	10	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	43	61.6	+1.6	90	29	41	7	35	3.70	+0.28	1.34	0	16	2	23	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	62.6	+0.4	90	1	38	3	48	2.48	−0.41	0.75	0	11	8	11	11	nw.	W. A. Christianson.
Hankinson	Richland	1,068	5	69.4	......	100	2	46	6	48	4.40	....	1.65	0	10	13	13	4	se.	R. G. Stock.
Hannah	Cavalier	1,568	42	61.8	......	91	1	38	1†	53	2.93	−0.47	1.00	0	13	5	16	9	nw.	James Muir.
Hansboro	Towner	1,597	26	60.4	0.0	87	1†	38	3†	47	2.84	−0.25	0.48	0	13	13	12	5	nw.	C. E. Blackorby.
Hettinger	Adams	2.675	27	65.6	+2.7	94	26	42	1	48	4.03	+0.43	1.71	0	11	13	13	4	nw.	C. H. Plath.
Hillsboro	Traill	901	28	65.8	+1.6	90	2†	42	7	35	5.04	+1.62	1.53	0	11	10	12	8	nw.	H. F. Lund.
Howard ‡‡ (near)	Williams	2,275	27	60.6	+0.4	89	1	35	17	41	2.78	0.00	1.16	0	8	12	11	7	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	42	64.8	+1.6	90	2	39	6	38	3.38	−0.42	1.39	0	8	10	14	6	e.	S. Calvelage.
Kenmare	Ward	1,799	3	63.4	......	87	1	39	3	41	1.52	....	0.43	0	13	7	15	8	w.	R. Costello.
Langdon	Cavalier	1,615	38	61.8	+1.9	92	1†	38	12	52	4.06	+0.65	0.90	0	12	15	7	8	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	61.9	+2.5	90	2†	40	7	40	3.66	−0.28	1.21	0	11	14	6	10	w.	Mabel Walsh.
Linton	Emmons	1,711	17	67.7	+3.4	94	22†	39	1	51	2.72	+0.16	1.19	0	10	11	14	5	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	30	67.2	+3.7	93	1	43	15	38	3.02	−0.94	0.91	0	12	6	19	5	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	16	61.8	......	88	1†	30	11	44	3.02	−0.13	1.12	0	10	17	6	7	nw.	Edw. Bapley.
McLeod	Ransom	1,075	23	68.4	+3.9	97	1	42	15	43	3.00	−1.12	0 93	0	8	18	8	4	nw.	J G. Carlson.
Maddock	Benson	1,604	19	63.9	+2.8	90	1	40	1†	50	3.82	+0.44	0.79	0	13	4	16	10	nw.	A. T. Felland.
Mandan	Morton	1,750	20	65.5	+2.2	90	1	45	15	42	3.78	+0.45	1.59	0	9	13	3	14	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	......	......	...	...	....	...	......	2.66	−0.96	0.84	0	13	......	......	......	......	P B. Anderson.
Marmarth	Slope	2,714	25	64.8	+2.8	97	26	42	17†	48	2.57	−0.69	0.94	0	7	13	1	16	e.	S. P. Grane.
Mary	McKenzie	......	5	......	......	...	...	....	...	......	1.23	....	0.47	0	11	19	3	8	nw.	Fred Hartman.
Max	McLean	2,093	5	61.8	......	91	2	38	4	45	3.41	....	1.20	0	10	14	3	13	.....	A. W. Rice.
Mayville	Traill	975	38	68.3	+4.3	91	29†	42	7	36	4.58	+1.17	1.51	0	10	10	10	10	nw.	H. B. Addicott.
Minot	Ward	1,557	38	62.2	−0.1	89	1†	40	1†	49	2.45	−0.77	0.73	0	14	5	19	6	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	40	63.4	+2.3	88	1†	44	15†	42	2.11	−1.19	0.75	0	11	5	20	5	nw.	John Behan.
Mott	Hettinger	2,424	27	64.7	+0.3	90	13†	39	7	46	3.98	+0.44	1.44	0	11	9	12	9	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	42	66.0	+3.6	96	19	41	12	44	4 42	+0.89	2.75	0	11	19	5	6	nw.	C. J Hoof.
New England	Hettinger	2.400	40	64.8	+2.2	98	18	41	3	47	4.17	+1.27	1.22	0	8	10	10	10	nw.	F. S. Sleight.
New Salem	Morton	2,163	30	67.4	+4.5	95	1	44	12	43	3.68	+0.25	1.28	0	9	19	7	4	nw.	J. Christiansen.
Oakes	Dickey	1,318	5	68.8	......	95	2†	44	12†	42	3.46	....	1.32	0	9	12	11	7	nw.	Eugene Naylor.
Park River	Walsh	998	30	64.0	+1.1	87	2	39	7	40	3.93	+0.45	1.19	0	12	8	8	14	nw.	C B. Wright.
Parshall	Mountrail	1,929	19	61.2	......	90	2	35	1	41	1.68	−1.41	0.69	0	12	3	20	7	nw.	C. E. Shubert.
Pembina	Pembina	789	60	.....	......	...	...	....	...	......	3.13	−0.47	......	.....	......	....	......	......	......	U. S. Weather Bureau.
Petersburg	Nelson	1,520	4	......	......	...	...	....	...	......	3.68	....	0.94	0	15	10	14	6	w.	T. M. Bykken.
Pettibone	Kidder	1,856	25	65.0	+3.5	90	19	40	12	45	1.57	−1.59	0.87	0	9	19	6	5	ne.	H. H. McCumber.
Portal	Burke	1,954	29	61.2	+2.0	87	12†	36	3	42	2.50	−0.85	1.18	0	8	12	6	12	w.	R. G. Wegener.
Powers Lake	Burke	2,205	29	60.0	......	88	21	36	8	38	1.09	−2.46	0.53	0	4	17	11	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	18	63.0	+0.4	89	1	42	3	45	5.20	+1.75	1.10	0	11	9	11	10	nw.	John Muggli.
Rugby (near)	Pierce	1,562	5	......	......	...	...	....	...	......	2.26	....	0.39	0	13	4	18	8	ne.	W. B. Paterson.
Ryder	Ward	2,108	5	......	......	...	...	....	...	.....	2.47	....	0.96	0	9	......	......	......	......	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	61.8	......	90	1	38	1†	52	1.71	....	0.72	0	10	......	......	......	......	H. J. Bugge.
Sharon	Steele	1,516	10	63.2	......	91	2	41	7	38	4.13	+0.46	1.58	0	15	8	10	12	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	......	......	...	...	....	...	......	4.21	+1.17	1.22	0	12	18	3	9	nw.	H. J. Giffey.
Steele	Kidder	1,857	40	66.1	+3.6	92	21	40	12	46	2.33	−1.17	1.07	0	6	11	14	5	nw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	......	......	...	...	....	...	......	3.82	+0.37	1.20	0	10	21	5	4	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	5	......	......	...	...	....	...	......	1.52	....	0.40	0	10	17	6	7	w.	J. C. Abbott.
Tioga	Williams	2,279	5	......	......	...	...	....	..	......	1.21	....	0.42	0	10	11	12	7	nw.	Anton Carlson.
Towner	McHenry	1,482	32	64.3	+1.5	91	2	39	3	49	2.41	−0.49	0.54	0	14	11	13	6	w.	Karl Weber.
Trotters	Golden Valley	......	8	......	......	...	...	....	...	......	1.53	....	0.99	0	7	8	16	6	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	20	......	......	...	...	...	...	......	2.94	−1.04	0.95	0	10	......	....	......	......	M. A. Slettum.
Valley City	Barnes	1,245	28	66.6	+3.5	95	29	40	15	43	4.23	+0.90	1.18	0	9	13	9	8	e.	I. C. Robertson.
Velva	McHenry	1,511	7	63.8	......	89	1	40	3	43	2.60	....	0.80	0	14	7	10	13	nw.	Oscar Anderson.
Wahpeton	Richland	962	42	69.8	+4.7	97	2	44	15	43	5.52	+1.66	1.43	0	11	18	0	12	nw.	C. G Luick.
Washburn	McLean	1,731	33	63.5	−0.6	87	2	45	3	36	3.03	−0.51	1.13	0	8	12	5	13	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	63.0	+1.0	89	22†	39	3	47	1.51	−1.50	0.48	0	9	11	9	10	ne.	D. W. Drake.
Williston	Williams	1,878	55	62.9	+0.2	88	1	41	3	41	2.02	−1.41	1.18	0	11	12	11	7	e.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	62.3	+1.3	90	30	31	7	45	2.17	−0.94	0.66	0	10	16	9	5	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	5	66.4	+4.1	98	24	41	12	45	2.39	−0 53	1.60	0	10	12	6	12	......	E. W. Davis.
Zap	Mercer	1,838	19	...	......	...	...	....	..	......	3.65	−0.12	1.28	0	9	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	53	66.2	+1.8	89	29	42	7	33	3.93	−0.12	1.36	0	14	8	10	12	nw.	U. S. Weather Bureau.
Averages			.....	64.3	+1.8	100	2	29	11	54	3.04	−0.41	2.75	0.0	11	12	10	8	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for June 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	T.	....	.07	.05	....	.47	1.17	.01	....	....	....	....	....	....	....	T.	....	.05	T.	....	.39	....	....	....	....	....	....	.22	....	....	....	2.43
Amenia	Red	.37	....	T.	.65	.06	....	1.15	.07	.05	....	T.	....	....	....	....	....	.20	....	....	.85	....	.40	....	.45	....	.02	....	....	....	....	....	4.27
Arnegard (near)	Missouri	....	.02	.03	.19	.15	.32	1.05	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	.14	....	....	....	....	....	....	1.90
Ashley	Missouri	....	....	.28	.09	.96	....	1.40	....	....	....	....	....	....	....	....	....	.09	....	....	.11	....	.11	....	.05	....	....	....	....	....	....	....	3.09
Beach	Lit. Missouri	....	....	.05	....	....	.27	1.10	.02	....	....	....	....	.01	.03	....	.05	....	....	.07	T.	.37	....	....	....	.02	....	....	.30	....	....	....	2.29
Berthold Agency	Missouri	....	....	.03	.31	....	.20	1.11	.14	....	....	....	....	....	....	....	.24	....	....	....	....	.03	....	....	....	.40	....	....	....	....	....	....	2.46
Bismarck ***	Missouri	T.	.03	.22	.02	T.	.26	.75	.01	T.	T.	....	....	....	....	....	1.42	.01	....	.01	....	.28	....	....	.08	.30	T.	....	T.	....	....	....	3.39
Bottineau	Mouse	....	T.	....	1.03	.12	T.	.31	.12	.06	.02	T	....	.25	....	....	.11	.18	....	....	....	.02	T.	....	T.	....	T.	....	T.	....	....	....	2.22
Bowman	Grand	T.	.06	.27	....	.01	.98	.82	T.	.02	....	....	....	....	....	T.	.03	....	....	T.	T.	.26	....	....	T.	.29	T.	....	.43	....	....	....	3.17
Cando	Devils Lake.	T.	....	....	.09	.56	.52	.04	....	.34	....	.10	....	.03	....	....	....	.40	....	.05	.36	....	.16	....	....	.28	....	....	....	T.	....	....	2.93
Carrington‖‖	James	....	....	.01	.02	....	.96	.25	.02	....	.04	....	....	T.	....	....	.08	....	.03	.97	....	1.06	....	....	.44	....	....	....	....	....	.03	....	3.91
Carson	Heart	....	....	.20	.05	....	.66	.93	....	....	....	....	....	....	....	....	.41	....	....	....	....	.41	....	....	....	.40	....	....	....	.44	....	....	3.50
Cavalier	Red	....	....	....	.17	.20	....	.22	.12	.51	....	.40	....	.25	.22	....	....	.16	....	....	....	....	.57	....	....	.33	....	....	....	....	....	....	3.15
Cooperstown	Sheyenne	.12	....	.02	.49	.89	T.	1.28	.22	.03	T.	.02	.18	....	....	....	....	.09	....	....	.12	....	.28	....	....	.38	T.	....	....	....	....	....	4.12
Corinth	Missouri	T.	.01	.01	.18	....	.12	.45	.03	.04	.03	....	....	.15	....	.03	T.	....	....	....	....	T.	....	....	....	....	T.	.31	....	....	....	....	1.36
Courtenay	James	.15	....	.16	.11	....	....	.91	.15	....	....	T.	....	....	....	....	....	....	....	.08	....	.19	....	....	....	.45	....	....	....	....	T.	....	2.20
Crosby	Mouse	....	.03	....	....	.12	....	.57	.22	.18	.01	....	....	....	.10	....	....	.08	....	.02	....	....	.02	....	....	....	....	.72	....	....	....	....	2.07
Devils Lake ***	Devils Lake.	....	T.	.02	.10	.17	T.*	.81	.19	.03	.16	....	....	.22	....	....	.10	.07	....	.39	.10	.33	.13	.01	.12	.63	....	....	T.	.01	....	....	3.59
Dickinson‖‖	Heart	.08	.11	....	.15	.11	.51	1.34	.17	.02	....	....	....	.23	T.	T.	.06	.33	....	....	....	T.	.14	....	T.	.19	.01	T.	....	.43	....	....	3.88
Dogden Butte	Mouse	T.	.02	T.	.14	.05	.08	.79	.09	.03	....	....	....	T.	....	.01	.63	.06	....	T	....	.06	.16	....	....	.60	....	....	....	....	....	....	2.72
Drake‖‖	Mouse	.26	T.	....	.03	.12	....	.77	.08	.12	....	.06	....	....	.02	....	.05	.76	....	.20	....	....	.18	....	....	.55	.03	....	....	....	....	....	3.23
Dunn Center	Knife	....	.05	....	.04	.12	.28	1.35	.24	....	....	....	....	.20	....	....	.13	.13	....	....	....	....	.09	....	....	.30	.03	....	....	....	....	....	2.96
Dunseith	Mouse	.01	....	....	.11	.07	....	.58	....	.08	....	.03	....	.24	....	....	.21	.42	....	.02	.19	.03	.02	....	....	.07	....	....	....	....	....	....	2.08
Eckman	Mouse	....	....	....	.54	....	.10	.25	.05	.06	.05	.02	....	.32	....	.06	.01	.01	....	.10	....	....	....	....	....	T.	....	....	....	....	....	....	1.57
Edgeley	James	.10	....	.28	....	.37	....	2.07	....	....	....	....	....	....	....	....	....	.12	....	....	.56	....	.10	....	....	.01	....	....	....	....	....	....	3.61
Edmore	Devils Lake	....	....	.06	.24	.55	T.	.94	.01	.61	.15	....	....	.50	....	....	.14	....	....	.05	....	.40	....	....	.27	.50	....	T.	T.	.06	....	....	4.48
Ellendale	James	....	....	.26	....	.22	.08	2.62	....	....	....	....	....	....	....	....	....	.37	....	....	.04	....	.54	....	....	....	....	....	....	....	....	....	4.13
Energy	Missouri	....	....	T.	.42	....	.32	1.15	.25	....	....	....	....	....	....	.04	1.46	....	....	....	....	.21	....	....	T.	.72	....	....	....	....	....	....	4.57
Epping	Missouri	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Fairfield	Knife	....	....	.10	.30	....	.28	.77	.04	....	....	....	....	....	....	.04	.20	....	....	....	....	.13	....	....	....	.16	....	....	.04	....	....	....	2.06
Fessenden‖‖	James	....	....	....	.03	.08	....	.85	.15	.05	....	....	....	....	....	....	....	.30	....	T.	....	....	.01	....	....	.59	....	.03	....	....	....	....	2.09
Forman	Sheyenne	....	.21	.31	.04	.03	T.	1.01	....	....	....	....	....	T.	....	....	....	.20	....	.11	....	.40	....	....	....	.22	....	....	....	....	....	....	2.53
Fort Yates	Missouri	....	....	.03	.07	....	.48	1.89	....	....	....	....	....	....	....	....	.36	....	....	.03	....	T.	....	....	.20	....	....	....	....	....	....	....	3.06
Foxholm (near)	Mouse	....	....	....	.95	....	.16	.56	....	.01	.03	....	....	T.	....	.08	T.	....	....	....	....	T.	....	....	T.	.02	....	....	....	....	....	....	1.81
Fryburg	Heart	T.	T.	.11	.61	T.	.36	.80	.01	....	....	....	T.	.07	.01	T.	.05	....	T.	....	....	.38	.02	....	....	.20	T.	T.	.54	....	....	....	3.16
Fullerton	James	....	....	T.	.28	.07	.06	1.73	....	....	....	....	....	T.	....	....	....	.25	....	....	....	.65	....	....	T.	....	....	....	....	....	....	....	3.04
Gackle	James	....	.02	.05	.08	....	....	2.36	.01	....	....	....	....	....	....	....	.09	....	....	1.50	....	.14	....	....	....	.20	....	....	....	....	....	....	4.45
Garrison	Missouri	....	....	T.	.47	....	.22	1.16	.30	.02	....	....	....	....	....	.11	.27	T.	....	....	....	.21	....	....	T.	.66	....	....	....	....	....	....	3.42
Grafton	Red	.10	....	....	.13	.40	....	.71	.06	.43	....	.27	....	.04	.06	....	.07	....	....	T.	.02	....	.22	....	....	.91	....	....	....	....	....	....	3.42
Grand Forks ***	Red	....	.02	.09	.14	.16	....	1.34	.01	.12	.09	....	....	T.	....	....	.02	.41	....	.08	....	.05	.70	.04	.06	.37	....	....	T.	T.	....	....	3.70
Granville	Mouse	....	T.	T.	.75	.06	T.	.65	.09	.04	.18	....	....	.04	....	T.	.18	.09	....	T.	....	.18	....	T.	T.	.22	....	T.	....	....	....	....	2.48
Hankinson	Red	....	.40	.25	.03	....	1.65	.13	.83	....	T.	....	....	....	....	....	.30	....	....	.21	....	.40	....	....	....	.20	....	....	....	....	....	....	4.40
Hannah	Pembina	....	....	....	.06	.26	....	.45	.16	.15	.02	.24	....	1.00	....	....	T.	.23	....	.03	.01	T.	.23	T.	....	.09	....	....	....	....	....	....	2.93
Hansboro	Devils Lake	.12	....	....	.35	.23	....	....	.48	.13	.15	....	....	.40	....	....	.10	.20	....	....	.05	....	.20	....	....	.30	....	....	....	....	.13	....	2.84
Hettinger	Grand	....	T.	.11	....	....	.22	1.71	....	....	....	....	....	.15	.04	....	.39	.01	....	.06	.01	T.	....	....	....	.90	....	....	....	.43	....	....	4.03
Hillsboro	Red	.26	....	.25	.33	1.29	....	1.53	....	.01	....	.04	....	....	....	....	....	.30	....	....	.33	....	.23	....	....	.47	....	....	....	T.	....	....	5.04
Howard (near)	Missouri	.10	T.	....	.43	T.	.12	1.16	.04	....	T.	T.	....	.14	....	T.	.01	....	....	....	....	T.	T.	....	T.	T.	.78	T.	T.	....	....	....	2.78
Jamestown	James	....	.03	.11	....	.27	....	1.39	.08	....	....	....	....	....	....	....	....	T.	....	.48	....	.25	....	....	....	.77	....	....	....	....	....	....	3.38
Kenmare	Mouse	.03	....	....	.30	T.	.01	.43	.03	.03	.04	.07	....	.25	....	.03	.25	....	....	....	....	....	....	....	....	.01	....	....	.01	....	....	....	1.52
Langdon	Pembina	....	....	....	.10	.90	....	.38	.55	.30	....	.30	....	.05	.56	....	....	.25	....	....	....	....	.35	....	....	.20	.12	....	....	....	....	....	4.06
Larimore	Red	.27	....	....	.21	.52	....	1.21	....	.05	....	.15	....	....	....	....	....	.08	....	....	.12	....	.29	....	.05	.71	....	....	....	....	....	....	3.66
Linton	Missouri	.04	.02	.06	.09	....	.22	1.49	....	....	....	....	....	....	....	....	.21	.27	....	.01	....	T.	....	....	T.	.31	....	....	T.	T	....	....	2.72
Lisbon	Sheyenne	.45	....	.06	.90	.14	....	.91	.01	.01	....	....	....	....	....	....	....	.02	....	....	.17	....	.32	....	....	.01	.02	....	....	....	....	....	3.02
McClusky	Missouri	....	....	.18	T.	....	.03	1.12	.15	.04	....	....	....	....	....	....	.10	.40	....	....	....	.34	....	....	.05	.61	....	....	....	....	....	....	3.02
McLeod	Sheyenne	.06	....	....	....	.36	....	.86	....	.05	....	....	....	....	....	....	....	.30	....	....	.93	....	.42	....	T.	.02	....	....	....	....	....	....	3.00
Maddock	Sheyenne	....	T.	....	.06	.48	T	.74	.10	.06	....	.11	....	.68	....	....	T	.24	....	.05	.22	....	.25	....	.04	.79	....	....	T.	T.	....	....	3.82
Mandan‖‖	Missouri	.02	....	.33	T.	.01	1.20	.03	....	....	....	....	....	....	....	....	1.59	....	....	.01	....	.30	....	....	.26	T.	....	....	T.	....	....	....	3.78
Manfred	James	....	....	T.	.10	.07	.02	.84	.01	.06	T.	....	....	....	....	....	.05	.35	....	.25	....	.11	.17	....	.02	.61	....	....	....	....	....	....	2.66
Marmarth	Lit. Missouri	.12	T.	.13	....	....	.60	.94	T.	....	....	....	.26	....	....	T.	T.	....	....	T.	T.	T.	....	....	....	.02	....	....	.50	....	....	....	2.57
Mary	Lit. Missouri	....	....	.02	.15	.07	.15	.47	.08	....	....	.02	....	....	....	.09	.02	....	....	....	....	.11	.05	....	....	....	....	....	....	....	....	....	1.23
Max‖‖	Missouri	....	....	....	.12	.45	....	1.20	.28	.10	....	....	....	....	....	....	.03	....	.50	....	....	....	.25	....	....	.40	.08	....	....	....	....	....	3.41
Mayville	Red	.37	T.	T.	.38	1.09	....	1.51	.01	T.	....	.03	....	....	....	....	....	.24	....	....	.12	....	.36	....	....	.47	....	....	....	....	....	....	4.58
Minot	Mouse	.02	....	....	.04	.57	....	.73	.31	.08	T.	.05	....	....	.07	....	.21	.05	....	.03	....	....	.10	....	....	.17	.02	....	....	....	....	....	2.45
Mohall	Mouse	....	....	....	.75	....	.20	.59	.15	.02	T.	....	....	.24	....	.07	.04	....	....	.02	....	....	.01	T.	....	.02	....	....	T.	....	T.	....	2.11
Mott	Cannon Ball	....	.02	.34	.06	....	.40	1.41	T.	....	....	....	....	T.	.05	T.	.63	....	....	.03	T.	.01	....	....	T.	.70	....	....	....	.30	....	....	3.98
Napoleon‖‖	Missouri	.10	T.	....	.05	T.	.01	2.75	.03	....	....	....	....	....	....	....	.01	.22	....	....	.60	....	.09	....	....	.20	....	....	....	....	.36	....	4.42
New England	Cannon Ball	....	....	.40	.10	....	.66	1.22	....	....	....	....	....	....	....	....	.61	....	....	....	....	.27	....	....	....	.51	....	....	.40	....	....	....	4.17
New Salem	Heart	....	....	.49	.04	....	.03	1.28	.35	....	....	....	....	....	....	....	.75	.25	....	T.	....	.17	....	....	T.	.32	....	....	....	....	....	....	3.68
Oakes	James	.31	....	.01	.48	.29	.03	1.32	....	....	....	....	....	....	....	....	.13	....	....	.43	....	.46	....	....	....	....	....	....	....	....	....	....	3.46
Park River	Red	T.	....	....	.18	.45	....	.87	.15	.37	....	.23	....	.12	....	....	....	.12	....	....	.03	.20	....	.02	T.	1.19	....	....	....	....	....	....	3.93
Parshall	Missouri	T.	T.	....	.02	.32	....	.69	.12	.01	....	T.	....	....	.05	....	.05	.12	....	.07	....	....	.14	....	....	.05	.04	T.	....	T.	....	....	1.68
Pembina ***	Red	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Petersburg	Red	.02	....	....	.17	.94	....	.92	....	.10	....	.17	....	.01	.01	....	.05	.06	....	....	.09	....	.25	.01	.02	.86	....	....	....	....	....	....	3.68
Pettibone	James	T.	T.	T.	.07	....	T.	.87	.01	....	....	....	....	....	....	....	.03	.04	....	.05	T.	T.	.25	....	.05	.20	T.	....	....	....	....	....	1.57
Portal‖‖	Mouse	....	....	....	.19	....	....	.15	.34	.22	....	.03	....	....	.22	....	.17	....	....	....	....	....	....	....	....	....	....	1.18	....	....	....	....	2.50
Powers Lake	Missouri	....	....	.26	....	.23	.53	....	....	....	....	....	....	....	....	.07	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.09
Richardton	Heart	....	....	.32	.33	....	....	.48	1.10	.06	....	....	....	....	.35	....	.97	....	....	....	....	.59	....	....	.16	.63	....	....	....	.21	....	....	5.20
Rugby [near]	Mouse	....	....	....	.17	T.	.03	.39	.15	.04	.17	....	....	....	....	.05	.39	.25	....	.07	....	.20	....	....	....	.30	....	....	....	.05	....	....	2.26
Ryder	Missouri	T.	....	.02	.82	....	.09	.96	.17	.05	T.	....	....	.06	....	....	.06	....	....	....	....	T.	....	....	.24	....	....	....	....	....	....	....	2.47
Sanish‖‖	Missouri	....	....	....	.02	.19	....	.72	.34	.06	....	....	....	....	.05	....	.06	.15	....	....	....	....	....	....	....	.07	.08	....	....	....	....	....	1.74
Sharon	Red	.14	T.	T.	.64	.41	.01	1.58	.03	.01	....	.10	....	T.	T.	....	.01	.01	....	.08	.05	T.	.65	....	.07	.34	....	....	T.	....	....	....	4.13
Stanton	Missouri	....	.03	.11	.17	....	.14	1.00	.42	.03	....	....	....	.05	....	....	1.22	....	....	....	....	.36	....	....	.18	.50	....	....	....	....	....	....	4.21
Steele	Missouri	....	....	T.	.04	....	....	1.07	....	....	....	....	....	....	....	....	.17	.23	....	....	....	.25	....	....	T.	.57	....	....	....	....	....	....	2.33
Stowers	Cannon Ball	....	....	.25	.05	T.	.38	1.20	....	....	....	....	....	....	....	....	.83	.03	....	T.	....	.08	....	....	.09	.17	....	....	....	.74	....	....	3.82
Tagus	Mouse	....	....	....	.40	....	.20	.36	.02	.08	.10	T.	....	.05	T.	.10	.17	....	....	....	....	....	....	....	....	.04	....	....	....	....	....	....	1.52
Tioga	Missouri	....	....	....	.20	....	.42	.13	.07	....	....	....	....	.14	....	.12	....	.01	....	.05	....	....	....	....	....	....	.03	....	.04	....	....	....	1.21
Towner	Mouse	....	.02	....	.12	.09	.02	.54	.04	.11	....	.09	....	.03	....	T.	.42	.32	....	.04	....	....	.27	....	....	.30	....	....	....	T.	....	....	2.41
Trotters	Lit. Missouri	....	.03	....	....	....	.36	.99	....	....	....	....	.02	....	....	.02	.06	....	....	....	....	....	....	....	....	....	.05	....	....	....	....	....	1.53
Turtle Lake	Missouri	....	.05	.14	....	T.	.10	.95	T.	.04	....	....	....	....	....	.03	.50	.22	....	....	....	.16	....	....	.75	....	....	....	....	....	....	....	2.94
Valley City	Sheyenne	.31	....	....	1.02	.42	....	1.18	.02	....	....	....	....	....	....	....	....	.01	....	....	.55	....	.57	....	....	.15	....	....	T.	....	....	....	4.23
Velva	Mouse	T.	....	T.	.41	.02	.02	.80	.08	.16	.02	....	....	T.	....	.02	.30	.13	....	.01	....	.06	.18	....	T.	.36	....	....	T.	....	....	....	2.60
Wahpeton	Red	....	....	.07	1.10	.04	....	1.43	1.12	.02	....	.05	....	....	....	....	....	.37	....	....	.65	....	.42	....	....	.25	....	....	....	....	....	....	5.52
Washburn	Missouri	.16	....	....	.15	....	.02	1.13	.17	....	....	....	....	....	....	....	T.	.77	....	....	....	....	.23	....	....	.40	....	....	....	....	....	....	3.03
Westhope	Mouse	....	....	....	.48	T.	.10	.37	.15	.05	T.	....	....	.28	....	.03	.01	....	....	.04	....	T.	....	....	T.	T.	T.	....	....	....	....	....	1.51
Williston ***	Missouri	.02	....	T.	.49	....	.26	.95	.02	....	....	....	....	.09	T.	.16	.03	....	.01	....	....	....	....	....	T.	T.	.03	....	.03	....	....	....	2.02
Willow City	Mouse	....	....	....	.19	.18	....	.43	.08	.17	T.	T.	....	.02	....	....	.66	.16	....	....	....	....	.17	....	....	.11	....	....	T.	....	....	....	2.17
Wishek‖‖	Missouri	.20	.06	.02	.14	.02	.10	1.60	....	....	....	....	....	....	....	....	....	.09	....	....	....	....	.14	....	....	.02	....	....	....	....	....	....	2.39
Zap	Knife	....	....	....	.96	....	.36	1.28	.12	....	....	....	....	.08	....	.03	.38	....	....	....	....	.19	....	....	....	.25	....	....	....	....	....	....	3.65
Moorhead, Minn ***	Red	....	.01	.10	.39	.23	T.	1.36	T.	.06	T.	....	....	T.	....	....	T.	.40	....	.62	.03	.27	.01	....	T.	.42	....	....	.01	....	.02	....	3.93

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	82	87	72	83	72	70	68	77	79	80	70	73	81	85	71	80	79	80	86	78	84	83	84	86	81	84	86	86	90	84	..	80.0
	Minimum	52	52	56	53	55	47	42	43	50	48	47	42	47	60	42	47	54	49	50	56	48	55	59	56	60	57	64	56	52	53	..	51.7
Arnegard (near)	Maximum	92	77	69	59	76	61	55	57	72	83	75	90	85	67	70	74	79	89	79	82	85	89	79	68	82	86	82	78	85	88	..	77.1
	Minimum	41	40	36	50	61	50	46	47	44	49	44	41	58	45	50	49	45	47	54	52	46	46	45	49	50	52	50	46	46	47	..	47.5
Ashley	Maximum	88	91	82	75	76	61	62	75	67	85	83	81	84	71	74	71	79	95	94	94	85	91	88	86	83	89	88	87	92	87	..	82.1
	Minimum	48	64	53	52	53	48	47	55	49	45	48	41	54	56	43	52	55	54	60	55	47	53	58	53	55	59	65	50	53	55	..	52.7
Beach	Maximum	89	80	59	71	70	61	72	63	69	84	76	84	83	78	73	68	89	88	80	77	74	88	78	83	73	94	90	80	82	86	..	78.1
	Minimum	50	49	45	51	49	51	49	48	46	42	45	52	56	45	49	53	44	46	59	45	51	51	46	58	51	55	51	49	51	47	..	49.5
Berthold Agency	Maximum	92	83	79	65	75	64	70	62	77	82	78	86	83	80	72	66	80	83	83	80	85	89	80	76	73	84	81	84	81	85	..	78.6
	Minimum	38	58	40	53	53	51	48	47	49	49	48	48	55	58	41	54	45	45	61	52	55	52	42	47	53	53	57	46	46	49	..	49.8
Bismarck	Maximum	90	81	66	71	77	62	61	67	68	86	72	83	89	70	72	70	78	86	82	77	83	88	80	79	71	88	82	82	88	82	..	77.7
	Minimum	48	62	50	53	53	52	48	52	51	52	50	50	62	54	49	56	54	56	63	57	55	56	55	57	54	56	63	53	56	56	..	54.4
Bottineau	Maximum	88	87	74	67	72	71	60	64	69	70	68	78	66	71	70	78	68	78	80	72	84	88	85	78	75	78	79	82	88	87	..	75.8
	Minimum	44	61	41	53	34	46	44	46	47	52	42	45	58	48	46	52	50	48	55	56	53	52	53	48	57	58	61	51	58	50	..	50.3
Bowman	Maximum	87	73	57	68	75	60	74	62	68	84	72	86	83	70	73	75	79	89	76	72	80	90	79	82	69	93	82	81	83	83	..	76.8
	Minimum	47	50	46	48	50	49	49	48	45	44	49	50	56	47	50	54	41	48	58	45	43	48	45	57	51	57	52	48	50	51	..	49.2
Cando	Maximum	87	87	84	79	73	73	60	62	64	71	74	74	74	69	68	76	76	78	79	79	82	84	85	82	78	70	86	84	87	88	..	77.1
	Minimum	40	62	59	42	50	47	42	46	48	44	45	40	56	50	43	50	52	49	57	54	47	51	54	61	45	50	57	68	52	51	..	50.4
Carrington §§	Maximum	88	87	74	74	75	65	53	69	65	82	69	78	83	69	70	77	78	83	86	74	85	84	79	71	71	76	81	83	87	80	..	76.5
	Minimum	60	48	53	52	48	43	44	50	50	46	40	52	56	41	45	55	53	55	52	50	52	54	52	53	57	57	53	53	52	53	..	51.0
Carson	Maximum	94	80	81	80	80	64	75	65	74	85	75	88	90	85	74	70	80	88	86	76	85	91	80	82	66	92	87	80	86	85	..	80.8
	Minimum	50	56	44	50	53	50	48	52	46	46	48	59	58	49	48	53	48	54	64	50	50	51	48	60	50	55	54	56	51	50	..	51.7
Crosby §§	Maximum	90	61	72	58	69	62	52	58	72	76	70	83	89	64	68	67	70	87	75	80	84	83	78	77	88	81	73	80	83	83	..	74.4
	Minimum	46	54	36	50	51	50	47	45	44	46	45	45	52	46	42	47	46	47	46	48	49	50	50	42	54	53	53	50	52	52	..	47.9
Devils Lake	Maximum	88	86	79	66	72	61	53	64	64	76	67	75	76	66	68	75	74	76	82	71	83	85	78	74	68	72	80	84	87	76	..	74.2
	Minimum	49	57	49	55	53	48	44	47	50	53	47	43	55	50	45	50	55	50	54	56	50	54	56	49	54	52	64	54	55	52	..	51.7
Dickinson §§	Maximum	90	75	64	60	73	52	75	60	67	83	72	85	81	65	71	73	77	84	79	74	78	88	78	77	69	90	78	80	82	83	..	75.4
	Minimum	41	52	43	48	50	50	47	47	46	47	46	48	52	46	45	53	44	48	56	51	50	48	45	53	50	52	54	46	50	47	..	48.5
Drake §§	Maximum	88	82	76	65	76	59	52	65	68	82	68	81	81	68	72	71	76	78	83	76	83	86	79	73	68	75	78	83	87	81	..	75.3
	Minimum	49	55	44	53	50	49	48	45	48	48	46	44	57	49	44	51	51	54	53	56	57	51	54	49	53	50	56	54	54	52	..	50.8
Dunn Center §§	Maximum	89	75	67	59	72	53	62	60	69	83	72	85	81	65	70	72	77	82	81	83	82	87	77	75	71	86	77	81	83	84	..	75.3
	Minimum	40	56	41	52	52	51	47	50	48	49	47	48	53	48	47	52	45	48	60	42	52	52	45	51	52	52	57	46	49	47	..	49.3
Dunseith	Maximum	86	87	75	70	72	71	55	61	69	69	69	78	76	69	73	71	73	77	78	77	84	84	83	75	74	75	78	81	85	85	..	75.3
	Minimum	44	58	41	52	47	46	41	44	45	50	44	43	52	47	43	49	49	44	50	53	50	49	52	47	52	51	62	49	53	49	..	48.5
Edgeley	Maximum	85	95	91	88	83	71	63	56	60	85	84	76	84	81	79	75	81	85	88	81	87	90	87	82	80	83	86	90	92	87	..	81.8
	Minimum	59	51	53	60	61	50	45	35	42	45	48	41	51	57	41	51	64	50	55	55	49	57	56	50	50	59	52	50	50	55	..	51.4
Ellendale	Maximum	86	88	72	75	71	64	62	77	61	83	69	74	84	68	68	73	78	79	83	74	83	90	83	74	72	81	89	82	85	81	..	77.0
	Minimum	55	62	57	54	56	52	48	52	51	50	52	47	54	49	46	55	57	55	59	60	50	50	61	57	60	61	70	53	56	58	..	54.9
Fessenden §§	Maximum	93	87	78	70	76	68	57	67	68	83	69	85	87	70	75	78	77	82	90	76	84	78	80	70	71	77	81	85	88	81	..	77.7
	Minimum	42	58	47	52	52	47	42	45	48	51	46	41	56	50	41	47	52	52	55	57	46	56	47	51	52	53	58	52	53	50	..	50.0
Foxholm (near)	Maximum	88	86	85	67	72	69	52	63	69	75	68	82	80	74	71	64	75	77	82	78	84	85	79	74	75	73	76	81	85	81	..	75.7
	Minimum	46	61	40	50	48	50	43	45	48	55	45	45	55	45	40	49	46	45	54	49	54	50	52	45	52	49	58	52	53	51	..	49.2
Fullerton	Maximum	86	92	79	81	76	65	60	84	71	86	84	78	84	72	73	78	79	88	89	87	87	91	82	85	83	84	89	87	91	85	..	81.9
	Minimum	54	62	56	60	54	51	47	55	51	49	51	44	44	58	45	54	57	54	58	51	51	56	59	56	59	60	65	55	55	58	..	54.3
Garrison	Maximum	89	84	71	74	75	74	56	64	70	84	78	72	84	70	71	61	72	81	83	78	85	67	87	73	70	82	78	83	87	84	..	76.3
	Minimum	44	60	42	50	54	49	47	50	48	49	29	46	60	51	43	46	48	62	59	53	57	50	54	47	49	58	60	52	58	52	..	50.9
Grafton	Maximum	86	91	90	89	71	70	69	61	64	76	73	73	76	70	71	79	78	78	79	79	89	88	89	86	76	72	85	87	89	91	..	79.2
	Minimum	46	57	50	54	50	44	40	47	48	46	49	42	51	50	42	49	56	49	46	54	46	56	68	50	54	54	60	56	54	60	..	50.9
Grand Forks	Maximum	84	88	72	80	70	67	57	67	62	81	70	74	79	66	71	79	77	79	80	74	85	87	81	79	71	75	86	86	90	82	..	76.6
	Minimum	50	58	54	55	54	47	41	51	51	50	51	42	54	51	42	47	57	52	50	58	49	58	58	50	57	56	63	56	57	55	..	52.5
Granville	Maximum	90	81	76	61	75	62	52	65	70	79	68	82	76	69	72	66	76	81	84	78	82	87	80	75	71	75	79	82	88	82	..	75.5
	Minimum	42	63	38	54	42	50	45	49	48	54	48	43	51	49	40	51	47	46	56	54	53	50	50	44	54	50	59	52	59	50	..	49.7
Hansboro	Maximum	87	85	76	70	70	63	55	60	70	65	65	74	70	65	74	65	70	76	76	74	84	87	75	75	70	75	77	83	85	75	..	73.2
	Minimum	40	59	38	53	50	43	43	46	46	52	45	38	53	45	40	39	50	44	49	54	48	58	48	48	52	47	48	48	50	54	..	47.6
Hettinger	Maximum	88	84	68	70	78	75	76	73	78	81	80	85	85	83	71	71	77	88	85	72	84	88	86	84	74	94	92	81	82	81	..	80.6
	Minimum	42	52	47	50	51	49	48	49	47	48	50	50	57	48	52	53	47	52	61	48	53	53	48	60	49	46	54	53	52	50	..	50.6
Hillsboro	Maximum	83	90	88	85	69	67	65	72	70	65	75	72	80	75	69	80	76	78	81	80	84	86	85	82	78	77	88	87	90	90	..	78.9
	Minimum	52	55	56	55	54	48	42	48	52	50	50	45	52	59	43	46	60	52	51	58	52	58	59	50	50	55	62	55	58	55	..	52.7
Howard (near)	Maximum	89	76	70	62	70	65	50	53	69	81	70	81	81	62	65	68	75	82	72	78	82	82	75	74	74	80	72	79	79	80	..	73.4
	Minimum	48	48	40	52	49	48	45	45	41	50	44	48	55	48	44	50	35	44	52	46	45	48	57	53	54	48	40	50	57	48	..	47.7
Jamestown §§	Maximum	87	90	74	76	74	53	55	73	63	83	72	78	85	71	69	79	79	84	85	73	87	89	82	78	73	81	85	85	87	82	..	77.7
	Minimum	49	59	53	53	53	39	45	45	50	51	48	44	50	60	44	48	54	51	55	58	49	55	57	52	52	59	60	53	55	56	..	51.9
Kenmare	Maximum	87	75	69	67	74	74	55	64	73	77	70	84	85	78	68	64	75	80	83	80	84	85	84	76	80	79	75	77	85	84	..	76.4
	Minimum	46	58	39	53	52	50	45	47	46	56	45	48	57	47	44	53	48	45	57	50	57	54	54	50	42	52	51	55	56	55	..	50.4
Laugdon §§	Maximum	92	92	78	65	70	62	51	62	68	75	84	75	69	64	67	77	74	76	78	74	90	85	80	75	74	80	85	85	90	77	..	75.8
	Minimum	40	50	46	52	50	45	42	41	46	49	48	38	45	50	40	51	53	45	48	50	50	50	53	44	52	46	60	54	50	50	..	47.9
Larimore	Maximum	84	90	88	74	71	67	62	66	64	78	73	74	81	74	70	78	78	80	81	77	87	87	85	80	70	73	85	86	90	88	..	78.0
	Minimum	49	54	51	54	52	46	40	47	50	51	49	44	52	60	43	47	58	52	52	56	47	57	58	49	54	56	62	54	56	55	..	51.8
Linton	Maximum	90	88	80	71	83	65	75	74	69	89	87	85	89	81	75	74	86	90	91	80	87	94	94	86	79	90	88	86	91	86	..	83.4
	Minimum	39	67	57	53	53	44	46	55	49	46	47	46	46	54	47	54	53	58	57	55	45	52	57	52	52	61	63	50	53	50	..	52.0
Lisbon §§	Maximum	93	85	92	73	80	72	68	63	78	74	84	70	75	84	72	71	79	81	85	90	73	85	89	84	81	80	79	91	86	92	..	80.3
	Minimum	57	62	56	55	58	52	48	48	52	49	53	49	48	58	43	53	59	50	55	60	49	59	61	51	49	58	63	53	54	59	..	54.0
McClusky	Maximum	88	81	78	70	76	68	56	69	66	66	66	74	87	69	74	68	76	82	87	77	82	86	79	77	70	79	79	86	88	82	..	76.2
	Minimum	44	44	44	50	50	54	45	46	46	41	30	41	57	48	41	40	47	51	49	53	47	48	49	50	50	54	59	46	51	48	..	47.4
Maddock	Maximum	90	89	84	74	74	73	67	65	66	80	79	78	80	79	70	75	75	79	83	80	85	86	84	78	69	71	79	84	87	85	..	78.3
	Minimum	40	60	45	53	51	56	44	47	48	50	45	40	42	49	42	49	51	51	52	56	45	50	53	44	53	50	62	52	54	50	..	49.5
Marmarth	Maximum	88	78	68	74	75	68	75	65	70	84	77	87	83	79	73	72	80	90	85	76	75	90	79	85	72	97	95	80	83	85	..	79.6
	Minimum	48	51	51	51	51	49	49	50	47	43	51	50	55	47	57	55	42	49	58	42	49	48	47	60	53	57	47	47	47	47	..	50.0
Minot §§	Maximum	89	78	72	59	74	55	55	66	71	80	69	83	78	70	71	64	77	64	83	78	86	88	78	74	73	76	78	82	89	81	..	74.7
	Minimum	40	59	40	56	51	51	49	46	47	49	46	47	54	49	42	52	45	45	56	53	53	52	53	45	55	49	56	50	49	52	..	49.7
Mohall	Maximum	88	86	72	70	75	72	55	65	71	72	69	83	82	72	72	62	76	80	83	82	87	87	79	75	78	77	77	81	88	86	..	76.4
	Minimum	46	59	49	53	52	50	49	46	47	55	45	45	54	48	44	51	46	46	54	52	52	48	52	47	56	44	61	54	54	51	..	50.3
Mott	Maximum	88	84	65	63	77	72	80	73	70	87	76	87	90	79	73	72	82	82	83	77	82	90	84	82	69	90	85	82	86	84	..	79.8
	Minimum	42	42	46	51	53	40	39	49	44	48	49	49	56	48	48	53	47	52	62	49	52	49	49	58	52	55	55	50	51	51	..	49.6
Napoleon §§	Maximum	90	88	75	78	80	63	62	72	65	85	72	85	89	71	74	75	79	88	96	76	87	89	81	83	75	87	85	86	89	82	..	80.2
	Minimum	48	64	50	52	52	50	41	51	49	47	46	41	56	56	44	53	53	57	54	54	47	53	56	50	51	59	63	48	52	50	..	51.7
New England	Maximum	91	86	62	65	71	62	60	62	70	80	88	90	94	82	71	78	86	98	92	88	82	80	82	74	68	89	88	82	89	90	..	80.0
	Minimum	52	47	41	42	50	45	44	50	51	50	50	52	47	49	50	52	45	52	56	52	51	50	54	50	48	54	50	50	49	52	..	49.5
New Salem	Maximum	95	87	79	67	80	77	69	73	75	87	81	87	89	86	72	72	80	85	84	84	87	89	83	80	72	90	89	86	90	85	..	82.0
	Minimum	57	60	46	50	51	50	47	57	55	50	57	44	59	50	46	50	51	51	59	61	56	59	51	53	52	52	59	51	52	52	..	52.9
Oakes	Maximum	87	95	87	78	72	66	64	84	71	86	84	78	86	74	72	79	82	90	93	85	85	92	84	84	84	83	93	90	95	87	..	83.0
	Minimum	54	66	57	54	56	51	48	55	51	49	51	44	51	58	44	55	58	50	59	59	48	50	62	51	59	59	70	53	55	57	..	54.5
Pembina §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Sharon	Maximum	84	91	78	73	71	66	57	69	63	80	71	71	78	66	67	76	76	80	79	73	83	83	78	76	67	72	83	84	86	80	..	75.4
	Minimum	50	53	50	52	52	46	41	47	50	49	47	42	54	55	44	47	56	49	49	55	48	55	58	48	53	55	61	57	55	51	..	51.0
Steele	Maximum	90	81	70	71	75	70	72	69	65	82	80	83	90	80	71	75	76	85	91	77	92	87	82	78	70	84	85	85	89	83	..	79.6
	Minimum	44	65	48	53	53	51	48	54	49	46	47	40	56	53	43	57	53	51	60	55	46	51	53	60	58	59	57	58	53	61	..	52.6
Towner	Maximum	89	91	81	73	76	74	56	66	70	79	79	80	81	78	74	75	87	80	84	83	82	87	84	77	73	74	74	83	88	87	..	78.8
	Minimum	40	58	39	55	50	48	44	47	47	54	45	43	52	49	63	52	47	47	53	56	49	51	51	44	54	49	57	51	50	49	..	49.8
Valley City	Maximum	85	93	90	77	78	67	63	75	70	83	80	77	89	84	69	78	79	88	88	83	85	89	88	81	74	77	86	86	95	90	..	81.6
	Minimum	53	59	54	54	54	48	42	49	50	48	49	43	49	56	40	48	56	48	54	59	46	55	57	50	54	57	62	51	52	54	..	51.7
Wahpeton	Maximum	92	97	91	92	75	68	67	83	68	82	82	74	83	81	75	82	79	85	89	89	84	88	88	83	86	76	92	92	92	91	..	83.5
	Minimum	65	54	61	60	55	50	46	55	55	50	55	45	55	61	44	54	60	53	53	62	51	60	61	51	64	61	65	58	60	60	..	56.1
Westhope	Maximum	87	83	76	71	76	71	54	62	72	70	71	82	80	73	73	66	77	80	83	80	86	89	83	79	80	80	78	83	89	83	..	77.2
	Minimum	40	65	39	54	49	50	46	42	40	51	44	43	56	48	41	41	46	44	54	54	48	49	50	44	55	49	60	54	53	51	..	48.7
Williston	Maximum	88	76	65	59	72	63	54	57	71	83	72	85	82	65	66	68	78	85	74	79	81	83	76	74	76	80	76	76	81	84	..	74.3
	Minimum	47	48	41	53	54	51	48	49	46	53	47	55	56	46	50	55	48	50	60	49	57	54	54	50	57	56	56	52	52	52	..	51.5
Moorhead, Minn	Maximum	83	88	72	83	68	66	57	77	61	83	69	73	80	69	69	77	78	77	82	71	83	87	81	78	78	74	89	85	89	80	..	76.9
	Minimum	55	65	59	58	54	50	42	56	53	50	52	46	53	52	46	52	59	54	54	60	53	60	63	56	56	61	64	58	60	60	..	55.4

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 7-27-34—1050]

51.05
NNI

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

SEP 10 1934

O. W. ROBERTS

Vol. XLIII Bismarck, N. D., July 1934 No. 7

GENERAL SUMMARY

Unusually high temperature with only light scattered precipitation characterized the weather of the month. The average temperature was the fifth highest and the average precipitation was the third lowest of record for July. Temperatures of 100° or more were recorded at all stations except three. The precipitation, which averaged but 50 percent of the normal, was unevenly distributed geographically. As a result of of these unfavorable conditions crops deteriorated seriously all sections, particularly in the west and central portions.

TEMPERATURE

The mean temperature for the State was 71.8°, or 3.4° above the normal, and 0.1° lower than the mean for July, 1933. The highest mean reported was 76.4° at Fort Yates, Sioux County; the lowest was 66.4° at Edmore, Ramsey County. The highest temperature reported was 112° at Fort Yates, Sioux County on the 20th and at Edgeley, LaMoure County and Fullerton, Dickey County on the 22d; the lowest was 29° at Powers Lake, Burke County on the 6th. The greatest monthly range of temperature was 75° at Powers Lake, Burke County; the least was 55° at McLeod, Ransom County. The greatest daily range of temperature was 56° at Crosby, Divide County on the 7th.

PRECIPITATION

The average precipitation for the State was 1.22 inches, or 1.20 inches below the normal, and 0.78 inch less than the average for July 1933. The greatest monthly amount reported was 3.33 inches at Cavalier, Pembina County; the least was 0.02 inch at Alpha, Golden Valley County. The greatest amount recorded in any 24 consecutive hours was 2.15 inches at Cavalier, Pembina County on the 1st. The average number of days with 0.01 inch or more of precipitation was 6.

MISCELLANEOUS PHENOMENA

Auroras: Carrington, Sharon, 30th; Devils Lake, 8th, 14th; Foxholm, McClusky, Pettibone, Willow City, 14th; Howard, 4th; Mandan, Velva, 29th; Mohall, 8th; Parshall, 3d.

Fog: Crosby, 23d; Eckman, 8th; Mott, 17th.

Hail: Carrington, 18th; Corinth, 3d; McLeod, 10th, 13th; Marmarth, 10th; Oakes, 9th; Sharon, 28th; Steele, 12th; Valley City, 14th; Willow City, 12th, 18th.

Halos, solar: Devils Lake, 30th; Dogden Butte, 3d; Moorhead, 16th; Rugby, 13th; Williston, 19th.

Thunderstorms occurred somewhere in the State on all days except the 2d, 25th, 26th, 27th, 30th, and 31st. The greatest numer were reported on the 4th, 11th, 12th, 13th, 18th, 20th, 24th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p.m.	
Bismarck	29.90	30.24	25	29.50	7	9.5	30	e.	7	67	40	36	69
Devils Lake	29.92	30.26	25	29.52	18	9.5	29	ne.	20	70	37	37	78
Grand Forks	29.88	30.18	25	29.50	18	......	30	nw.	2	71	....	41	....
Williston	29.88	30.30	25	29.39	7	8.8	33	se.	7	65	35	31	77
Moorhead, Minn	29.90	30.20	28	29.57	13	8.5	24	e.	24	70	40	40	79
Averages & ext's	29.90	30.30	25	29.39	7	9.1	33	se.	7	69	38	37	76

† And other dates.

COMPARATIVE DATA FOR JULY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	68.7	+0.3	108	31	3.23	+0.78	5.23	1.17	0	8	19	8	4
1893.	69.5	+1.1	112	35	2.04	−0.41	4.59	0.53	0	7	17	10	4
1894.	71.7	+3.3	107	38	0.63	−1.82	2.58	T.	0	3	20	8	3
1895.	66.1	−2.3	102	29	2.90	+0.45	6.36	0.95	0	8	14	11	6
1896.	67.5	−0.9	107	31	1.59	−0.86	4.78	0.47	0	6	15	10	6
1897.	68.9	+0.5	109	38	4.43	+1.98	8.94	0.15	0	9	13	11	7
1898.	67.6	−0.8	106	28	2.49	+0.04	6.30	0.25	0	7	15	11	5
1899.	68.3	−0.1	109	32	2.34	−0.11	6.12	0.45	0	6	18	9	4
1900.	67.9	−0.5	107	33	2.25	−0.20	4.83	0.37	0	6	16	10	5
1901.	70.8	+2.4	110	40	4.28	+1.83	8.14	1.13	0	6	18	7	6
1902.	67.6	−0.8	106	34	2.15	−0.30	5.20	0.08	0	5	20	7	4
1903.	66.7	−1.7	109	26	2.23	−0.22	5.72	T.	0	7	17	8	6
1904.	64.4	−4.0	102	34	2.49	+0.04	7.65	0.10	0	6	17	8	6
1905.	65.6	−2.8	100	32	3.90	+1.45	6.91	0.68	0	8	17	9	5
1906.	66.9	−1.5	102	34	1.97	−0.48	5.92	0.13	0	11	13	8	10
1907.	65.8	−2.6	103	31	3.14	+0.69	6.00	1.11	0	9	16	11	4
1908.	68.6	+0.2	103	31	2.10	−0.35	5.00	0.33	0	6	19	9	3
1909.	67.1	−1.3	99	34	2.89	+0.44	6.82	0.41	0	8	15	9	7
1910.	70.0	+1.6	114	33	1.60	−0.85	3.70	T.	0	5	18	9	4
1911.	65.1	−3.3	107	23	1.82	−0.63	3.70	0.26	0	6	18	10	3
1912.	66.0	−2.4	106	30	3.54	+1.09	8.87	0.49	0	10	12	13	6
1913.	65.6	−2.8	103	35	2.30	−0.15	4.96	0.89	0	8	17	8	6
1914.	72.1	+3.7	109	36	2.31	−0.14	5.50	0.41	0	6	19	9	3
1915.	62.3	−6.1	97	30	3.01	+0.56	7.55	0.67	0	11	12	11	8
1916.	73.1	+4.7	105	33	3.16	+0.71	10.10	0.24	0	7	19	9	3
1917.	70.9	+2.5	114	27	1.66	−0.79	3.66	0.14	0	7	17	11	3
1918.	65.5	−2.9	102	34	2.71	+0.26	6.08	0.53	0	7	14	10	7
1919.	71.2	+2.8	105	37	1.81	−0.64	6.10	0.11	0	5	18	10	3
1920.	68.3	−0.1	103	31	2.16	−0.29	4.89	0.78	0	7	18	11	2
1921.	71.4	+3.0	110	35	3.07	+0.62	10.00	0.37	0	7	17	10	4
1922.	65.6	−2.8	100	30	2.43	−0.02	6.15	0.60	0	8	16	11	4
1923.	71.2	+2.8	103	35	3.14	+0.69	6.16	0.70	0	8	16	11	4
1924.	65.5	−2.9	99	32	1.95	−0.50	3.97	0.57	0	6	18	9	4
1925.	66.7	−1.7	106	29	1.34	−1.11	4.35	0.33	0	6	18	9	4
1926.	70.3	+1.9	108	32	2.00	−0.45	5.10	0.31	0	7	18	8	5
1927.	65.4	−3.0	97	28	2.85	+0.40	6.99	0.70	0	9	15	10	6
1928.	67.4	−1.0	96	38	5.05	+2.60	12.22	1.77	0	10	16	10	5
1929.	70.6	+2.2	109	34	1.27	−1.18	3.62	0.00	0	5	21	8	2
1930.	72.3	+3.9	107	34	1.04	−1.41	4.37	0.02	0	5	21	8	2
1931.	70.6	+2.2	111	37	3.03	+0.58	5.36	0.18	0	8	17	8	6
1932.	70.0	+1.6	108	36	2.01	−0.44	5.95	0.68	0	7	19	8	4
1933.	71.9	+3.5	109	36	2.00	−0.45	4.95	0.39	0	7	19	9	3
1934.	71.8	+3.4	112	29	1.22	−1.23	3.33	0.02	0	6	18	10	3
Per..	68.4	....	114	23	2.45	....	12.22	0.00	0	7	17	9	5

Climatological Data for July 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	8	...	...	...	...	...	...	...	0.02	...	0.02	0	1	...	...	...	...	H. A. Bury.
Amenia	Cass	954	38	72.9	+4.2	106	22	42	6†	52	0.50	−2.39	0.35	0	2	1	30	0	s.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	71.6	+2.3	105	17†	32	6	46	1.52	−0.24	0.57	0	7	27	2	2	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	74.0	+5.3	110	22	40	6	50	1.21	−1.62	0.54	0	5	23	7	1	se.	H. D. Piper.
Beach	Golden Valley	2,759	28	72.7	+4.2	101	17	32	6	46	0.77	−1.05	0.36	0	6	18	8	5	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	72.9	+3.7	106	18	34	6	44	0.48	−1.69	0.17	0	5	19	9	3	e.	C. L. Hall.
Bismarck	Burleigh	1,674	59	74.2	+4.4	106	18	43	6	41	0.98	−1.26	0.62	0	7	11	17	3	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	71.9	+5.3	102	18	33	6	41	0.58	−1.72	0.15	0	6	23	6	2	nw.	N. D. School of Forestry.
Bowman	Bowman	2.872	20	73.2	+3.8	103	18	38	6	42	0.74	−1.63	0.30	0	6	26	4	1	se.	George Larsen.
Cando	Towner	1,488	33	69.6	+2.8	100	18†	38	6	44	1.07	−1.45	0.55	0	4	5	20	6	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	70.6	+1.9	105	18	39	5	45	0.99	−1.55	0.45	0	8	25	5	1	se.	L. A. Swanson.
Carson	Grant	2,500	22	74.1	+5.3	109	18	35	6	42	0.70	−1.24	0.31	0	5	17	14	0	se.	J. W. Evens.
Cavalier	Pembina	894	24	...	...	...	...	...	...	...	3.33	+0.60	2.15	0	7	24	6	1	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	...	...	...	...	...	...	...	1.05	−1.50	0.50	0	7	23	5	3	ne	Theo. Marquardt.
Corinth	Williams	2,180	6	...	...	...	...	...	...	...	0.43	...	0.18	0	5	3	23	5	w.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	...	...	...	...	...	...	...	0.97	...	0.66	0	3	22	8	1	se.	Geo. E. Berg.
Crosby	Divide	1,954	27	68.8	+2.0	100	17	33	6	56	1.01	−1.14	0.37	0	5	16	11	4	w.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	70.5	+3.1	105	18	41	6	38	1.58	−0.99	1.11	0	8	13	14	4	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	71.9	+3.7	105	17†	33	6	47	0.75	−1.50	0.38	0	5	11	18	2	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	71.0	...	101	18	39	6	45	1.87	...	0.65	0	8	21	9	1	nw.	R. L. Williams.
Drake	McHenry	1.634	5	70.4	...	105	18	38	6	42	1.61	...	0.88	0	8	17	6	8	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	71.2	+3.2	103	17†	34	6	44	0.48	−1.70	0.30	0	4	21	5	5	se.	W. F. Moede.
Dunseith	Rolette	1,682	38	70.3	+4.4	102	18	36	6	45	0.97	−1.47	0.32	0	10	8	16	7	n.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	70 6	+3.8	104	18	32	6	50	0.57	−1.70	0.11	0	10	17	13	1	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	74.5	+5.7	112	22	41	6	51	0.60	−2.14	0.27	0	6	9	21	1	se.	O. A. Thompson.
Edmore	Ramsey	1,524	10	66.4	...	101	18	37	6	43	1.71	−0.87	0.77	0	9	22	7	2	e.	E. D. Warner.
Ellendale	Dickey	1,457	39	73.1	+2.4	110	22	45	6	47	0.89	−2.26	0.34	0	6	22	7	2	n.	J. E. Demmer.
Energy‡‡	McLean	1,750	22	72.6	...	105	18	36	6	48	1.32	−0.94	0.65	0	6	13	16	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. O. Wang.
Fairfield	Billings	...	5	...	...	...	...	...	...	...	0.65	...	0.44	0	3	23	5	3	se.	F. R. Hecker.
Fessenden	Wells	1,610	22	71.0	+3.0	108	18	39	6	50	1.83	−0.29	0.88	0	8	21	8	2	se.	T. D. Monsen.
Forman	Sargent	1,249	41	...	...	...	...	...	...	...	1.78	−1.17	0.43	0	6	27	3	1	nw.	Helge Dystc.
Fort Yates	Sioux	1,670	34	76.4	+4.7	112	20	48	6	45	2.15	−0.27	0.92	0	7	16	11	4	e.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	70.0	...	103	17	35	6	44	0.43	−1.80	0.19	0	4	15	12	4	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	...	...	...	...	...	...	...	0.82	−1.18	0.42	0	6	24	5	2	nw.	Verne King.
Fullerton	Dickey	1,439	36	73.6	+4.6	112	22	42	6	51	1.49	−1.70	0.66	0	6	23	7	1	nw.	F. O. Alin.
Gackle	Logan	1,951	4	72.6	...	106	22	42	6	46	1.28	...	0.36	0	8	23	7	1	se.	A. H. Haut.
Garrison	McLean	1,901	57	72.7	+4.5	103	18	36	6	50	1.04	−1.16	0.55	0	3	17	8	6	se.	W. F. Robinson.
Grafton	Walsh	827	42	71.4	+3.7	105	18	42	7	50	1.64	−0.85	1.03	0	6	23	5	3	n.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	43	71.1	+3.6	105	18	42	6	39	0.93	−1.80	0.49	0	9	7	20	4	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	70.0	+2.5	102	17	37	6	46	2.46	+0.36	0.85	0	7	12	17	2	nw.	W. A. Christianson.
Hankinson	Richland	1,068	5	74.0	...	110	22	43	7	50	2.02	...	0.80	0	7	19	12	0	se.	R. G. Stock.
Hannah	Cavalier	1,568	42	69.8	...	104	18	34	6	51	1.14	−1.29	0.38	0	5	7	21	3	nw.	James Muir.
Hansboro	Towner	1,597	26	68.4	+3.2	105	18	35	27	50	1.53	−0.91	0.65	0	6	24	5	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	74.4	+4.3	105	18	38	6	40	1.62	−0.93	0.94	0	6	17	13	1	se.	C. H. Plath.
Hillsboro	Traill	901	28	72.1	+2.5	103	18	44	6	48	1.66	−0.77	0.85	0	6	19	10	2	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	27	68.2	+2.2	97	10†	31	6	45	0.59	−1.19	0.25	0	4	11	16	4	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	42	72.0	+3.5	106	18†	42	6†	45	1.34	−1.38	0.80	0	6	11	18	2	e.	S. Calvelage.
Kenmare	Ward	1,799	3	70.7	...	102	19	35	6	45	0.46	...	0.16	0	5	19	9	3	nw.	R. Costello.
Langdon	Cavalier	1,615	38	69.6	+5.0	109	18	35	6	55	1.52	−0.95	0.75	0	4	25	5	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	71.2	+4.2	105	18	43	6	41	1.54	−1.69	0.85	0	5	23	3	5	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	74.8	+3.5	110	18†	39	6	50	1.72	−0.34	0.48	0	12	15	14	2	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	30	73.0	+3.7	110	23	43	7	42	1.33	−1.97	0.48	0	8	11	18	2	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	16	70.4	...	106	18	37	6	44	1.56	−0.76	0.68	0	6	24	5	2	se.	Edw. Tapley.
McLeod	Ransom	1,075	23	71.4	+1.2	98	18†	43	28	51	2.86	−0.07	0.94	0	7	21	8	2	ne.	J. G. Carlson.
Maddock	Benson	1,604	19	70.7	+3.1	106	18	38	6	51	1.98	−0.42	1.58	0	8	8	19	4	se.	A. T. Felland.
Mandan	Morton	1,750	20	74.2	+3.6	107	18	42	6	46	1.10	−1.55	0.52	0	7	17	1	13	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	...	...	...	...	...	...	...	1.69	−0.45	0.96	0	8	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	25	73.6	+4.2	103	18	39	6	43	1.33	−0.51	0.60	0	5	14	13	4	se.	S. P. Grane.
Mary	McKenzie	...	5	...	...	...	...	...	...	...	0.68	...	0.27	0	4	26	1	4	sw.	Fred Hartman.
Max	McLean	2,093	5	70.5	...	104	17	33	6	49	1.09	...	0.33	0	7	18	7	6	...	A. W. Rice.
Mayville	Traill	975	38	74.2	+2.7	105	22†	43	6	46	0.88	−1.91	0.55	0	5	15	12	4	...	H. B. Addicott.
Minot	Ward	1,557	38	70.6^{a}	+2.7	104^{a}	17	35^{a}	6	49^{a}	1.09	−0.78	0.36	0	6	5	26	0	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	40	72.2	+5.9	103	17†	41	7	46	0.83	−1.40	0.33	0	7	13	16	2	nw.	John Behan.
Mott	Hettinger	2,424	27	74.8	+4.5	105	18	38	6	43	0.39	−2.20	0.24	0	6	11	12	8	ne.	W. M. Hendricks.
Napoleon	Logan	1,955	42	72.4	+3.8	108	18	39	6	48	2.65	+0.15	0.95	0	11	22	8	1	sw.	C. J. Hoof.
New England	Hettinger	2.400	40	75.8	+7.0	...	...	...	...	...	0.57	−1.38	...	...	...	...	...	...	...	F. S. Sleight.
New Salem	Morton	2.163	30	75.5	+5.6	111	18	38	6	45	0.45	−1.58	0.30	0	4	25	5	1	ne.	J. Christiansen.
Oakes	Dickey	1,318	5	75.2	...	111	22	43	28	50	2.50	...	0.65	0	11	10	19	2	se.	Eugene Naylor.
Park River	Walsh	998	30	69.0	+1.1	102	18	41	6	42	2.14	−0.37	0.62	0	8	8	16	7	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	70.1	...	103	17†	31	6	53	0.11	−1.70	0.08	0	3	13	17	1	se.	C. E. Shubert.
Petersburg	Nelson	1,520	4	...	...	...	...	...	...	...	1.02	...	0.44	0	10	18	11	2	s.	T. M. Rykken.
Pettibone	Kidder	1,856	25	72.4	+4.4	108	18	38	6	49	1.68	−1.02	0.65	0	9	28	2	1	...	H. H. McCumber.
Portal	Burke	1,954	29	69.5	+3.3	100	17	30	6	52	0.53	−1.37	0.22	0	6	24	3	4	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	29	68.2	...	104	16	29	6	45	0.21	−2.01	0.11	0	2	20	11	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	18	71.8	+1.7	104	18	34	6	39	1.10	−0.94	0.52	0	6	13	14	4	se.	John Muggli.
Rugby (near)	Pierce	1,562	5	...	...	...	...	...	...	...	0.90	...	0.45	0	8	8	17	6	ne.	W. B. Paterson.
Ryder	Ward	2,108	5	...	...	...	...	...	...	...	0.87	...	0.59	0	4	...	...	...	...	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	70.6	...	105	18†	34	6	46	0.72	...	0.25	0	5	...	...	...	...	H. J. Bugge.
Sharon	Steele	1,516	10	70.8	...	104	18	41	6	47	1.12	−0.91	0.43	0	6	14	13	4	e.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	...	...	...	...	...	...	...	1.52	−0.77	0.52	0	8	18	10	3	nw.	H. J. Giffey.
Steele	Kidder	1,857	40	75.2	+5.8	110	18	47	28	53	1.26	−1.64	0.35	0	6	22	7	2	sw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	...	...	...	...	...	...	...	1.05	−0.68	0.45	0	4	24	6	1	...	Thos. D. Alkire.
Tagus	Mountrail	2,179	5	...	...	...	...	...	...	...	1.28	...	0.54	0	7	23	5	3	nw.	G. N. Pilgard.
Tioga	Williams	2,279	5	...	...	...	...	...	...	...	1.01	...	0.40	0	9	19	11	1	nw.	Anton Carlson.
Towner	McHenry	1,482	32	70.8	+2.8	101	18	36	6	50	1.14	−1.12	0.49	0	7	22	8	1	w.	Karl Weber.
Trotters	Golden Valley	...	8	...	...	...	...	...	...	...	1.13	...	0.57	0	6	21	6	4	...	A. J. Nellermoe.
Turtle Lake	McLean	1,899	20	...	...	...	...	...	...	...	2.13	−0.77	0.99	0	5	...	...	...	...	M. A. Slettum.
Valley City	Barnes	1,245	28	73.4	+4.7	110	22	41	7	50	1.11	−1.68	0.63	0	7	25	5	1	nw.	I. C. Robertson.
Velva	McHenry	1,511	7	71.1	...	100	17	38	6	46	2.06	...	0.76	0	7	13	14	4	se.	Oscar Anderson.
Wahpeton	Richland	962	42	74.0	+4.2	107	22	42	30	47	2.38	−1.08	1.11	0	9	22	0	9	se.	C. G. Luick.
Washburn	McLean	1,731	33	71.6	+2.1	100	18	40	6	38	1.93	−0.45	0.97	0	4	22	5	4	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	69.9	+3.1	103	18	33	6	46	0.39	−1.84	0.08	0	8	13	16	2	ne.	D. W. Drake.
Williston	Williams	1,878	55	72.2	+3.3	99	17	37	6	37	0.83	−1.06	0.30	0	8	14	15	2	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	69.2	+3.5	102	18	36	6	50	1.12	−0.97	0.31	0	7	22	7	2	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	5	73.2^{c}	+4.6	106^{c}	18†	41^{f}	6	43^{f}	2.50	−0.12	0.70	0	12	7	11	13	se.	E W. Davis.
Zap	Mercer	1,838	19	...	...	...	...	...	...	...	0.88	−1.08	0.25	0	5	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	53	72.5	+4.4	106	22	46	7	42	0.80	−2.63	0.24	0	9	12	14	5	s.	U. S. Weather Bureau.
Averages	...	...	...	71.8	+3.4	112	20†	29	6	56	1.22	−1.20	2.15	0.0	6	18	10	3	se.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for July 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																							T.	.02								0.02
Amenia	Red				.15		.35						T.											T.									0.50
Arnegard (near)	Missouri		.02			.24			.23				.15								T.		.22		.57		.09						1.52
Ashley	Missouri			.11	.54	.20				T.				.30		.06																	1.21
Beach	Lit. Missouri					.13					.15											.05		.06	.36		.02						0.77
Berthold Agency	Missouri					.17							.13								.10				.05	.03							0.48
Bismarck ***	Missouri	T.		.04	.15	.62				.08		T.	T.			.01			.02		T.		T.			T.	.06						0.98
Bottineau	Mouse	.08			.12	.13								.15			T.		T.		.09				.01		T.						0.58
Bowman	Grand				.30	.02		T.		.15			.20					T.								.02	.05						0.74
Cando	Devils Lake				.55	.36	.12										.04			T.	T.				T.				T.	T.			1.07
Carrington‖	James	.04		.23	T.	.45				T.	.02		.14						.03	.04	T.				.04								0.99
Carson	Heart				.25	.10				.31									.02				.02										0.70
Cavalier	Red	2.15			.32	.19	.18													.23								.03	.23				3.33
Cooperstown	Sheyenne	.02			.50		.27				T.		.09	.04						T.	T.					.03				.10			1.05
Corinth	Missouri			.18						T.			T.									.02			.15		.02	.06					0.43
Courtenay	James				.66	.29				T.			.02													T.	T.						0.97
Crosby	Mouse											.15					.28						.19		.37		.02						1.01
Devils Lake ***	Devils Lake	.01		T.	.35	1.11			T.	T.		T.	.01			T.	.01		.03		.05		T.		T.	.01	T.		T.			T.	1.58
Dickinson‖	Heart				.38		.17			.12				T.			T.						.04			.04	T.	T.					0.75
Dogden Butte	Mouse				.65	.65	.03			T.		T.	.03	.10							.08				.28	.05							1.87
Drake‖	Mouse				.32		.88					.01		.07					.08		.04					.19		.02					1.61
Dunn Center	Knife						.30							.04				.02										.12					0.48
Dunseith	Mouse	.20			.05	.32	.02		.01				.12				.01		.02		.10								.12				0.97
Eckman	Mouse	.03			.08	.11			.09				.01				.06				.03		.02		.11			.03					0.57
Edgeley	James				.27	.10				.04				.15						.03	.01												0.60
Edmore	Devils Lake	.10			.30	.77				.04		T.				T.	T.		.23		.10	.02			T.	.01	T.		.14			T.	1.71
Ellendale	James	.02		.11	.34	.05	.09		T.	T.			T.	.28		T.													T.				0.89
Energy	Missouri			.20		.65							.10								.17					.15	.05						1.32
Epping	Missouri																																......
Fairfield	Knife					.15					.06														.44								0.65
Fessenden‖	James				.52		.88			.02		.05		.25						.03	.05					.03							1.83
Forman	Sheyenne	T.			.43	.21			T.	.22		.43	T.	.38		T.												.11					1.78
Fort Yates	Missouri			.10	.50	.12				.08			.03											.92		.40							2.15
Foxholm (near)	Mouse				.19	T.						T.	T.			T.			.03		.17				.04	T.							0.43
Fryburg	Heart	.13	.42						.03		T.		.01				.04								T.	.19	T.						0.82
Fullerton	James	T.		.03	.66	.19		T.	.05	.17		T.		.39		T.			T.		T.				T.				T.				1.49
Gaekle	James	.05			.36	.25							.11			.05		.15		.06				.25									1.28
Garrison	Missouri				T.	.55							.36								.13				T.	T.							1.04
Grafton	Red	.01			.25	T														1.03	.05								.20	.10			1.64
Grand Forks ***	Red	T.			.49	.32			T.	T.		.02							.01		.02	.02	.03			.01			.01				0.93
Granville	Mouse	T.			.74	.56			T.			T.	.04			T.		T.	.85		.22				T.	.03		.02			T.		2.46
Hankinson	Red			.15		.23				.80		.31		.08		.08									.37								2.02
Hannah	Pembina				.28	.16			T.										.15		.17				T.			T.	.38			T.	1.14
Hansboro	Devils Lake	.05			.28	.37													.08		.10								.65				1.53
Hettinger	Grand				.94					.23			.14						.23		T.	T.	.01			.07							1.62
Hillsboro	Red				.85	.08	.09					.08												.08		T.				.48			1.66
Howard (near)	Missouri					T.							.01			T.					T.	T.	.15	T.	.25	.18			T.				0.59
Jamestown	James				.80	.27				.02	.02		.02	T.	.21				T.					T.									1.34
Kenmare	Mouse						.10		.09								.02				T.				.16	.09		T.	T.				0.46
Langdon	Pembina		.12			.30										T.				.75						T.				.35			1.52
Larimore	Red				.85	.25	.29			T.		T.								.06	T.								T.	.09			1.54
Linton	Missouri			.24	.27	.14	.02			.04			.04	.48		.01			.04		.04			.36			.04						1.72
Lisbon	Sheyenne		.08		.23		.21				.10				.48		.01			.17				.05									1.33
McClusky	Missouri	.08		.08	.60	.68				T.									T.		.08				.04				T.				1.56
McLeod	Sheyenne	.05			.13		.25				.76			.94	.72	T.	T.			.01													2.86
Maddock	Sheyenne	.02			.18	1.58	.02			T.		.01		.03		T.				T.	.08				T.	.06							1.98
Mandan‖	Missouri			.18	.13	.52			.05		T.				.08				.06							.08	T.						1.10
Manfred	James	.02			.39	.96				.03		.01		.22						.03						.03							1.69
Marmarth	Lit. Missouri			T.	.60	.18				.25	.10							T.							T.		.20						1.33
Mary	Lit. Missouri					.07							.19									T.			.27		.15						0.68
Max‖	Missouri				.06		.30		.04			.04		.33					.21		.11												1.09
Mayville	Red				.55	.04	.16			T.																.02				.11			0.88
Minot	Mouse				.29	T.	.36	T.				.11		.04			.03				.26					T.							1.09
Mohall	Mouse	T.			.05	.06						.01	T.			T.	.30				.05		T.		.33		.03		T.				0.83
Mott	Cannon Ball	.01		T.	.24	.02				.07		T.							.02		T.	T.	T.		T.		.03						0.39
Napoleon‖	Missouri	.03			.35	.02	.42			.01	.15					.05				.33	.02			.95		.32							2.65
New England	Cannon Ball																																......
New Salem	Heart			T.	.12	.30				.02									T.							.01	T.						0.45
Oakes	James	.03			.65	.07	.20		.02	.60		.29		.27		.02				T.				.14						.21			2.50
Park River	Red	.01			.41	.47	.17					T.						T.	.62	.06									.32	.08			2.14
Parshall	Missouri						.08																		T.	.02	.01						0.11
Pembina ***	Red																																......
Petersburg	Red				.22	.44	.12			T.		.01							.02	.12	.01	.05				.01			.02				1.02
Pettibone	James	.15		T.	.40	.65	.06			.23		T.		.08					.03							T.	.04	.04					1.68
Portal‖	Mouse								.04			.06					.03				.07		.22		.11								0.53
Powers Lake	Missouri			.11				.10																									0.21
Richardton	Heart			.52		.32			.17										.03				.05			T.	.01						1.10
Rugby [near]	Mouse				.22	.45							.02				.03		.01	T.	.09				.06	.02							0.90
Ryder	Missouri			.05		.59	T.				T.		.11				.12																0.87
Sanish‖	Missouri						.08					.14											.22	.25	.03								0.72
Sharon	Red	T.			.43	.26	T.			T.		.16		.02						T.	T.			T.		.04			.21			T.	1.12
Stanton	Missouri	.10		.10	.07	.46			.03				.52	.10													.14						1.52
Steele	Missouri	.09			.35	.33				.15		T.	.30						.04														1.26
Stowers	Cannon Ball				.45	.39						T.							.09				.12			T.	T.						1.05
Tagus	Mouse				.54	.02			.08				.03			T.			T.		.26		T.	.33	.02								1.28
Tioga	Missouri			.16		.04		.40			.06		.08							.05				.12		.06	.04						1.01
Towner	Mouse				.49	.48	T.					T.		.02		.02			.04				.05		.04	T.							1.14
Trotters	Lit. Missouri					.10		.16					.23												.57	.05	.02						1.13
Turtle Lake	Missouri			.17	.46	.99			T.			T.	.21						T.		.30												2.13
Valley City	Sheyenne	.02			.63	.24	.01			.05		.06			.10						T.			T.		T.				T.			1.11
Velva	Mouse			T.	.76	.56			T.			.04	.05			T.		.57			.04		T.		T.	.04							2.06
Wahpeton	Red		.35		.16	.05	.25			1.11			.05		.14											.07		.20					2.38
Washburn	Missouri	.09			.24		.97		T.					.63													T.						1.93
Westhope	Mouse				.06	.07			.03				.05				.02				.08				.07			.01					0.39
Williston ***	Missouri			T.		.03		.20		T.	T.		T.			.02					.05	T.	.05		.30	.01	.17		T.				0.83
Willow City	Mouse	.07			.31	.18							.21			T.	.04		.29	T.	.02					T.			T.				1.12
Wishek‖	Missouri			.10	.70		.12			.10	.14			.15	.14		.02			.11				.37		.52	.03						2.50
Zap	Knife			.20		.25							.20												.11	.12							0.88
Moorhead, Minn ***	Red	.01			.07	.20	.01		T.	.03		.24	T.	.12		T.			T.		T.		T.	.10			T.		.02				0.80

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	90	84	83	74	72	78	84	94	96	94	96	96	95	97	92	95	96	103	95	89	95	106	97	95	85	90	89	90	85	84	89	90.6
	Minimum	49	50	50	55	56	42	42	50	55	57	54	52	54	62	60	55	60	64	64	64	55	54	64	63	61	58	60	55	50	44	49	55.2
Arnegard (near)	Maximum	90	82	82	79	68	76	90	86	93	96	85	91	90	82	90	94	105	105	101	95	96	86	97	80	77	81	86	94	84	98	92	88.7
	Minimum	50	48	52	47	48	32	50	57	54	62	53	50	48	47	52	55	69	62	61	64	56	75	60	58	55	57	54	57	41	52	65	54.5
Ashley	Maximum	99	95	84	80	78	70	82	93	88	94	95	85	96	85	74	90	102	105	100	108	106	110	103	93	85	85	85	96	89	87	83	91.1
	Minimum	57	50	55	60	52	40	41	61	60	51	63	58	57	59	54	59	60	66	62	62	62	61	69	64	61	58	63	46	50	48	58	57.0
Beach	Maximum	89	81	81	79	75	78	92	88	91	95	81	91	90	84	82	92	101	100	95	97	93	91	93	85	70	75	85	93	84	97	90	87.7
	Minimum	57	47	58	49	57	32	55	59	57	65	62	62	50	52	52	59	69	63	60	70	63	68	59	60	57	58	54	59	47	59	70	57.7
Berthold Agency	Maximum	94	84	84	83	76	74	89	90	90	98	90	94	93	83	84	92	103	106	97	90	95	92	96	82	79	79	86	97	80	92	96	89.3
	Minimum	60	46	55	50	39	34	51	66	62	64	64	50	50	48	52	56	66	64	63	65	59	69	63	65	63	60	51	54	46	51	64	56.5
Bismarck	Maximum	92	82	83	80	67	72	85	89	85	93	87	89	93	82	80	90	99	106	94	98	90	95	95	90	83	76	83	97	77	88	92	87.5
	Minimum	64	54	58	61	49	43	52	68	64	62	65	61	61	57	59	59	65	72	66	71	63	69	68	68	60	63	59	56	53	56	63	60.9
Bottineau	Maximum	91	78	81	82	72	70	81	89	88	95	86	91	91	88	80	86	99	102	98	91	92	97	95	93	83	86	81	88	85	82	84	87.3
	Minimum	58	48	51	53	50	33	46	51	64	70	62	50	55	51	53	52	63	93	65	59	64	64	63	54	52	54	59	56	49	54	56	56.5
Bowman	Maximum	91	79	87	79	73	77	94	86	88	93	83	89	91	85	84	93	101	103	95	99	91	96	93	96	80	78	86	95	84	96	89	88.8
	Minimum	58	46	57	54	50	38	53	60	60	58	57	59	53	53	64	58	63	62	65	72	62	68	62	60	58	60	56	56	50	54	63	57.7
Cando	Maximum	89	88	78	78	72	66	77	88	88	90	92	88	90	91	89	90	94	100	100	91	89	92	94	94	83	85	83	83	84	81	81	86.7
	Minimum	51	45	45	58	46	38	42	46	58	54	52	47	51	54	52	46	59	68	58	60	59	56	54	65	51	59	58	47	48	46	50	52.4
Carrington §§	Maximum	91	81	84	78	63	66	92	88	80	93	89	88	92	79	79	86	99	105	91	82	87	100	96	91	83	87	80	94	76	79	86	86.0
	Minimum	50	48	52	54	39	45	51	57	55	64	51	59	51	50	53	59	64	61	64	55	59	68	65	56	61	60	52	49	49	54	60	55.3
Carson	Maximum	88	90	86	86	68	75	70	90	89	90	88	90	95	88	80	93	104	109	95	106	95	99	99	95	85	80	89	98	85	90	96	90.0
	Minimum	52	50	48	48	52	35	48	57	60	63	66	64	58	52	60	68	64	67	68	68	67	66	64	74	56	60	55	59	45	55	56	58.2
Crosby §§	Maximum	87	77	88	73	68	75	90	85	91	99	78	92	87	75	82	94	100	95	98	91	89	80	84	69	80	80	87	88	83	93	90	85.4
	Minimum	51	49	49	53	47	33	34	56	51	52	60	49	54	48	51	54	56	61	59	59	56	56	60	60	47	48	56	57	43	56	57	52.3
Devils Lake	Maximum	90	79	82	74	68	66	79	88	81	92	88	89	93	77	69	86	97	105	92	86	89	96	95	87	82	88	77	90	75	82	83	84.7
	Minimum	55	50	47	55	46	41	47	63	60	57	57	51	61	55	49	52	62	70	63	64	60	63	68	63	57	63	56	52	54	49	55	56.3
Dickinson §§	Maximum	90	80	83	79	69	72	90	87	88	94	84	92	93	83	80	91	105	105	96	97	95	98	94	82	79	74	87	97	81	95	93	88.2
	Minimum	55	46	54	52	55	33	43	56	60	58	62	61	46	54	60	59	59	63	62	65	59	62	59	67	56	57	49	56	42	52	61	55.6
Drake §§	Maximum	91	79	85	75	62	67	82	86	82	94	84	91	91	78	81	88	98	105	93	88	91	92	95	83	81	83	81	94	76	82	89	85.4
	Minimum	55	49	47	57	51	38	43	56	60	58	63	50	59	53	51	52	59	64	62	62	59	66	63	64	57	59	58	52	49	48	58	55.5
Dunn Center §§	Maximum	90	81	81	79	67	71	89	86	88	94	82	90	91	81	82	91	103	103	95	91	94	92	92	85	76	77	85	91	79	91	93	86.8
	Minimum	61	45	52	50	57	34	45	55	61	62	65	54	48	50	54	56	60	64	64	65	59	65	60	62	55	60	54	54	45	52	60	55.7
Dunseith	Maximum	89	85	80	81	73	69	79	87	87	95	94	92	90	87	74	86	98	102	101	91	89	89	94	94	83	85	80	82	78	82	81	86.4
	Minimum	54	46	48	55	46	36	42	59	54	59	63	47	56	54	49	52	59	69	61	58	58	63	61	62	50	57	56	51	50	50	54	54.2
Edgeley	Maximum	99	95	87	93	89	69	85	95	94	92	98	90	95	91	89	85	101	105	101	101	96	112	108	97	92	90	86	95	91	85	87	93.3
	Minimum	52	51	50	50	50	41	50	60	57	52	63	56	57	59	50	55	55	69	60	63	63	61	71	63	59	57	63	44	49	46	50	55.7
Ellendale	Maximum	96	80	84	79	71	70	83	94	83	90	96	80	97	81	73	82	98	102	90	102	90	110	93	90	79	81	83	90	73	83	88	86.8
	Minimum	58	53	55	62	54	45	46	64	63	55	62	60	58	63	54	60	61	60	68	69	66	63	75	68	64	60	67	49	54	51	55	59.4
Fessenden §§	Maximum	93	82	87	76	63	64	82	88	82	95	82	90	92	80	82	90	100	108	94	85	92	100	97	89	84	88	81	96	89	77	90	87.0
	Minimum	53	50	51	44	52	39	42	62	59	56	64	52	56	52	48	56	60	65	62	61	60	62	66	65	59	62	59	46	49	52	45	55.1
Foxholm (near)	Maximum	91	78	85	77	69	70	86	87	88	96	89	91	90	81	73	89	103	100	94	89	94	84	93	88	80	82	79	94	76	87	93	86.3
	Minimum	50	49	46	51	47	35	47	56	51	65	66	47	57	52	50	53	61	64	55	59	53	64	58	60	49	58	57	55	44	50	57	53.7
Fullerton	Maximum	99	86	88	78	70	71	84	94	83	91	96	86	97	85	76	86	100	104	100	101	97	112	95	92	85	86	85	95	79	85	89	89.5
	Minimum	55	53	54	60	53	42	44	62	62	53	62	59	60	58	53	60	61	70	59	65	65	62	77	66	61	58	60	44	52	49	54	57.8
Garrison	Maximum	92	81	80	90	84	73	86	90	88	95	88	90	91	80	73	89	102	103	98	89	94	93	95	87	84	80	82	95	78	89	95	88.2
	Minimum	58	47	45	40	50	36	68	65	62	60	65	51	55	52	54	58	70	64	65	64	61	66	62	68	59	57	55	52	54	49	61	57.2
Grafton	Maximum	88	88	87	79	75	69	88	91	89	93	93	90	95	95	93	94	96	105	104	87	87	90	93	93	83	89	84	76	79	81	81	88.2
	Minimum	52	54	46	59	43	44	42	60	61	51	58	47	56	59	43	48	58	70	59	55	61	59	68	62	61	63	60	45	55	45	50	54.6
Grand Forks	Maximum	90	82	81	78	74	69	78	92	77	91	93	88	97	81	72	85	95	105	91	85	89	97	93	91	82	91	78	85	78	80	83	85.5
	Minimum	57	53	48	59	51	42	45	63	60	54	62	50	63	54	47	53	61	71	66	64	64	64	67	65	61	62	56	46	55	44	50	56.7
Granville	Maximum	93	80	85	75	65	72	83	82	85	94	82	94	94	78	74	90	102	98	90	85	92	88	92	76	82	84	80	95	77	83	90	85.2
	Minimum	55	48	46	55	49	37	45	62	56	59	58	48	59	47	50	55	64	64	58	62	59	65	60	64	50	59	56	53	46	50	58	54.7
Hansboro	Maximum	90	76	78	70	60	70	75	90	92	99	89	94	95	78	80	90	100	105	95	78	90	92	96	84	88	91	80	80	78	82	83	85.4
	Minimum	55	48	48	44	44	38	48	60	63	52	60	44	53	50	40	49	56	60	56	55	53	64	60	64	43	57	35	49	52	46	48	51.4
Hettinger	Maximum	90	78	87	82	76	75	90	88	88	91	85	87	93	89	84	93	103	105	96	101	85	97	95	90	82	79	87	97	89	94	94	89.3
	Minimum	58	49	60	56	57	38	54	61	58	61	60	57	55	51	63	61	66	65	60	71	62	66	65	66	57	62	53	60	49	79	61	59.4
Hillsboro	Maximum	80	90	83	82	77	68	80	91	80	92	90	87	94	88	79	80	95	103	102	89	89	101	100	92	86	91	86	90	87	81	84	87.6
	Minimum	54	53	50	60	52	44	46	57	56	54	60	53	60	56	55	55	47	73	65	60	62	62	69	61	61	61	64	47	54	46	59	56.6
Howard (near)	Maximum	84	78	87	74	64	73	90	84	93	97	78	90	86	76	88	92	97	95	97	92	85	82	89	75	74	75	82	87	92	89	78	84.6
	Minimum	47	41	45	46	46	31	49	45	50	68	55	45	50	43	52	55	66	62	58	57	58	58	58	58	45	52	55	55	50	61	44	51.9
Jamestown §§	Maximum	90	82	88	75	65	68	83	92	83	93	92	92	94	83	79	87	102	106	93	89	91	106	96	95	84	88	82	87	78	82	85	87.4
	Minimum	54	55	52	60	55	42	44	55	58	52	62	55	57	53	52	55	61	67	63	67	62	61	64	64	61	61	64	42	52	48	55	56.5
Kenmare	Maximum	89	75	77	84	75	70	74	85	86	90	95	80	85	91	78	72	90	101	102	94	92	84	96	91	80	81	82	86	95	91	87	85.7
	Minimum	54	51	52	52	49	35	52	59	52	66	64	51	54	52	54	55	63	63	60	64	59	58	55	62	49	59	58	62	58	46	59	55.7
Langdon §§	Maximum	90	78	82	76	72	72	80	94	84	95	95	100	100	90	88	100	101	109	90	80	90	86	94	82	85	92	75	71	76	85	82	86.9
	Minimum	55	46	44	52	46	35	44	52	48	52	52	45	55	51	45	58	55	71	58	60	57	58	64	62	49	56	55	48	52	45	51	52.3
Larimore	Maximum	92	90	82	78	72	67	77	91	88	90	92	87	96	92	78	86	95	105	101	85	88	98	96	91	83	90	84	86	78	82	83	87.2
	Minimum	54	52	49	60	48	43	45	63	60	54	63	50	56	57	46	50	58	70	62	54	61	59	68	62	61	62	62	45	44	46	47	55.2
Linton	Maximum	97	86	86	81	74	74	85	93	88	96	95	90	95	86	83	90	100	110	99	110	98	101	99	91	84	82	88	99	87	86	95	91.3
	Minimum	47	53	56	58	59	39	49	62	58	57	69	63	61	56	58	59	64	68	58	67	63	65	67	61	63	59	57	53	47	53	62	58.4
Lisbon §§	Maximum	84	95	84	86	80	66	71	83	96	83	94	85	96	84	76	83	98	102	94	91	94	110	96	93	83	84	88	89	79	81	88	87.6
	Minimum	52	53	55	59	53	44	43	55	62	50	61	61	60	61	52	60	63	66	66	67	67	62	74	66	65	60	66	44	56	49	56	58.3
McClusky	Maximum	92	88	84	77	69	68	82	86	81	89	83	89	90	83	89	82	97	106	94	84	94	97	93	85	82	82	81	94	82	88	90	86.7
	Minimum	55	47	50	54	52	37	44	60	59	56	61	50	54	48	52	52	62	65	57	59	51	63	62	62	54	60	55	50	45	48	56	54.2
Maddock	Maximum	91	90	84	80	70	66	78	86	85	91	86	89	93	91	79	87	97	99	106	105	90	91	96	97	95	87	78	88	95	87	81	88.3
	Minimum	49	47	42	52	49	38	43	63	58	50	61	49	49	55	50	45	50	54	65	62	60	59	62	64	61	55	59	54	44	43	55	53.1
Marmarth	Maximum	92	80	88	80	75	77	93	89	85	90	82	85	85	86	75	93	100	103	94	97	93	94	93	85	85	79	87	97	87	97	90	89.3
	Minimum	57	49	59	53	55	39	55	55	59	66	62	60	60	59	55	65	60	68	60	67	65	74	60	62	59	59	50	56	51	59	68	58.9
Minot §§	Maximum	92	....	84	74	65	72	84	87	86	85	81	91	92	78	75	90	104	101	93	86	93	85	96	74	85	85	81	95	76	88	92	[a]86.1
	Minimum	55	52	....	49	46	35	49	59	55	60	63	45	65	60	49	52	56	61	68	59	61	59	65	60	59	51	51	56	49	51	60	[b]55.0
Mohall	Maximum	92	79	87	85	74	74	87	89	89	93	88	94	96	92	88	75	89	103	103	101	93	95	93	94	91	86	80	93	84	84	91	89.1
	Minimum	51	51	45	52	47	47	41	62	52	57	65	49	49	55	52	52	54	63	60	60	62	58	68	62	61	51	60	59	59	49	59	55.2
Mott	Maximum	92	86	86	82	81	76	91	90	87	92	92	93	96	86	83	93	104	105	95	98	90	100	95	90	84	77	88	98	85	97	96	90.6
	Minimum	59	49	58	56	53	38	53	62	61	61	67	60	55	58	62	60	65	66	58	70	68	67	60	[illegible]	67	60	53	57	48	54	62	58.9
Napoleon §§	Maximum	94	84	87	80	63	70	83	90	83	95	94	90	95	85	81	90	101	108	95	100	94	106	94	91	81	82	82	94	78	89	92	88.7
	Minimum	57	47	54	61	54	39	44	61	55	54	61	57	55	54	54	55	60	68	60	63	60	61	66	64	60	58	61	46	45	48	58	56.1
New England	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
New Salem	Maximum	95	84	87	81	79	79	90	90	90	97	96	95	97	95	86	95	105	111	99	101	96	98	100	90	86	87	86	100	94	94	95	92.9
	Minimum	59	50	52	56	54	38	45	58	59	57	65	58	56	54	54	56	64	70	64	69	58	64	62	64	51	67	60	58	53	52	63	58.1
Oakes	Maximum	99	92	87	87	79	71	83	97	88	90	97	91	96	86	81	84	97	104	97	99	97	111	108	93	87	90	85	93	87	85	88	91.0
	Minimum	56	54	55	54	67	48	63	65	55	58	67	63	59	61	53	59	60	68	65	67	63	74	71	75	63	56	66	43	51	47	55	59.5
Park River	Maximum	87	80	76	80	77	68	75	90	86	88	92	84	92	90	76	86	95	102	99	85	85	90	90	91	82	87	82	74	80	79	78	84.8
	Minimum	51	49	46	44	51	41	52	51	58	58	58	51	43	51	52	43	47	53	68	61	51	54	58	65	60	55	60	64	55	41	44	53.2
Sharon	Maximum	90	80	81	79	69	66	77	91	78	90	91	86	93	82	76	86	96	104	91	84	87	101	97	91	84	91	81	92	78	81	83	85.7
	Minimum	55	48	49	60	49	41	47	61	60	59	62	52	61	56	47	50	56	73	63	61	58	66	65	58	60	62	60	45	52	51	55	55.8
Steele	Maximum	92	82	88	90	77	70	89	91	81	97	90	93	93	85	82	90	101	110	92	100	90	101	108	93	81	83	89	100	96	90	92	90.9
	Minimum	56	51	60	69	60	60	65	62	63	55	63	55	56	56	54	57	63	66	61	64	60	63	66	73	60	64	61	47	49	50	59	59.5
Towner	Maximum	91	91	85	75	74	69	81	87	87	94	95	95	92	90	78	87	99	101	97	89	92	89	94	95	82	84	79	93	82	80	86	87.5
	Minimum	53	46	47	51	48	36	45	62	56	57	65	45	54	47	52	51	61	66	62	60	59	65	61	49	48	58	51	48	48	48	54	54.1
Valley City	Maximum	93	91	85	86	78	69	83	92	92	93	94	92	95	94	88	83	87	98	105	103	91	91	110	108	96	93	90	85	87	84	88	91.1
	Minimum	49	50	53	51	51	42	41	60	56	58	60	52	57	58	52	54	61	69	61	67	61	60	72	61	60	60	65	42	52	45	52	55.8
Wahpeton	Maximum	91	88	85	84	80	70	82	92	92	84	89	84	89	86	82	85	94	98	99	93	93	107	102	95	90	91	88	89	91	83	89	89.2
	Minimum	54	56	53	65	56	47	47	61	62	60	57	62	60	63	60	51	60	63	71	69	68	69	60	70	60	65	51	61	45	42	57	58.9
Westhope	Maximum	92	80	86	76	66	74	86	89	90	98	91	95	93	81	73	90	102	103	96	90	87	90	93	88	82	88	78	91	79	73	86	86.7
	Minimum	56	48	44	46	50	33	41	63	51	52	65	49	51	52	54	63	54	63	60	58	53	66	59	60	59	51	55	50	48	49	50	53.1
Williston	Maximum	88	78	86	75	67	71	89	84	90	96	80	90	88	78	87	91	99	96	96	92	90	85	89	71	74	77	85	89	80	92	90	85.4
	Minimum	54	50	61	53	45	37	59	62	58	68	63	59	57	53	60	60	73	64	68	66	62	69	62	61	53	59	59	60	51	58	67	59.1
Moorhead, Minn	Maximum	89	81	83	78	69	67	80	93	79	89	88	88	90	83	77	84	94	99	91	85	89	106	94	95	81	88	77	87	75	80	84	85.3
	Minimum	56	58	53	61	52	47	46	65	63	55	60	60	65	59	51	59	63	76	69	66	70	64	72	66	63	61	61	49	55	52	55	59.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 8-28-34—1050]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIII BISMARCK, N. D., AUGUST 1934 No. 8

GENERAL SUMMARY

The month opened with comparatively high temperature and this condition obtained until the 23d, when the heat began to moderate. Maxima of 100° or higher were general at various times during this period. The precipitation, which was decidedly below the normal, was fairly well distributed throughout the month, showers occurring mostly on the 7-8th, 14th, 18th, 23d, and 31st. As a result of these hot dry conditions, pastures, ranges, meadows, and feed crops deteriorated rapidly. Heavy shipments of livestock from the State on account of feed shortage were general.

TEMPERATURE

The mean temperature for the State was 67.4°, or 1.2° above the normal, and 1.1° lower than the mean for August, 1933. The highest mean reported was 72.7° at New Salem, Morton County; the lowest was 63.6° at Edmore, Ramsey County. The highest temperature reported was 108° at New Salem, Morton County on the 17th; the lowest was 25° at Powers Lake, Burke County on the 23d, and at Parshall, Mountrail County on the 25th. The greatest monthly range of temperature was 79° at Berthold Agency, McLean County; the least was 56° at Moorhead, Clay County, Minnesota. The greatest daily range of temperature was 58° at New England, Hettinger County on the 18th.

PRECIPITATION

The average precipitation for the State was 1.15 inches, or 0.89 inch below the normal, and 0.42 inch more than the average for August 1933. The greatest monthly amount reported was 3.06 inches at Ellendale, Dickey County; the least was 0.10 inch at Fryburg, Billings County. The greatest amount recorded in any 24 consecutive hours was 1.96 inches at Cooperstown, Griggs County on the 8th. The average number of days with 0.01 inch or more of precipitation was 5.

MISCELLANEOUS PHENOMENA

AURORAS: Arnegard, 31st; Devils Lake, 10th; Dogden Butte, 21st; Foxholm, 2d, 4th, 13th, 14th, 16th; Gackle, 14th; Grand Forks, 11th, 12th, 18th; Howard, 19th; Mohall, 12th; New Salem, 28th; Petersburg, 4th, 10th, 28th; Pettibone, 4th; Tagus, 2d, 17th; Williston, 22d.

FOG: Ellendale, Moorhead, Tagus, 31st; Oakes, 12th; 31st; Pettibone, 15th; Richardton, 14th.

HAIL: Bismarck, Hettinger, Marmarth, 13th; Dickinson, Westhope, 7th; Foxholm, 14th, 15th; Grand Forks, 18th; Sharon, Steele, 14th.

HALOS, solar: Bismarck, 22d; Devils Lake, 9th, 22d; Moorhead, 5th; Petersburg, 21st; Williston, 18th.

THUNDERSTORMS were reported on all days but the 2d, 3d, 24th, 25th, 26th, and 27th, with the greatest number reported on the 7th, 14th, and 18th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	Percentage of sunshine
Bismarck	29.95	30.33	28	29.56	22	9.0	32	nw.	18	67	34	30	72
Devils Lake	29.98	30.37	28	29.54	16	9.4	30	nw.	1	72	38	40	75
Grand Forks	29.93	30.36	28	29.59	18	......	30	nw.	23	76	....	40	....
Williston	29.95	30.34	27	29.51	4	8.4	34	w.	17	64	33	31	75
Moorhead, Minn	29.96	30.37	28	29.49	18	8.5	24	n.	18	75	42	41	72
Averages & ext's	29.95	30.37	28	29.49	18	8.8	34	w.	17	71	39	36	74

† And other dates.

COMPARATIVE DATA FOR AUGUST

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	67.3	+1.1	105	24	2.39	+0.32	4.14	0.36	0	8	15	10	6
1893.	66.7	+0.5	109	29	1.31	−0.76	3.27	0.10	0	3	20	7	4
1894.	68.8	+2.6	102	30	1.14	−0.93	2.71	0.20	0	4	17	10	4
1895.	64.5	−1.7	104	24	1.57	−0.50	3.65	0.36	0	5	17	11	3
1896.	64.7	−1.5	107	21	1.39	−0.68	4.55	T.	0	5	17	10	4
1897	64.1	−2.1	106	29	1.18	−0.89	3.48	0.16	0	5	15	10	6
1898.	65.4	−0.8	104	24	1.69	−0.38	4.05	T.	0	5	15	11	5
1899.	65.2	−1.0	97	32	2.83	+0.76	7.80	0.24	0	6	15	11	5
1900.	70.4	+4.2	114	33	5.06	+2.99	9.48	2.17	0	10	14	11	6
1901.	66.9	+0.7	100	32	1.77	−0.30	4.75	0.15	0	6	18	8	5
1902.	64.3	−1.9	96	26	2.30	+0.23	5.21	0.36	0	8	16	9	6
1903.	63.7	−2.5	103	35	4.68	+2.61	6.75	2.74	0	10	13	7	11
1904.	63.3	−2.9	102	31	1.67	−0.40	5.37	0.20	0	6	17	7	7
1905.	67.5	+1.3	107	34	2.62	+0.55	6.82	0.74	0	7	17	8	6
1906.	66.3	+0.1	105	31	1.90	−0.17	3.30	0.34	0	7	17	6	8
1907.	64.5	−1.7	104	26	1.89	−0.18	6.59	0.20	0	6	18	9	4
1908.	63.2	−3.0	104	25	2.28	+0.21	4.86	0.54	0	7	17	8	6
1909.	69.8	+3.6	109	27	2.25	+0.18	5.79	T.	0	6	18	9	4
1910.	63.1	−3.1	109	24	1.41	−0.66	3.31	0.34	0	5	14	8	9
1911.	62.2	−4.0	98	23	3.55	+1.48	6.72	1.21	0	8	.12	11	8
1912.	63.4	−2.8	118	32	2.95	+0.88	6.13	1.08	0	10	11	10	10
1913	68.9	+2.7	106	30	2.62	+0.55	5.80	0.61	0	6	16	10	5
1914.	64.2	−2.0	101	26	2.18	+0.11	5.06	0.64	0	7	13	11	7
1915.	64.4	−1.8	100	19	1.18	−0.89	3.53	0.07	0	4	19	8	4
1916.	66.0	−0.2	100	26	2.75	+0.68	5.38	0.67	0	8	16	10	5
1917.	65.2	−1.0	105	25	0.82	−1.25	3.40	0.00	0	4	17	10	4
1918.	66.5	+0.3	102	34	3.35	+1.28	9.30	0.87	0	8	15	11	5
1919.	67.9	+1.7	101	30	1.62	−0.45	5.65	0.04	0	5	18	10	3
1920.	68.8	+2.6	108	28	1.56	−0.51	4.83	0.14	0	5	22	6	3
1921.	67.2	+1.0	108	31	1.99	−0.08	6.64	0.03	0	6	18	10	3
1922.	69.8	+3.6	115	33	1.36	−0.71	4.70	0.14	0	6	18	9	4
1923.	63.0	−3.2	97	28	1.90	−0.17	4.98	0.24	0	8	14	12	5
1924.	63.8	−2.4	102	28	1.65	−0.42	3.96	0.07	0	6	17	9	5
1925.	67.9	+1.7	110	29	1.07	−1.00	3.40	0.05	0	5	20	8	3
1926.	65.6	−0.6	105	36	2.43	+0.36	9.76	0.80	0	7	14	8	9
1927.	63.4	−2.8	96	28	3.23	+1.16	6.60	1.25	0	8	18	8	5
1928.	64.8	−1.4	105	25	3.30	+1.23	9.17	0.20	0	8	17	9	5
1929.	68.5	+2.3	106	26	0.77	−1.30	2.06	T.	0	4	20	9	2
1930.	70.4	+4.2	104	32	1.45	−0.62	5.01	T.	0	6	15	9	7
1931.	67.0	+0.8	105	30	2.09	+0.02	4.95	0.36	0	6	16	9	6
1932.	68.3	+2.1	100	28	1.82	−0.25	4.46	0.35	0	7	16	10	5
1933.	68.5	+2.3	104	31	0.73	−1.34	2.37	0.06	0	5	17	9	5
1934.	67.4	+1.2	108	25	1.15	−0.92	3.06	0.10	0	5	16	11	4
Per..	66.2	....	118	19	2.07	....	9.76	0.00	0	6	16	9	6

Climatological Data for August 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	8	......	......	...	...	...	...	......	0.25	......	0.10	0	5	......	......	......	......	H. A. Bury.
Amenia	Cass	954	38	67.2	+0.7	99	6†	34	24	45	1.53	−1.02	0.70	0	5	1	25	5	s.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	67.9	+0.6	104	3†	30	24	49	0.56	−0.89	0.56	0	1	24	4	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	69.2	+2.7	103	4	32	24†	48	0.94	−1.50	0.54	0	3	22	9	0	se.	H. D. Piper.
Beach	Golden Valley	2,759	28	68.2	+1.8	103	3	37	24	46	0.48	−1.29	0.22	0	4	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	68.2	+0.5	105	17	26	24	55	0.16	−1.57	0.07	0	3	22	8	1	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	69.8	+2.5	102	17	33	24	43	0.50	−1.32	0.34	0	3	14	12	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	66.9	+2.8	102	17	30	24	45	1.87	−0.32	0.72	0	11	21	7	3	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	20	68.4	+0.7	102	3	33	25	44	0.22	−1.14	0.10	0	3	26	3	2	nw.	George Larsen.
Cando	Towner	1,488	33	65.4	+0.5	97	18	32	24	42	1.04	−1.09	0.36	0	7	9	18	4	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	66.0	−0.8	100	16	33	23	41	1.43	−0.69	1.20	0	4	22	7	2	nw.	L. A. Swanson.
Carson	Grant	2,500	22	70.2	+2.3	104	17	29	25	44	0.10	−1.42	0.03	0	4	23	7	1	nw.	J. W. Evens.
Cavalier	Pembina	894	24	66.8	......	98	17	36	22†	42	1.49	−0.77	0.54	0	10	13	14	4	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	......	......	...	...	...	...	......	2.46	+0.20	1.96	0	4	22	1	8	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	......	......	...	...	...	...	......	0.10	......	0.04	0	3	6	20	5	nw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	......	......	...	...	...	...	......	2.14	......	1.85	0	3	18	12	1	se.	Geo. E. Berg.
Crosby	Divide	1,954	27	64.8	+0.2	101	17	25	23	48	0.82	−1.10	0.48	0	5	5	19	7	w.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	66.1	+1.3	100	17	32	24	40	1.00	−1.48	0.51	0	6	11	16	4	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	66.7	+0.4	104	3	30	24	47	0.46	−1.33	0.34	0	2	14	10	7	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	67.4	......	100	17	33	24	43	1.31	......	0.79	0	6	18	9	4	nw.	R. L. Williams.
Drake	McHenry	1,634	5	66.2	......	102	17	32	24	43	0.80	......	0.40	0	7	10	17	4	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	66.4	+0.2	103	17	34	25	45	0.37	−1.04	0.15	0	5	18	11	2	nw.	W. F. Moede.
Dunseith	Rolette	1,682	38	65.7	+1.8	99	17	32	24	45	1.53	−0.85	0.40	0	11	11	7	13	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	66.1	+1.9	101	17	30	24	50	1.60	−0.47	0.55	0	8	12	18	1	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	69.1	+2.2	99	3	32	23	50	2.91	+0.65	1.22	0	5	9	22	0	se.	O. A. Thompson.
Edmore	Ramsey	1,524	10	63.6	......	99	17	30	24†	43	0.76	−1.25	0.47	0	9	12	18	1	nw.	E. D. Warner.
Ellendale	Dickey	1,457	39	68.4	−0.4	98	4	36	24	38	3.06	−0.02	1.56	0	6	18	10	3	nw.	J. E. Demmer.
Energy ‡‡	McLean	1,750	22	68.3	......	105	17	29	25	52	0.32	−1.53	0.13	0	3	9	21	1	nw.	H. S. Solenberger.
Epping	Williams	2,224	26	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	5	......	......	...	...	...	...	......	0.65	......	0.45	0	2	22	5	4	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	66.6	+0.7	103	17	30	27	49	1.22	−0.95	0.83	0	6	18	8	5	se.	T. D. Monsen.
Forman	Sargent	1,249	41	......	......	...	...	...	...	......	1.35	−1.39	0.53	0	5	28	2	1	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	71.0	+1.7	107	4†	31	26	56	0.32	−1.68	0.32	0	1	11	15	5	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	65.5	......	101	17	29	24	43	1.07	−0.67	0.36	0	7	9	14	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	......	......	...	...	...	...	......	0.06	−1.40	0.03	0	2	24	6	1	nw.	Verne King.
Fullerton	Dickey	1,439	36	67.4	+0.3	102	18	33	24	45	1.40	−1.18	0.64	0	6	17	9	5	nw.	F. O. Alin.
Gackle	Logan	1,951	4	67.9	......	96	17	31	24	38	1.88	......	1.02	0	4	21	9	1	nw.	A. H. Haut.
Garrison	McLean	1,901	57	63.8	+2.7	105	17	31	24	43	1.53	−0.49	0.50	0	6	17	11	3	se.	W. F. Robinson.
Grafton	Walsh	827	42	67.8	+2.6	102	17	31	28	43	0.57	−1.90	0.32	0	7	19	8	4	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	43	66.6	+1.2	98	17	36	28	41	1.39	−1.09	0.48	0	11	4	23	4	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	65.7	+0.8	103	17	28	24	46	0.93	−0.92	0.31	0	6	9	20	2	se.	W. A. Christianson.
Hankinson	Richland	1,068	5	69.0	......	102	18	36	24	44	1.66	......	0.67	0	6	22	8	1	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	65.0	......	100	17	29	28	46	1.56	−0.26	0.40	0	9	9	20	2	nw.	James Muir.
Hansboro	Towner	1,597	26	66.8	+4.4	101	17	32	24	53	2.39	−0.19	1.82	0	8	21	8	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	69.7	+0.9	101	17	35	26	47	1.19	−0.11	0.95	0	5	22	8	1	nw.	C. H. Plath.
Hillsboro	Traill	901	28	67.8	+0.3	97	7	34	28	39	1.70	−0.79	0.96	0	5	13	16	2	nw.	H. F. Lund.
Howard ‡‡ (near)	Williams	2,275	27	67.1	+2.2	102	10	26	27	46	0.15	−1.36	0.15	0	1	21	9	1	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	42	65.8	−0.6	101	16	33	24	48	1.99	−0.54	1.41	0	5	13	16	2	s.	S. Calvetage.
Kenmare	Ward	1,799	3	67.8	......	99	17	32	24	46	1.22	......	0.50	0	8	13	15	3	e.	R. Costello.
Langdon	Cavalier	1,615	38	64.8	+2.3	101	18	30	24	50	1.84	−0.63	0.80	0	6	23	5	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	67.2	+2.2	100	17	30	28	44	0.80	−1.84	0.50	0	4	20	8	3	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	71.4	+2.2	105	17	32	26	53	1.00	−1.01	0.58	0	5	14	16	1	se.	Rev. E. J Oiberding.
Lisbon	Ransom	1,091	30	67.6	+0.6	96	7	35	28	45	2.48	+0.14	1.23	0	6	8	22	1	se.	J. O. Halverson.
McClusky	Sheridan	1,943	16	66.5	......	96	3†	26	24	45	1.90	+0.15	0.82	0	7	22	6	3	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	67.2	−0.7	97	1	35	28	45	3.00	+0.85	1.86	0	5	20	9	2	se.	J. G. Carlson.
Maddock	Benson	1,604	19	67.1	+1.4	102	17	30	24	47	0.58	−1.63	0.21	0	7	11	9	11	nw.	A. T. Felland.
Mandan	Morton	1,750	20	69.8	+1.7	103	17	33	24	44	0.25	−1.25	0.13	0	3	18	5	8	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	......	......	...	...	...	...	......	0.81	−1.54	0.33	0	7	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	25	69.8	+2.5	102	3	36	26†	48	0.15	−1.59	0.07	0	3	18	5	8	nw.	S. P. Grane.
Mary	McKenzie	......	5	......	......	...	...	...	...	......	0.54	......	0.39	0	3	25	3	3	nw.	Fred Hartman.
Max	McLean	2,093	5	65.8	......	103	17	29	24	45	1.33	......	0.75	0	6	......	......	......	......	A. W. Rice.
Mayville	Traill	975	38	68.8	+1.8	98	8	34	28	41	1.28	−1.34	0.86	0	4	9	11	11	nw.	H. B. Addicott.
Minot	Ward	1,557	38	66.2	+1.2	104	17	29	24	47	0.41	−1.60	0.15	0	5	6	24	1	ne.	Mark M. Chatfield.
Mohall	Renville	1,646	40	66.2	+2.3	100	17	31	24	44	2.50	+0.69	0.70	0	8	8	20	3	nw.	John Behan.
Mott	Hettinger	2,424	27	69.2	+2.1	103	17	35	24	48	1.32	−0.45	1.00	0	3	15	14	2	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	42	68.6	+2.2	103	17	31	24	47	1.35	−0.98	0.80	0	5	20	4	7	nw.	C. J. Hoef.
New England	Hettinger	2,400	40	70.7	+3.8	105	6	37	24	58	0.42	−1.17	0.42	0	1	13	12	6	nw.	F. S. Sleight.
New Salem	Morton	2,163	30	72.7	+5.5	108	17	39	28	47	0.51	−1.07	0.30	0	2	23	6	2	s.	J. Christiansen.
Oakes	Dickey	1,318	5	69.4	......	102	18	35	24	45	1.29	......	0.73	0	5	11	13	7	se.	Eugene Naylor.
Park River	Walsh	998	30	64.4	−1.8	98	17	31	28	43	0.63	−1.65	0.36	0	5	2	16	13	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	66.0	......	103	18	25	25	49	0.33	−1.50	0.16	0	5	10	20	1	nw.	C. E. Shubert.
Petersburg	Nelson	1,520	4	......	......	...	...	...	...	......	0.46	......	0.32	0	5	19	11	1	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	67.2	−1.1	98	7†	27	24	46	2.27	−0.16	1.49	0	4	24	3	4	nw.	H. H. McCumber.
Portal	Burke	1,954	29	64.0	−0.2	99	17	26	24	46	2.18	+0.25	0.94	0	9	20	4	7	s.	R. G. Wegener.
Powers Lake	Burke	2,205	29	65.6	......	100	17	25	23	45	0.99	−0.50	0.55	0	4	19	11	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	18	69.4	+1.3	100	17	36	24	38	0.58	−0.99	0.23	0	3	12	7	12	s.	John Muggli.
Rugby (near)	Pierce	1,562	5	......	......	...	...	...	...	......	1.14	......	0.45	0	9	4	23	4	w.	W. B. Paterson.
Ryder	Ward	2,108	5	......	......	...	...	...	...	......	0.90	......	0.58	0	5	......	......	......	......	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	66.9	......	105	17	28	24	52	0.17	......	0.10	0	4	......	......	......	......	H. J. Bugge.
Sharon	Steele	1,516	10	66.0	......	97	17	30	24	42	1.24	−0.81	0.63	0	4	13	15	3	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	......	......	...	...	...	...	......	0.27	−1.36	0.10	0	4	23	5	3	nw.	H. J. Giffey.
Steele	Kidder	1,857	40	69.5	+2.8	103	17	29	24	51	1.34	−1.03	1.03	0	3	17	13	1	nw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	......	......	...	...	...	...	......	0.57	−0.74	0.54	0	2	24	4	3	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	5	......	......	...	...	...	...	......	1.39	......	0.73	0	7	11	15	5	nw.	G. N. Pilgard.
Tioga	Williams	2,279	5	......	......	...	...	...	...	......	0.28	......	0.10	0	3	21	6	4	nw.	Anton Carlson.
Towner	McHenry	1,482	32	64.6	−0.8	95	4	31	25	41	2.04	+0.15	0.73	0	9	21	8	2	w.	Karl Weber.
Trotters	Golden Valley	......	8	......	......	...	...	...	...	......	0.34	......	0.26	0	2	20	6	5	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	20	......	......	...	...	...	...	......	1.99	−0.36	0.83	0	5	......	......	......	......	M. A. Slettum.
Valley City	Barnes	1,245	28	67.8	+1.0	97	6†	33	24†	45	2.46	+0.39	1.55	0	6	15	15	1	nw.	I. C. Robertson.
Velva	McHenry	1,511	7	66.8	......	102	17	32	24	45	1.40	......	1.13	0	7	8	17	6	nw.	Oscar Anderson.
Wahpeton	Richland	962	42	70.0	+2.1	102	18	35	28†	40	2.75	0.00	1.65	0	5	20	0	11	se.	C. G. Luick.
Washburn	McLean	1,731	33	66.6	−0.8	100	17	32	24	40	0.84	−0.59	0.49	0	3	25	3	3	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	65.7	+1.0	100	4†	31	24	45	2.62	+0.58	1.50	0	9	12	11	8	nw.	D. W. Drake.
Williston	Williams	1,878	55	68.0	+1.9	101	17	35	25	44	0.21	−1.26	0.10	0	5	21	6	4	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	64.6	+1.0	103	17	28	22†	50	1.06	−0.94	0.39	0	9	18	11	2	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	5	68.4	+2.6	100	4†	32	28	56	0.45	−1.66	0.38	0	3	18	3	10	se.	E. W. Davis.
Zap	Mercer	1,838	19	......	......	...	...	...	...	......	0.18	−1.64	0.09	0	3	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	53	67.5	+1.4	95	17	39	24	37	2.16	−0.73	1.43	0	7	9	13	9	s.	U. S. Weather Bureau.
Averages	......	......	......	67.4	+1.2	108	17	25	23†	58	1.15	−0.89	1.96	0.0	5	16	11	4	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for August 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri					.05	.01				.10																				.04	.05	0.25
Amenia	Red								.70						.08	.15						.15		.45									1.53
Arnegard (near)	Missouri						T.	.56						T.									T.										0.56
Ashley	Missouri								.54					.24										.16								T.	0.94
Beach	Lit. Missouri					.06	.08				.12	.22										T.										T.	0.48
Berthold Agency	Missouri													.05								.04										.07	0.16
Bismarck ***	Missouri					T.		T.	T.	T.				.34			T.				T.	T.	.08				T.				T.	.08	0.50
Bottineau	Mouse				.05	T.		.72	.20			.06	.11		.25	.06		T.	.01		.01			.14								.26	1.87
Bowman	Grand						.10	.09		T.		T.		T.										.03							T.	T.	0.22
Cando	Devils Lake							.36	.10		T.				.25			.13	.05	.13												.02	1.04
Carrington‖	James					T.		1.20						.12		T.		T.					.07									.04	1.43
Carson	Heart							.02													.03		.02									.03	0.10
Cavalier	Red							.18	.11		.01	.03	.11		.54				.10		.03			.23								.15	1.49
Cooperstown	Sheyenne				.04				1.96		T.				.38	T.	T.	T.						.08				T.					2.46
Corinth	Missouri						.03									.03																.04	0.10
Courtenay	James							1.85							.22							T.			.07					T.			2.14
Crosby	Mouse						.12	.04								.10	.08			T.												.48	0.82
Devils Lake ***	Devils Lake	T.			T.	T.		.40		T.	T.	T.		.05	.46	T.		T.	.01		T.	T.	.06				T.					.02	1.00
Dickinson‖	Heart						T.	.34	.12	T.	T.	T.			T.									T.									0.46
Dogden Butte	Mouse						T.	.79	.17						.02				.10					.01								.22	1.31
Drake‖	Mouse						.06		.40		T.				.07				.02	.02				.02								.21	0.80
Dunn Center	Knife							.04				.09							.06		.03											.15	0.37
Dunseith	Mouse				T.			.20	.40		.02	.02	.19		.25	T.		.02	.01		.01			.11								.30	1.53
Eckman	Mouse				.10			.55				.02			.17	.34			.02					.13								.27	1.60
Edgeley	James								.13						.70	1.22					.20		.66										2.91
Edmore	Devils Lake	T.			.03			.05			T.	.01		.01	.46			T.	.07		T.		.10	T.			.01					.02	0.76
Ellendale	James								.57								1.56	.49			.12			.29						.03		T.	3.06
Energy	Missouri							.09						T.	.10								T.									.13	0.32
Epping	Missouri																																
Fairfield	Knife						.45				.20																						0.65
Fessenden‖	James						.05		.83						.08		.02						.02								.22		1.22
Forman	Sheyenne								.22						.34		.16				.10			.53						T.		T.	1.35
Fort Yates	Missouri								.32																							T.	0.32
Foxholm (near)	Mouse		.01			T.		.05			T.	.09	T.	T.	.34	.21			.01		T.		T.				T.					.36	1.07
Fryburg	Heart							.03	.03															T.								T.	0.06
Fullerton	James						T.		.36						T.		.25	.03			.10		.64							.02		T.	1.40
Gaekle	James						.09								.05	1.02							.72										1.88
Garrison	Missouri					.22		.32						.41					.06					.02								.50	1.53
Grafton	Red	.01							.02			.08			.32				.03			.03						.08					0.57
Grand Forks ***	Red	.01			.02		.21	.02	.04					.10	.37				.03		T.		.48	.02			.09					T.	1.39
Granville	Mouse				T.		T.	.17	.07			T.		T.	.31	.05			T.			T.		.07								.26	0.93
Hankinson	Red							.50						.35		.08					.02		.67							.04			1.66
Hannah	Pembina				.05			.25	.32		T.		.03	.08	.40			T.	T.		T.			.15			T.	.08				.20	1.56
Hansboro	Devils Lake							1.82				.17	.02	.14			.02	.02	.01													.19	2.39
Hettinger	Grand	.01						.95						.05										.14	T.							.04	1.19
Hillsboro	Red				.01				.96						.56				.12					.05						T.		T.	1.70
Howard (near)	Missouri				T.	T.	T.		T.			.15						T.				T.		T.								T.	0.15
Jamestown	James								1.41						.21		.03				.22			.12									1.99
Kenmare	Mouse					T.		.15	.20		.01	.03				.14	.50							.07								.12	1.22
Langdon	Pembina								.80			.07	.07		.60			T.			T.	T.		.15				.15					1.84
Larimore	Red						.02		.11						.50									.17									0.80
Linton	Missouri								.24									.04			.07			.58								.07	1.00
Lisbon	Sheyenne								1.23						.16		.06					.15		.85						.03			2.48
McClusky	Missouri					.14		.22	.53	.02					.12				T.					.05								.82	1.90
McLeod	Sheyenne								1.86						.24		.04		T.		.14			.72									3.00
Maddock	Sheyenne	T.			.02		T.	.06			T.				.16	T.	.03	T.	T.		T.			.07				.03				.21	0.58
Mandan‖	Missouri							T.						.03									.09								.13	T.	0.25
Manfred	James						.05	.02	.33						.09				.02					.03								.27	0.81
Marmarth	Lit. Missouri						.02	T.		T.				T.									T.		.07							.06	0.15
Mary	Lit. Missouri					T.	.03					.12											T.								.39		0.54
Max‖	Missouri						.25		.75						.01				.11												.06	.15	1.33
Mayville	Red						.01		.35				T.		.86				T.					.06				T.			T.		1.28
Minot	Mouse								.11		.06	.06					.03			T.			T.	T.				T.				.15	0.41
Mohall	Mouse				.01			.70			T.		.25	T.	.33	.41			.08		T.	T.		.07								.65	2.50
Mott	Cannon Ball						.28	1.00						.04									T.									T.	1.32
Napoleon‖	Missouri									T.					.80				.05			.05		.42								.03	1.35
New England	Cannon Ball						.42															T.											0.42
New Salem	Heart								T.					.21							T.											.30	0.51
Oakes	James								.23						.08		.19					.06		.73						T.			1.29
Park River	Red	T.			T.						T.	T.			.36				T.		.02			.08			.12					.05	0.63
Parshall	Missouri											.16			.01					.02				.10							.04		0.33
Pembina ***	Red																																
Petersburg	Red				.02				.04						.32									.05				.03					0.46
Pettibone	James							T.	1.49	T.	T.			T.	.15		.52		T.		T.			.11								T.	2.27
Portal‖	Mouse					.13			.23		.03		.02	.12		.65			.04					.02								.94	2.18
Powers Lake	Missouri							.22	.10							.55		.12															0.99
Richardton	Heart						.23		T.	T.				.15																	T.	.20	0.58
Rugby [near]	Mouse				.01	.10		.22			T.		.09		.45	.01			.03					.07			T.					.16	1.14
Ryder	Missouri					.06	.58							.03			.06															.17	0.90
Sanish‖	Missouri						.01				.01												.05								.10		0.17
Sharon	Red				.03		T.	T.	.47				T.		.63						T.			.11				T.				T.	1.24
Stanton	Missouri													.04		.08			T.				.05									.10	0.27
Steele	Missouri														.25		1.03				.06			T.								T.	1.34
Stowers	Cannon Ball								.03	T.					.54								T.									T.	0.57
Tagus	Mouse							.16			.01	.05	T.		T.	.35			.05	T.				.04								.73	1.39
Tioga	Missouri						.08																								.10	.10	0.28
Towner	Mouse				T.		.31	.18	.73		.01		T.		.50	.06		T	.03					.06				T.				.16	2.04
Trotters	Lit. Missouri						.08					.26									T.												0.34
Turtle Lake	Missouri					.83		.32						.34					.10				T.									.40	1.99
Valley City	Sheyenne						.01		1.55						.20		T.							.58						.07		.55	2.46
Velva	Mouse					T.		1.13				.02			T.				.01			.01	.02	.05								.16	1.40
Wahpeton	Red								1.65						.25				.14			.06		.65									2.75
Washburn	Missouri						T.		T.						.05		.30		T.					T.								.49	0.84
Westhope	Mouse	T.			.07	.01		1.50	.05					.01	.08	.15			.03		T.											.72	2.62
Williston ***	Missouri					T.		T.			T.	.04							.03		T.		.04								.07	.03	0.21
Willow City	Mouse				.17			.11			.04	.04		.19		.03			T.		T.	.07					.02					.39	1.06
Wishek‖	Missouri																		.05					.38								.02	0.45
Zap	Knife																				.09										.04	.05	0.18
Moorhead, Minn ***	Red	T.			T.			.71	.72		T.				.07			T.	T.		.19		.21	.24			T.			.02		T.	2.16

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	98	88	90	92	94	99	99	88	90	92	85	85	86	73	85	92	98	90	80	84	88	79	68	72	74	80	70	74	78	75	72	84.5
	Minimum	57	55	56	54	56	60	63	58	51	50	56	58	47	51	52	50	59	64	54	39	40	48	46	34	36	36	46	35	36	48	49	49.8
Arnegard (near)	Maximum	82	80	104	100	87	100	97	83	88	85	101	84	89	88	98	96	104	89	80	82	74	82	60	64	73	84	75	84	90	91	66	85.8
	Minimum	62	50	55	64	68	65	60	58	47	55	52	53	47	49	54	52	57	53	40	49	49	37	40	30	34	37	40	44	55	52	43	50.0
Ashley	Maximum	94	87	95	103	93	100	95	92	87	87	85	84	86	83	86	93	102	96	88	80	78	80	77	64	74	84	81	80	84	82	77	86.4
	Minimum	60	57	52	69	63	68	68	63	49	56	52	59	50	45	50	62	59	67	50	45	50	42	43	32	36	36	47	32	40	57	50	51.9
Beach	Maximum	81	87	103	94	86	96	96	85	82	84	86	79	88	82	91	95	99	85	78	84	73	81	75	64	71	81	76	83	85	83	71	84.0
	Minimum	54	53	60	73	67	60	60	63	47	62	56	53	50	49	60	54	53	57	40	55	50	39	43	37	38	42	45	47	50	61	43	52.3
Berthold Agency	Maximum	84	89	101	101	92	98	99	91	84	90	97	85	91	83	91	96	105	85	78	83	75	80	60	65	74	85	72	81	85	88	77	86.0
	Minimum	52	52	57	71	65	60	58	55	43	56	63	61	47	54	52	51	62	57	40	50	48	38	42	26	30	30	43	43	50	55	48	50.3
Bismarck	Maximum	85	86	98	99	94	96	97	84	85	88	89	82	87	81	87	91	102	84	76	87	74	80	59	64	72	80	69	77	85	84	64	83.4
	Minimum	63	59	62	75	68	72	74	63	52	61	62	64	59	60	58	62	68	60	47	53	53	43	42	33	38	37	48	43	54	64	48	56.3
Bottineau	Maximum	84	84	94	98	94	97	99	78	83	82	88	86	82	80	79	90	102	99	84	80	76	74	72	58	62	67	65	72	79	82	74	82.1
	Minimum	51	59	59	64	67	63	66	62	50	60	61	58	53	55	56	59	68	54	40	47	46	37	36	30	34	40	42	41	50	54	42	51.7
Bowman	Maximum	82	88	102	96	90	95	97	82	83	86	90	78	90	83	92	94	101	86	78	87	69	83	58	63	73	80	74	83	90	80	69	83.9
	Minimum	61	52	62	68	67	63	62	63	48	56	60	58	47	50	56	56	58	62	43	52	49	39	43	40	33	42	48	45	48	61	45	52.8
Cando	Maximum	83	82	91	89	91	93	93	88	83	83	86	88	86	81	80	89	90	97	85	88	72	75	57	60	67	74	63	73	79	80	62	80.8
	Minimum	53	53	53	55	58	60	58	58	48	55	58	56	48	54	50	59	61	55	54	39	49	43	40	32	36	39	40	38	48	50	46	49.9
Carrington §§	Maximum	86	94	93	93	97	95	81	82	86	82	81	84	78	86	90	100	86	73	85	74	77	60	62	68	77	65	72	80	80	65	58	80.3
	Minimum	53	57	58	63	67	67	63	56	57	58	60	51	51	54	58	67	67	47	44	48	42	40	33	35	39	38	40	47	54	48	43	51.8
Carson	Maximum	86	90	100	100	95	100	97	86	85	88	93	84	86	90	89	98	104	96	81	90	75	80	65	70	69	85	75	79	93	85	72	86.5
	Minimum	57	54	68	70	64	68	70	62	50	55	60	57	55	54	56	57	71	60	42	55	49	40	44	30	29	41	48	45	60	53	48	53.9
Crosby §§	Maximum	76	88	98	99	85	94	97	80	90	81	90	78	84	81	89	95	101	70	78	80	69	75	52	62	72	80	73	83	87	81	45	81.1
	Minimum	55	53	54	66	65	60	60	56	49	49	50	50	48	50	50	52	53	60	49	50	50	38	25	31	34	36	36	36	47	50	44	48.6
Devils Lake	Maximum	85	83	93	92	94	95	96	80	84	86	86	78	84	74	84	89	100	82	69	83	72	75	57	60	67	74	63	73	79	80	62	80.0
	Minimum	59	54	57	69	63	67	62	63	54	57	62	57	53	56	53	58	66	53	47	43	49	43	40	32	36	39	40	38	48	55	46	52.2
Dickinson §§	Maximum	83	87	104	98	89	98	97	82	82	88	91	80	88	83	92	95	103	74	78	87	73	82	58	65	73	81	71	81	84	85	56	83.5
	Minimum	53	55	58	63	67	62	62	61	43	47	54	55	48	52	54	50	56	62	42	48	49	35	38	30	35	34	45	45	46	48	51	49.9
Drake§§	Maximum	84	85	96	94	91	95	97	80	82	86	88	80	87	77	87	90	102	72	72	82	72	76	58	61	69	80	66	75	82	82	52	80.6
	Minimum	58	53	57	65	61	63	65	62	54	57	63	59	50	55	53	58	59	68	43	44	48	42	39	32	36	38	38	36	46	54	46	51.7
Dunn Center §§	Maximum	81	86	100	98	86	94	98	82	85	90	90	81	90	81	92	95	103	72	81	72	80	57	63	71	82	68	81	80	84	86	53	82.6
	Minimum	53	46	57	68	65	60	61	58	45	52	60	59	45	55	55	52	58	61	40	47	37	44	44	35	34	41	42	85	46	48	53	50.2
Dunseith	Maximum	81	84	93	92	91	92	94	77	82	81	87	88	84	78	78	90	99	98	71	83	74	73	72	57	65	76	66	74	81	80	77	81.2
	Minimum	55	53	55	68	60	65	62	59	53	55	60	55	49	53	53	56	60	53	46	40	47	41	35	32	33	39	42	38	45	53	41	50.2
Edgeley	Maximum	93	89	99	95	90	98	98	91	88	90	84	90	91	87	92	95	98	96	76	85	82	79	63	72	84	79	72	79	86	85	72	86.4
	Minimum	57	58	63	70	59	64	61	61	64	54	63	57	47	51	60	65	48	62	38	42	40	42	32	37	36	42	34	50	55	48	47	51.8
Ellendale	Maximum	85	83	89	98	91	92	94	91	86	89	81	87	85	78	84	91	95	96	72	83	74	79	57	64	69	79	71	70	81	78	71	82.0
	Minimum	60	59	56	71	64	69	68	65	56	57	59	58	54	62	52	63	59	65	50	46	54	47	45	36	40	41	47	39	50	52	53	54.7
Fessenden §§	Maximum	88	87	98	96	97	98	101	84	87	89	88	81	88	79	90	92	103	81	86	74	77	58	63	69	79	67	77	74	83	82	57	83.0
	Minimum	55	52	50	67	64	64	65	62	50	54	58	60	48	65	48	52	63	66	45	48	42	39	31	33	35	39	30	48	34	46	44	50.2
Foxholm (near)	Maximum	80	85	96	96	90	91	96	79	86	88	89	81	87	74	80	89	101	92	71	84	74	77	63	60	68	79	68	71	82	82	73	81.7
	Minimum	55	52	53	68	62	60	62	57	50	57	55	57	47	51	55	53	64	52	40	50	48	39	36	36	34	37	26	37	43	48	42	49.3
Fullerton	Maximum	92	87	95	95	89	97	98	91	89	91	82	86	87	77	85	91	97	102	74	87	78	80	74	64	71	79	68	75	81	79	72	84.3
	Minimum	59	57	56	71	63	67	67	63	51	58	60	58	48	60	50	62	59	65	48	42	51	44	45	33	37	38	50	36	50	56	52	53.4
Garrison	Maximum	93	89	98	98	92	96	93	83	81	89	84	87	91	89	88	94	105	87	74	85	73	79	76	68	71	81	73	77	84	83	74	85.0
	Minimum	62	54	58	71	65	64	66	59	49	58	60	58	64	57	53	56	64	58	45	48	48	38	42	31	34	38	35	38	52	58	45	52.5
Grafton	Maximum	89	84	92	90	94	96	96	95	87	85	86	86	86	89	85	93	102	101	76	81	80	76	75	71	70	71	69	73	78	76	75	84.1
	Minimum	61	59	50	60	56	65	53	59	55	53	60	60	45	65	50	57	61	65	50	39	53	43	41	39	39	36	43	31	44	55	48	51.5
Grand Forks	Maximum	92	85	92	91	95	93	95	89	90	87	85	83	82	76	84	92	98	85	68	80	77	77	60	63	69	75	65	71	73	73	63	80.9
	Minimum	64	58	51	70	60	67	56	58	53	58	61	57	46	57	52	60	64	56	51	42	50	44	43	37	38	39	42	36	48	57	49	52.4
Granville	Maximum	83	85	97	97	90	96	92	80	84	87	89	90	86	75	84	92	103	84	75	83	72	77	64	60	69	79	69	76	82	84	66	82.3
	Minimum	53	52	51	70	60	59	60	56	47	54	57	58	48	55	52	52	68	54	45	40	47	37	40	28	32	33	35	34	49	50	46	49.1
Hansboro	Maximum	90	85	96	99	96	95	96	86	83	79	90	77	84	79	84	100	101	79	80	86	87	88	85	77	76	84	69	77	81	81	69	85.1
	Minimum	55	54	54	64	58	60	51	56	54	51	58	57	46	44	52	47	60	53	46	41	54	44	36	32	36	36	39	36	39	46	43	48.5
Hettinger	Maximum	86	100	98	99	94	97	93	84	82	84	89	81	86	83	90	94	101	92	78	90	77	61	80	73	75	82	76	82	88	81	78	85.6
	Minimum	61	53	68	65	70	65	65	61	46	56	59	60	47	53	56	59	63	66	41	52	48	49	36	45	39	35	47	45	50	65	42	53.8
Hillsboro	Maximum	93	90	91	94	94	95	97	93	89	89	86	83	83	80	82	88	96	95	70	80	78	77	75	63	69	74	76	71	74	73	70	82.8
	Minimum	65	58	52	66	70	63	64	66	55	57	57	53	47	57	54	60	65	66	45	41	53	45	43	35	37	39	37	34	47	57	50	52.8
Howard (near)	Maximum	83	84	97	90	79	85	85	85	95	102	89	85	84	95	97	90	95	83	86	81	90	76	80	70	72	64	64	70	85	82	75	83.8
	Minimum	50	50	68	65	48	50	49	57	53	56	48	50	50	68	58	65	58	53	48	40	50	36	50	45	54	48	26	32	45	50	42	50.4
Jamestown §§	Maximum	85	96	91	89	96	97	81	84	87	81	82	81	76	85	90	101	90	72	82	74	77	58	62	68	77	64	73	80	75	65	58	79.9
	Minimum	59	56	55	63	63	67	64	62	52	59	56	51	60	58	51	53	56	66	48	40	49	44	44	33	35	37	39	35	38	57	51	51.6
Kenmare	Maximum	91	86	92	95	98	94	92	95	89	86	86	90	80	85	77	91	99	71	74	81	80	74	66	62	70	82	81	78	86	84	81	83.7
	Minimum	57	55	64	69	63	64	61	57	59	52	55	58	50	55	58	55	61	58	44	53	50	42	40	32	36	36	38	43	46	52	44	51.8
Langdon§§	Maximum	92	86	100	86	95	90	90	80	86	85	93	78	90	70	84	90	91	101	60	70	60	83	70	77	60	60	70	71	62	77	82	80.3
	Minimum	55	54	50	65	60	63	58	59	50	52	55	58	47	51	49	48	61	60	45	42	47	39	37	30	32	38	45	38	40	52	50	49.4
Larimore	Maximum	90	87	93	91	95	95	96	91	90	88	85	84	84	80	85	92	100	95	70	82	76	77	75	63	71	77	67	74	76	74	70	83.0
	Minimum	60	58	49	70	58	68	55	63	53	54	59	61	42	55	52	58	62	60	48	41	53	44	40	36	39	35	42	30	47	54	48	51.4
Linton	Maximum	91	89	98	104	91	100	97	94	89	87	90	86	90	86	88	95	105	91	80	92	94	86	78	66	75	85	80	82	89	88	77	88.5
	Minimum	64	56	60	73	64	70	74	66	44	56	57	58	53	55	52	66	63	64	41	51	53	41	38	33	33	32	47	48	55	59	53	54.2
Lisbon §§	Maximum	88	94	86	93	92	89	96	95	87	85	82	77	84	83	75	82	88	95	94	73	85	76	78	69	63	69	77	66	71	79	76	82.2
	Minimum	60	61	55	63	63	69	65	64	54	60	57	61	52	58	53	57	63	67	49	40	47	45	46	36	37	37	47	35	40	52	53	53.1
McClusky	Maximum	84	86	96	96	95	96	96	79	81	87	91	82	83	80	88	91	94	76	75	88	73	76	75	62	69	81	76	77	84	87	74	83.2
	Minimum	55	51	56	70	62	62	63	58	47	57	59	57	50	52	52	58	61	59	41	44	47	31	39	26	32	36	34	34	53	56	41	49.8
Maddock	Maximum	85	86	96	95	94	97	98	91	86	89	88	87	87	85	86	92	102	98	73	87	80	76	75	61	69	78	75	75	81	82	80	85.0
	Minimum	54	52	49	63	60	62	59	60	49	53	63	56	44	54	47	57	62	58	45	41	47	40	37	30	31	31	48	30	46	52	44	49.2
Marmarth	Maximum	87	85	102	95	92	96	100	92	83	88	90	80	91	85	96	94	101	90	78	86	88	75	85	78	66	76	84	85	90	84	75	87.0
	Minimum	57	52	58	57	70	59	58	64	48	57	61	57	45	47	60	54	59	64	40	58	54	59	38	43	42	36	36	39	46	63	48	52.5
Minot §§	Maximum	82	87	96	96	90	95	95	81	86	89	92	82	88	78	86	94	104	71	77	84	72	77	57	62	71	78	78	78	81	78	56	82.0
	Minimum	52	55	59	65	59	63	65	60	49	55	59	58	49	55	57	55	62	68	44	48	47	36	39	29	32	31	31	41	45	50	46	50.5
Mohall	Maximum	80	87	97	97	96	92	95	81	84	88	90	88	81	76	82	89	100	69	74	81	77	75	75	61	70	79	68	77	82	85	81	82.5
	Minimum	56	54	53	58	62	61	64	61	51	58	55	61	50	55	52	54	64	55	44	40	48	39	37	31	34	39	38	33	43	52	43	49.8
Mott	Maximum	86	89	100	100	92	96	97	89	82	82	91	82	80	83	89	93	103	91	80	90	74	80	71	67	75	84	71	79	90	82	74	85.2
	Minimum	59	54	57	60	67	67	65	64	63	56	60	59	48	54	56	60	64	65	40	54	50	38	46	35	36	36	48	43	46	52	48	53.2
Napoleon §§	Maximum	91	88	97	97	93	100	98	89	90	91	91	86	90	80	89	90	103	91	76	90	77	81	58	64	73	82	68	78	87	85	71	85.3
	Minimum	59	50	52	71	62	67	69	63	46	50	52	61	54	56	49	62	62	69	42	46	47	40	44	31	33	35	43	34	54	57	53	52.0
New England	Maximum	97	92	94	95	99	105	92	89	82	82	99	82	80	83	90	101	104	101	94	92	80	82	80	79	83	85	78	81	87	90	84	89.1
	Minimum	59	54	60	60	62	64	50	62	61	54	58	57	47	52	54	54	61	43	47	50	39	39	46	37	39	46	49	52	52	58	54	52.3
New Salem	Maximum	87	90	103	101	95	100	100	96	89	95	94	90	93	91	90	95	108	101	91	94	82	84	80	74	72	71	79	81	90	89	84	90.0
	Minimum	57	59	63	75	68	70	74	63	53	56	60	62	53	53	54	60	68	66	44	48	53	43	44	40	44	42	45	39	48	64	50	55.4
Oakes	Maximum	96	88	96	94	90	97	97	96	89	88	79	90	87	80	87	94	97	102	77	86	81	82	77	66	75	82	74	75	82	78	70	85.5
	Minimum	59	59	54	72	64	68	67	63	50	59	57	57	49	60	50	60	58	68	47	41	51	43	45	35	37	37	47	36	53	56	53	53.4
Park River	Maximum	84	84	88	91	89	87	91	90	81	86	80	80	80	80	78	86	98	97	74	71	76	80	75	61	76	64	68	74	70	73	73	80.2
	Minimum	64	62	50	54	52	63	60	56	54	51	55	53	42	54	42	51	61	60	46	46	43	41	38	33	37	32	42	31	41	50	45	48.7
Sharon	Maximum	90	88	91	92	92	95	93	86	87	85	81	82	82	74	82	88	97	89	72	80	75	76	67	60	70	78	67	71	75	74	66	80.8
	Minimum	60	56	56	63	59	66	59	61	51	56	55	59	49	52	55	61	63	63	45	45	50	41	39	30	32	36	42	39	41	52	49	51.1
Steele	Maximum	92	87	99	101	96	99	101	85	86	96	91	82	89	80	90	88	103	95	75	90	76	80	75	63	71	80	75	81	86	87	73	86.2
	Minimum	62	55	55	71	64	69	70	63	46	55	55	60	70	57	51	57	61	65	45	48	49	41	42	29	33	30	42	30	55	55	52	52.8
Towner	Maximum	92	82	93	95	93	87	92	72	74	79	88	86	78	78	76	88	94	94	74	76	75	68	75	65	61	72	71	68	74	84	82	80.2
	Minimum	51	51	57	67	59	61	60	59	49	48	62	56	49	55	54	52	55	54	42	44	45	36	38	32	31	32	38	35	48	54	44	49.0
Valley City	Maximum	93	89	95	94	91	97	97	96	86	87	86	81	83	83	83	87	97	96	74	94	81	77	73	62	69	77	66	72	79	84	86	84.0
	Minimum	59	57	53	68	63	65	64	60	50	57	57	60	49	57	50	59	57	66	46	39	50	43	42	33	35	33	43	33	44	56	51	51.6
Wahpeton	Maximum	88	93	94	94	98	95	97	99	87	88	86	89	86	86	86	89	96	102	80	82	86	79	80	67	72	78	80	74	74	78	80	85.9
	Minimum	64	59	54	56	67	68	65	66	55	62	59	60	51	60	53	62	64	70	51	43	54	43	47	37	38	38	50	35	35	57	54	54.1
Westhope	Maximum	86	87	98	100	94	91	98	75	87	80	82	81	82	76	80	90	100	87	76	79	73	74	72	61	69	80	69	76	81	84	79	82.2
	Minimum	54	49	55	66	61	59	53	60	50	59	57	54	49	55	53	55	60	54	40	45	47	39	36	31	33	39	37	35	47	49	44	49.2
Williston	Maximum	80	87	99	96	85	96	95	80	86	82	89	79	86	84	88	94	101	93	77	80	70	78	54	63	71	82	70	82	85	85	64	82.6
	Minimum	57	55	67	72	71	63	68	61	50	62	59	56	50	57	58	53	62	52	44	58	52	41	36	36	35	38	46	48	54	54	43	53.5
Moorhead, Minn	Maximum	91	84	91	90	88	93	94	86	86	85	79	84	80	71	84	87	95	91	70	80	75	76	60	62	68	75	64	69	74	71	65	79.6
	Minimum	65	61	57	72	66	68	67	65	55	64	59	60	52	59	54	62	63	59	52	43	55	46	44	39	39	40	48	42	50	56	54	55.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing, b 2 days, etc.

[WBO, Minneapolis, 9-27-34—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

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NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIII BISMARCK, N. D., SEPTEMBER 1934 No. 9

GENERAL SUMMARY

Dry and cool weather characterized the opening of the month and prevailed throughout the first decade. The second decade was also dry, but with higher temperatures. The third decade, however, was much cooler and scattered showers were general. Threshing and corn harvesting made excellent progress, but with disappointing yields. Pastures and ranges afforded little feed and livestock deteriorated. Much livestock was shipped out of the State. Due to dry soil little fall plowing or seeding of winter rye was accomplished.

TEMPERATURE

The mean temperature for the State was 52.4°, or 4.0° below the normal, and 8.5° lower than the mean for September 1933. The highest mean reported was 58.1° at Wahpeton, Richland County; the lowest was 48.6° at Crosby, Divide County. The highest temperature reported was 95° at Arnegard, McKenzie County on the 11th; the lowest was 9° at Bowman, Bowman County on the 26th. The greatest monthly range of temperature was 84° at Bowman, Bowman County; the leastwas 53° at Powers Lake, Burke County. The greatest daily range of temperature was 61° at Parshall, Mountrail County on the 16th.

PRECIPITATION

The average precipitation for the State was 0.96 inch, or 0.69 inch below the normal, and 0.17 inch more than the average for September 1933. The greatest monthly amount reported was 2.22 inches at Forman, Sargent County; the least was 0.13 inch at Arnegard, McKenzie County. The greatest amount recorded in any 24 consecutive hours was 1.28 inches at Forman, Sargent County on the 24th. The average number of days with 0.01 inch or more of precipitation was 7. The average snowfall was 2.0 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Arnegard, 8th, 29th; Carrington, Cooperstown, Drake, Moorhead, New England, Petersburg, 6th; Carson, 1st, 6th, 11th; Devils Lake, 6th, 11th; Dogden Butte, 30th; Foxholm, 2d, 4th, 6th, 11th, 16th, 29th, 30th; Hannah, Richardton, Towner, 7th; Howard, 6th, 9th, 11th; McClusky, 29th; Mohall, 6th, 16th; New Salem, 7th, 12th, 13th; Pettibone, 7th, 16th; Rugby, 7th, 11th, 29th; Tagus, 6th, 9th, 10th, 29th; Trotters, 6th, 15th; Tuttle, 6th, 7th, 12th, 13th, 16th, 17th, 30th; Williston, 3d, 29th; Willow City, 10th, 29th.

FOG: Arnegard, Willow City, 10th; Ashley, Gackle, Hansboro, 24th; Bismarck, 10th, 11th, 12th, 23d, 29th; Cavalier, 23d; Devils Lake, 11th, 12th, 19th, 23d, 24th, 30th; Dogden Butte, Fort Yates, Foxholm, Hettinger, Howard, Linton, Mott, New Salem, Pettibone, Steele, 11th; Eckman, Granville, Towner, 10th, 11th; Garrison, 10th, 11th, 12th, 13th; Hannah, 23d, 24th; Max, 22d; Moorhead, 29th; Pembina, 23d, 24th, 25th; Powers Lake, 7th; Richardton, 11th, 23d; Rugby, 11th, 12th, 13th, 19th, 23d, 29th; Tagus, 10th, 11th, 13th, 23d; Tuttle, 11th, 12th; Westhope, 9th, 10th.

HAIL: Cavalier, Oakes, 13th; Mandan, 14th.

HALOS, lunar: Bismarck, 27th, 28th; Oakes, 21st; Tuttle, 18th.

HALOS, solar: Bismarck, Moorhead, 6th; Devils Lake, 19th.

SLEET: Bowman, Corinth, Tagus, 24th; Devils Lake, 25th, 28th, 29th; Edmore, 25th, 29th; Mandan, 25th, 26th; New England, 14th; Steele, Tuttle, 25th; Williston, 23d.

THUNDERSTORMS: Bismarck, 1st; Fullerton, 13th, 24th; Grand Forks, Howard, Moorhead, Rugby, Sharon, 13th; Hankinson, 1st, 9th, 12th; McLeod, 2d, 10th, 13th, 24th; Oakes, 1st, 13th, 24th; Williston, 13th, 16th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.95	30.45	14	29.59	18	9.4	30	se.	8	81	55	52	43
Devils Lake	29.96	30.42	14	29.59	19	9.6	29	nw.	13	83	56	55	46
Grand Forks	29.93	30.31	14	29.59	27	......	27	nw.	12†	84	....	55	....
Williston	29.96	30.50	14	29.51	8	8.6	25	ne.	13	82	51	50	55
Moorhead, Minn	29.96	30.34	14	29.61	19	9.1	21	n.	13	85	54	59	52
Averages & ext's	29.95	30.50	14	29.51	8	9.2	30	se.	8	83	54	54	49

† And other dates.

COMPARATIVE DATA FOR SEPTEMBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	59.2	+2.8	101	24	0.84	−0.77	2.23	0.11	0	4	16	7	7
1893.	57.1	+0.7	102	8	0.81	−0.80	2.01	T.	0.1	4	18	7	5
1894.	58.2	+1.8	104	18	1.38	−0.23	5.47	0.07	0	5	15	7	8
1895.	56.6	+0.2	100	12	0.77	−0.84	1.81	T.	0	4	12	12	6
1896.	53.0	−3.4	98	11	1.83	+0.22	3.59	0.12	0	6	12	8	10
1897.	64.1	+7.7	109	18	0.28	−1.33	0.92	0.00	0	2	20	7	3
1898.	56.8	+0.4	98	10	1.25	−0.36	3.40	0.15	0	4	14	9	7
1899.	55.0	−1.4	101	11	0.58	−1.03	1.76	0.01	T.	3	17	9	4
1900.	54.6	−1.8	98	17	4.95	+3.34	9.72	1.41	T.	8	12	7	11
1901.	53.6	−2.8	100	12	2.01	+0.40	5.66	0.53	T.	7	10	8	12
1902.	53.6	−2.8	95	15	0.73	−0.88	2.08	T.	0	4	16	8	6
1903.	51.6	−4.8	90	18	2.99	+1.38	5.61	1.56	0.7	7	12	6	12
1904.	54.7	−1.7	96	18	1.65	+0.04	6.44	T.	0	5	14	7	9
1905.	59.8	+3.4	104	23	1.63	+0.02	7.17	0.22	0	5	16	8	6
1906.	62.8	+6.4	109	20	1.20	−0.41	3.19	0.01	0	4	19	6	5
1907.	52.1	−4.3	96	9	1.39	−0.22	4.02	0.28	T.	6	14	8	8
1908.	60.7	+4.3	104	16	1.11	−0.50	2.76	0.19	0.2	4	17	7	6
1909.	59.0	+2.6	93	24	0.86	−0.75	2.04	0.00	0	4	16	8	6
1910.	55.3	−1.1	99	18	1.96	+0.35	4.48	0.03	0.1	4	14	7	9
1911.	54.9	−1.5	95	21	2.49	+0.88	4.98	0.89	T.	8	12	8	10
1912.	51.5	−4.9	124	18	2.68	+1.07	7.67	0.89	0	10	11	6	13
1913.	57.2	+0.8	108	8	1.75	+0.14	4.98	0.64	0.4	6	16	8	6
1914.	59.3	+2.9	98	25	1.06	−0.55	3.14	0.28	0	5	16	8	6
1915.	54.6	−1.8	104	23	2.39	+0.78	5.03	1.27	0	9	10	8	12
1916.	55.1	−1.3	99	15	1.62	+0.01	5.64	0.03	T.	6	14	9	7
1917.	56.4	0.0	97	16	1.08	−0.53	3.79	0.05	0	5	12	9	9
1918.	51.9	−4.5	93	11	0.39	−1.22	1.43	0.00	T.	3	15	9	6
1919.	58.6	+2.2	100	20	0.92	−0.69	3.18	0.06	0.3	5	12	10	8
1920.	59.0	+2.6	99	19	2.26	+0.65	7.38	0.46	T.	8	15	9	6
1921.	57.0	+0.6	101	25	3.30	+1.69	6.83	1.37	T.	12	12	10	8
1922.	59.8	+3.4	104	23	2.16	+0.55	6.94	0.15	0	6	16	8	6
1923.	60.1	+3.7	99	15	2.39	+0.78	5.80	0.23	0	6	14	8	8
1924.	55.0	−1.4	98	20	2.31	+0.70	5.12	T.	T.	7	15	7	8
1925.	58.1	+1.7	103	20	2.74	+1.13	7.26	0.46	T.	8	12	8	10
1926.	52.3	−4.1	95	9	2.42	+0.81	5.00	0.39	0.5	9	11	9	10
1927.	56.8	+0.4	101	10	0.93	−0.68	4.46	0.00	T.	3	16	9	5
1928.	53.9	−2.5	95	12	0.93	−0.68	4.89	T.	T.	5	17	7	6
1929.	52.7	−3.7	105	12	1.65	+0.04	4.31	0.21	0	5	11	9	10
1930.	56.2	−0.2	98	10	1.02	−0.59	3.18	0.00	0	4	16	9	5
1931.	61.4	+5.0	107	27	2.14	+0.53	4.63	0.35	T.	6	18	7	5
1932.	56.8	+0.4	102	22	0.64	−0.97	2.26	T.	0	3	18	8	4
1933.	60.9	+4.5	101	22	0.79	−0.82	2.71	0.20	0	4	16	8	6
1934.	52.4	−4.0	95	9	0.96	−0.65	2.22	0.13	2.0	7	11	9	10
Per..	56.4	....	124	8	1.61	....	9.72	0.00	0.1	6	14	8	8

Climatological Data for September 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	8	......	......	......	......	......	......	......	0.46	......	0.25	1.0	3	......	......	......	......	H. A. Bury.
Amenia	Cass	954	38	54.2	−3.1	90	13	23	21	45	1.29	−0.82	0.51	0	5	2	24	4	s.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	49.6	−6.7	95	11	19	13	47	0.13	−1.30	0.11	0.2	2	22	0	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	54.5	−2.8	87	13	22	21	45	0.98	−0.47	0.37	1.5	6	17	5	8	nw.	H. D. Piper.
Beach	Golden Valley	2,759	28	51.6	−4.8	92	7†	21	26	47	0.37	−0.95	0.15	1.8	6	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	53.2	−3.7	93	12	18	15	50	0.59	−0.87	0.16	1.0	10	16	6	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	52.6	−5.5	89	7	25	15	41	0.54	−0.69	0.23	2.5	8	8	10	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	51.5	−3.4	87	7	23	26†	42	0.99	−0.63	0.27	2.0	10	14	6	10	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	20	51.4	−5.4	93	12	9	26	47	1.43	+0.23	0.88	8.0	7	18	6	6	nw.	George Larsen.
Cando	Towner	1,488	33	52.8	−3.4	89	9	21	21	47	0.85	−0.77	0.27	5.4	5	5	12	13	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	51.1	−5.5	88	13	23	15	56	0.51	−1.03	0.20	1.5	5	10	5	15	nw.	L. A. Swanson.
Carson	Grant	2,500	22	53.2	−3.2	90	7†	18	26	45	0.81	−0.93	0.50	5.0	4	16	8	6	nw.	J. W. Evens.
Cavalier	Pembina	894	24	52.7	......	85	7†	26	21	46	1.54	−0.40	0.30	0.0	10	8	6	16	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	......	......	......	......	......	......	......	0.97	−0.82	0.55	0.8	6	16	0	14	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	......	......	......	......	......	......	......	0.80	......	0.26	2.0	8	0	18	12	ne.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	......	......	......	......	......	......	......	1.18	......	0.47	0.5	6	14	8	8	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	48.6	−5.5	91	7	22	15†	54	0.72	−0.68	0.28	0.5	5	5	8	17	s.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	51.0	−4.9	85	13	24	26	40	0.73	−0.90	0.27	1.5	8	6	9	15	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	49.8	−6.2	93	12	18	15†	59	0.53	−0.66	0.19	2.3	8	10	12	8	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	52.4	......	86	7†	22	15	40	1.31	......	0.55	4.5	9	9	11	10	nw.	R. L. Williams.
Drake	McHenry	1,634	5	51.1	......	88	7	25	21	36	0.93	......	0.24	3.5	10	6	9	15	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	50.5	−5.7	92	12	19	15	54	0.66	−0.67	0.15	T.	7	9	11	10	nw.	W. F. Moede.
Dunseith	Rolette	1,682	38	50.6	−3.8	86	7	21	27	42	1.09	−0.62	0.33	3.0	9	8	2	20	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	51.6	−3.6	88	7†	21	15	47	1.07	−0.33	0.22	5.0	10	8	15	7	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	53.5	−4.1	90	13	22	21	53	1.09	−0.73	0.38	0.0	7	9	14	7	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	49.7	......	87	13	22	21	45	0.97	−0.11	0.57	2.5	9	8	4	18	nw.	E. D. Warner.
Ellendale	Dickey	1,457	39	53.2	−5.2	92	13	25	21	45	1.80	−0.22	1.01	0.0	7	12	4	14	nw.	J. E. Demmer.
Energy ‡‡	McLean	1,750	22	53.2	......	90	7†	20	15	49	0.90	−0.57	0.50	4.0	6	9	15	6	n.	H. S. Solenberger.
Epping	Williams	2,224	26	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	5	......	......	......	......	......	......	......	0.50	......	0.30	2.0	2	18	6	6	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	51.8	−3.9	88	7†	23	21	48	0.91	−0.88	0.30	3.0	8	11	8	11	nw.	T. D. Monsen.
Forman	Sargent	1,249	41	......	......	......	......	......	......	......	2.22	+0.28	1.28	0.8	6	19	6	5	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	55.6	−4.2	92	12	21	15	55	0.30	−0.85	0.10	1.0	3	10	13	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	50.6	......	88	7	24	15	37	1.40	−0.10	0.32	3.0	10	10	6	14	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	......	......	......	......	......	......	......	0.52	−1.17	0.40	1.0	3	18	6	6	nw.	Verne King.
Fullerton	Dickey	1,439	36	54.0	−3.2	91	13	23	21	46	1.45	−0.71	0.72	T.	5	13	10	7	nw.	F. O. Alin.
Gackle	Logan	1,951	4	53.9	......	84	13	26	29	40	0.57	......	0.19	1.5	6	13	9	8	nw.	A. H. Haut.
Garrison	McLean	1,901	57	52.9	−2.0	88	7	23	15	47	0.90	−0.54	0.25	5.0	9	9	13	8	nw.	W. F. Robinson.
Grafton	Walsh	827	42	53.6	−2.7	87	13	24	21	44	0.80	−1.26	0.27	T.	9	9	8	13	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	43	52.6	−3.8	88	13	24	21	43	0.86	−0.99	0.26	T.	7	5	9	16	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	51.4	−3.4	89	7	22	15	42	1.57	+0.08	0.52	5.5	8	12	7	11	nw.	W. A. Christianson.
Hankinson	Richland	1,068	5	54.8	......	89	12	22	20	41	2.08	......	1.07	0.0	6	15	6	9	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	50.7	......	83	12	23	21	46	1.82	−0.39	0.60	2.0	10	8	13	9	nw.	James Muir.
Hansboro	Towner	1,597	26	50.2	−3.3	91	7	22	27	55	0.70	−1.30	0.35	3.5	3	9	11	10	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	53.0	−4.6	92	12	15	26	52	0.39	−1.11	0.11	0.5	5	19	7	4	nw	C. H. Plath.
Hillsboro	Traill	901	28	53.8	−4.8	90	13	22	22	44	0.79	−1.43	0.34	0.0	4	8	8	14	nw.	H. F. Lund.
Howard ‡‡ (near)	Williams	2,275	27	49.7	−4.6	92	7	20	26	52	0.85	−0.69	0.20	2.0	9	9	9	12	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	42	51.8	−4.7	89	13	24	29	47	1.21	−0.52	0.75	T.	7	10	11	9	nw.	S. Calvelage.
Kenmare	Ward	1,799	3	53.6	......	89	12	24	15	39	1.46	......	0.48	1.0	7	13	7	10	nw.	R. Costello.
Langdon	Cavalier	1,615	38	49.6	−2.7	90	7	25	15†	54	1.10	−1.19	0.20	2.0	9	13	13	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	53.6	−1.7	90	13	26	21†	46	1.10	−0.98	0.48	1.4	5	14	3	13	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	55.1	−3.4	88	7†	21	15	51	0.37	−1.41	0.25	1.2	3	8	14	8	nw.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	30	54.0	−3.5	94	13	22	21	47	1.60	−0.57	0.95	0.4	8	9	11	10	n.	J. O. Halverson.
McClusky	Sheridan	1,943	16	51.6	......	86	7	21	15	41	0.86	−0.45	0.30	4.0	7	14	8	8	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	55.8	−3.2	90	13	23	21	47	1.87	−0.49	0.80	0.0	6	11	11	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	19	51.8	−3.9	89	7	19	21	53	0.89	−1.14	0.29	1.6	10	9	9	12	nw.	A. T. Felland.
Mandan	Morton	1,750	20	53.3	−4.1	90	12	24	15†	44	0.47	−0.99	0.18	1.8	8	8	4	18	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	......	......	......	......	......	......	......	0.69	−0.88	0.23	1.0	6	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	25	53.0	−3.5	92	7†	20	26	53	1.05	−0.30	0.26	2.0	5	12	6	12	nw.	S. P. Grane.
Mary	McKenzie	......	5	......	......	......	......	......	......	......	0.65	......	0.14	T.	8	17	6	7	nw.	Fred Hartman.
Max	McLean	2,093	5	49.6	......	88	7	20	14	45	1.01	......	0.30	3.0	8	9	2	19	......	A. W. Rice.
Mayville	Traill	975	38	55.6	−1.8	90	13	24	21	44	1.21	−0.99	0.43	0.0	8	7	5	18	n.	H. B. Addicott.
Minot	Ward	1,557	38	50.6	−5.3	89	7	22	15	49	1.32	−0.29	0.23	3.0	11	3	20	7	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	40	53.0	−1.0	89	7	23	28	39	1.75	+0.20	0.35	2.0	11	7	16	7	nw.	John Behan.
Mott	Hettinger	2,424	27	53.1	−3.5	92	12	18	26	49	0.37	−1.11	0.15	2.0	4	10	12	8	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	42	53.3	−3.4	88	7	17	21	49	0.69	−0.75	0.20	2.0	8	17	5	8	nw.	C. J. Hoof.
New England	Hettinger	2,400	40	52.8	−3.6	93	12	18	26	54	0.78	−0.50	0.46	5.0	5	8	15	7	nw.	F. S. Sleight.
New Salem	Morton	2,163	30	56.2	−1.3	92	7	23	26	44	0.49	−0.88	0.22	1.0	6	10	13	7	s.	J. Christiansen.
Oakes	Dickey	1,318	5	55.4	......	93	13	22	21	48	1.64	......	1.09	0.0	8	9	12	9	nw.	Eugene Naylor.
Park River	Walsh	998	30	51.6	−5.0	82	7†	24	27	40	0.69	−1.30	0.30	0.6	10	5	7	18	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	49.2	......	94	12	15	15	61	0.83	−0.73	0.25	1.2	10	4	14	12	nw.	C. E. Shubert.
Pembina	Pembina	789	60	......	......	......	......	......	......	......	0.93	−1.07	0.19	1.5	11	......	......	......	......	......
Petersburg	Nelson	1,520	4	......	......	......	......	......	......	......	1.24	......	0.68	0.3	7	7	10	13	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	52.6	−2.6	86	7†	21	15	50	0.69	−0.87	0.21	3.0	8	14	5	11	nw.	H. H. McCumber.
Portal	Burke	1,954	29	49.8	−4.6	91	12	22	15	47	0.86	−0.61	0.27	1.0	7	13	4	13	w.	R. G. Wegener.
Powers Lake	Burke	2,205	29	51.2	......	79	20	26	25†	42	1.28	+0.01	0.66	2.0	4	21	9	0	c.	Geo. B. Gee.
Richardton	Stark	2,467	18	52.6	−4.2	91	12	21	26	39	0.53	−0.82	0.28	2.0	5	9	7	14	s.	Assumption Abbey.
Rugby (near)	Pierce	1,562	5	......	......	......	......	......	......	......	0.83	......	0.36	3.0	9	8	9	13	nw.	W. B. Paterson.
Ryder	Ward	2,108	5	......	......	......	......	......	......	......	1.05	......	0.30	3.0	8	......	......	......	......	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	50.2	......	94	12	18	14	53	0.95	......	0.35	1.0	8	......	......	......	......	H. J. Bugge.
Sharon	Steele	1,516	10	52.0	......	88	13	24	21	42	1.00	−1.00	0.43	0.5	9	7	9	14	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	......	......	......	......	......	......	......	0.36	−0.70	0.23	3.0	3	15	9	6	sc.	H. J. Gilley.
Steele	Kidder	1,857	40	54.0	−2.9	90	7	21	21	46	0.56	−0.89	0.22	1.0	6	12	9	9	nw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	5	......	......	......	......	......	......	......	1.19	......	0.34	6.0	7	8	14	8	nw.	G. N. Pilgard.
Tioga	Williams	2,279	5	......	......	......	......	......	......	......	0.90	......	0.23	1.0	6	12	7	11	nw.	Anton Carlson.
Towner	McHenry	1,482	32	51.8	−4.4	90	13	20	15	44	1.11	−0.66	0.35	2.5	7	9	13	8	w.	Karl Weber.
Trotters	Golden Valley	......	8	......	......	......	..	......	......	......	0.43	......	0.17	1.5	5	12	4	14	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	20	......	......	......	......	......	......	......	0.92	−0.38	0.43	2.5	8	......	......	......	......	M. A. Slettum.
Valley City	Barnes	1,245	28	54.4	−3.8	94	13	21	21	47	0.89	−1.06	0.58	0.0	5	7	11	12	nw.	I. C. Robertson.
Velva	McHenry	1,511	7	53.2	......	89	7	23	15	38	1.28	......	0.52	5.5	10	7	13	10	nw.	Oscar Anderson.
Wahpeton	Richland	962	42	58.1	−1.1	90	13†	25	21	44	2.03	−0.23	0.75	0.0	8	13	0	17	sc.	C. G. Luick.
Washburn	McLean	1,731	33	52.1	−6.4	88	7	26	26	47	0.47	−0.79	0.25	1.5	3	12	3	15	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	51.8	−3.1	87	7†	25	15	46	1.15	−0.20	0.28	T.	11	8	14	8	w.	D. W. Drake.
Williston	Williams	1,878	55	52.2	−4.4	92	7	24	15	44	1.19	+0.10	0.48	2.1	12	14	8	8	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	49.8	−4.4	87	7†	19	15	50	0.90	−0.82	0.25	2.5	7	10	9	11	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	5	53.9	−1.7	89	13	20	21	47	0.78	−0.57	0.40	0.0	6	11	1	18	nw.	E. W. Davis.
Zap	Mercer	1,838	19	......	......	......	......	......	......	......	0.45	−0.78	0.32	1.0	3	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	53	53.5	−4.7	89	13	26	21	39	0.93	−1.29	0.40	T.	11	6	12	12	s.	U. S. Weather Bureau.
Averages	......	......	......	52.4	−4.0	95	11	9	26	61	0.96	−0.69	1.28	2.0	7	11	9	10	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for September 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri									.14					.07										.25								0.46
Amenia	Red										.15				.51										.35	.20	.08		T.				1.29
Arnegard (near)	Missouri	T.				T.														T.				.02	T.	.11			T.				0.13
Ashley	Missouri	.12								.11	.37													T.	.26	.10	.02						0.98
Beach	Lit. Missouri	.04								.02					.06					T.	T.		T.	.07	.03	.15							0.37
Berthold Agency	Missouri	.09	.02		.06					.01								.02		.01				.03	.16	.15				.04			0.59
Bismarck ***	Missouri	.04	T.		.02	.05				.11	.02				T.			T.				T.	.01	T.	.06	.23		T.					0.54
Bottineau	Mouse	.15				.01								T.									.06	.02	.14	.27	.11	.11	.04	.08			0.99
Bowman	Grand	T.								.07					.15						.16		.02		.14	.88	.01			T.			1.43
Cando	Devils Lake				T.													T.	T.						.19	.27	.17	.10	.12				0.85
Carrington‖ ‖	James	.06	T.		.05					T.														.15	.05	.20							0.51
Carson	Heart	.21				.02				.08																.50							0.81
Cavalier	Red	.06			.01						.03	.25		.30				T.	T.					.15	.26	.18	.27			.03			1.54
Cooperstown	Sheyenne	.02	T.				T.				.08	T.													.55	.18	.08		T.	.06	T.		0.97
Corinth	Missouri	.04												.03					.02				.15	.14	.09	.07		.26			T.		0.80
Courtenay	James				.11					.20															.47	.28			.05	.07			1.18
Crosby	Mouse																							.22	.28	.03			.15	.04			0.72
Devils Lake ***	Devils Lake	.02	T.	T.						.01	T.						T.	T.		.03			T.	.05	.16	.27	T.		.15	.04	T.		0.73
Dickinson‖ ‖	Heart	T.	.06							.04	.02	T.			.02						T.	T.		.03	.13	.19	.04						0.53
Dogden Butte	Mouse	.08	.08			.03				T.	T.	T.								.03	T.				.13	.55	.10		.28	.03			1.31
Drake‖ ‖	Mouse	.06	.12	T.		.03					T.									.02					.10	.24	.15		.01	.18	.02		0.93
Dunn Center	Knife		.08								.03							.15						.13	.12	.10				.05			0.66
Dunseith	Mouse	.01	.10		.05						T.			T.									.08	.27	.20	.33			.02	.03			1.09
Eckman	Mouse		.12		.05					.03				T.					T.				.08	.15	.17	.20	.03		.22	.02			1.07
Edgeley	James	.10				.15					.38													.03	.25	.11			.07				1.09
Edmore	Devils Lake	.01	T.	.02		T.				T.	.02						T.		T.				.03	.09	.18	.57			.02	.03			0.97
Ellendale	James	.13				.18				.09	.25			.06							T.			T.	1.01	.08							1.80
Energy	Missouri	T.	.09			.08				.08													T.		.10	.50			T.	.05			0.90
Epping	Missouri																																....
Fairfield	Knife																								.30	.20							0.50
Fessenden‖ ‖	James		.12			.03						.05													.15	.05	.30	.03	.18				0.91
Forman	Sheyenne	.14									.15			.51										.06	1.28	.08			T.				2.22
Fort Yates	Missouri	T.	.10								.10															.10							0.30
Foxholm (near)	Mouse	.03	.08		T.	.08				.05				.01			T.						.05	.20	.27	.31			.32				1.40
Fryburg	Heart	T.																		T.	T.		T.	.04	.40	.08							0.52
Fullerton	James	T.			T.	.42				T.	.04	T.		.20										T.	.72	.07			T.				1.45
Gackle	James	.05					.10			.01														.15	.19	.07							0.57
Garrison	Missouri	.10				.08				.12										.01					.20	.25	.02		.08	.04			0.90
Grafton	Red	.07			.02						.01			.04						.02				.02	.27	.17	.18		T.	T.			0.80
Grand Forks ***	Red	T.		T.		T.				.12				.05			T.		T.	.04				.08	.26	.24			.07	T.			0.86
Granville	Mouse	T.	.11		T.	.08				.03							T.						.03	.05	.45	.52			.30				1.57
Hankinson	Red	.25								.55			.12											1.07	T.	.02			.07				2.08
Hannah	Pembina	.02	.01		.08	T.					.02	.60							T.				T.	.20	.10	.32	.15			.32			1.82
Hansboro	Devils Lake									T.							T.		T.				.10	.25		.35							0.70
Hettinger	Grand	T.								.06					.11						.10			T.	.07	.05							0.39
Hillsboro	Red										.05			.34											.28	.12							0.79
Howard (near)	Missouri	.01	.01		T.					T.										T.	T.				.51	.01		.01	.20	.10			0.85
Jamestown	James	.06			T					.21	.01													.75	.07		.11						1.21
Kenmare	Mouse	.06	.09		T.					.07													T.	.28	.48	.15			.33				1.46
Langdon	Pembina	.16	.17		.10	.05					.05													T.	.17	.10	.20	.10					1.10
Larimore	Red					T.					T.			.25										T.	.48	.17	.14		.06				1.10
Linton	Missouri	.02			T.	T.					.25	T.												T.			.10						0.37
Lisbon	Sheyenne		.16								.23				.02										.95	.09	.04		.02	.09			1.60
McClusky	Missouri	.10				.06										T.									.18	.30	.12	T.	.08	.02			0.86
McLeod	Sheyenne		.12			T.					.45			.26											.80	.08			.16				1.87
Maddock	Sheyenne		.29		T.	.02					.03	.02					T.		T.	.02				T.	.09	.10	.06		.23	.03			0.89
Mandan‖ ‖	Missouri	.03			.05				T.	.05	T.			T.			T.						.02	.05	.18	.07	.02		T.				0.47
Manfred	James	T.	.06			.04				T.										T				T.	.10	.15	.11	T.	.23				0.69
Marmarth	Lit. Missouri	T.								.19					.16						.26	T.	T.		.26	.18				T.			1.05
Mary	Lit. Missouri	.13								.04								.10		.07				.12	.14	.03				.02			0.65
Max‖ ‖	Missouri		.09			.01					.13								T.					.25	.30	.05		.05		.13			1.01
Mayville	Red	T.	T.								.16	T.			.43									.02	.34	.15	.02		.04	.05	T.		1.21
Minot	Mouse	.21	.10	T.		.01					.03				T.					.02				.10	.16	.17	.23		.17	.12			1.32
Mohall	Mouse	.12	.08		.10					.08				.05									.23	.25	.35	.20			.27	.02			1.75
Mott	Cannon Ball	.11								.06					T.								T.		.15	.05							0.37
Napoleon‖ ‖	Missouri		.06			.15				T.	.12	.03												T.	.10	.02	.20		.01				0.69
New England	Cannon Ball	.07						.04							.09								T.	.12		.46							0.78
New Salem	Heart	.02								.16					T.							T.			.01	.22	.07			.01			0.49
Oakes	James	.10				.14					.08			.12										.04	1.09	.06	.01			T.			1.64
Park River	Red	T.			.01	.04					.03			.02						.02				.03	.30	.17	.06		.01				0.69
Parshall	Missouri	.01	.08			.04												T.		.04				.08	.25	.12	.07		.02	.12			0.83
Pembina ***	Red	.11			.03						.03	.19	.08				T.		.02					.10	.15	.05	.10			.07			0.93
Petersburg	Red	T.				T.					.03			.20						.02				T.	.68	.22	.03		.06	T.			1.24
Pettibone	James	T.	T.		T.	.18				.01	.03	.01			T.				T.					.01	.21	.11	.13		T.	T.			0.69
Portal‖ ‖	Mouse	.05			.03																		.15	.12	.27	.10			.14				0.86
Powers Lake	Missouri							T.	.10														.66	.31	.21								1.28
Richardton	Heart	.10	T.							.01								T.					.01		.13	.28							0.53
Rugby [near]	Mouse		.08		.05																			.01	.03	.36	.03		.20	.03	.04		0.83
Ryder	Missouri	.17			.04					.10							.06							.20		.30		.12		.06			1.05
Sanish‖ ‖	Missouri	.06														.09	.07				.13	.35		.10				.05	.10				0.95
Sharon	Red	.02	T.			.07					.05	T.		T.				.04		T.		T.		.07	.43	.20	T.	T.	.11	.01	T.		1.00
Stanton	Missouri	T.			.05					.08							T.							T.		.23							0.36
Steele	Missouri	.08				.04					.06				T.									T.	.22	.07	.09	T.					0.56
Stowers	Cannon Ball																																....
Tagus	Mouse	.08			.02					T.							T.						.10	.13	.33	.19	T.		.34				1.19
Tioga	Missouri																.06						.16	.13	.10			.23	.22				0.90
Towner	Mouse	T.	.10		T.	.04				T.	T.	T.		T									T.	.06	.20	.35	.10		.26	T.	T.		1.11
Trotters	Lit. Missouri	.17																		.06		.04		.04		.12							0.43
Turtle Lake	Missouri	.09				.17												.03		.01					.09	.43	.06	T.	.04				0.92
Tuttle		.01	.04			.12					.03													.01	.20	.12	.02		T.	T.			0.55
Valley City	Sheyenne	T.				.03					.04														.58	.21			T.	.03			0.89
Velva	Mouse	.01	.06							T.							T.		T.	.03			.05	.02	.22	.52	.08		.27	.02			1.28
Wahpeton	Red		.45							.04	.29	.05			.30										.75	.02				.13			2.03
Washburn	Missouri					.08				T								T.							T.	.25	.14						0.47
Westhope	Mouse	.01	.11	T.	.04	T.				.04				.01					T.				.12	.23	.28	.23			.05	.03	T.		1.15
Williston ***	Missouri	.01								T.				.03			.44	.04	T.	.08		.01	.04	.20	.20	.01		T.	.09	.04			1.19
Willow City	Mouse	.04	.17			T.			T.		T.													.04	.24	.25			.10	.06			0.90
Wishek‖ ‖	Missouri			.14		.04					.40														.10	.06	.04						0.78
Zap	Knife									.07		.32																	.06				0.45
Moorhead, Minn ***	Red	.01	.02							.17	.03			.17	T.		T.		T	T.				.02	.38	.05	T.	.03	.04	.01	T.		0.93

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. • Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	73	62	74	76	65	79	84	86	85	84	75	80	90	60	70	74	72	70	73	58	60	66	68	60	48	45	57	60	65	65	....	69.5
	Minimum	46	45	34	36	35	34	40	50	55	54	50	45	48	44	34	42	50	46	42	37	23	24	34	40	34	30	28	35	28	26	....	39.0
Arnegard (near)	Maximum	49	63	81	77	69	82	93	80	72	80	95	73	50	70	67	57	55	62	62	38	61	49	42	33	30	40	47	47	40	74	....	61.3
	Minimum	36	35	39	41	42	37	46	54	50	41	58	45	19	37	45	46	47	42	38	30	27	37	32	28	25	22	37	35	33	32	....	37.9
Ashley	Maximum	67	55	71	77	72	75	85	82	76	65	74	83	87	71	60	81	72	77	74	56	58	66	64	60	45	44	70	65	60	73	....	68.8
	Minimum	42	41	34	44	47	34	48	50	53	56	50	47	62	40	25	38	46	45	50	36	22	30	49	38	32	26	32	35	27	28	....	40.2
Beach	Maximum	52	60	76	81	67	80	92	72	64	75	84	92	74	59	64	79	69	82	73	44	62	59	52	31	31	45	59	52	62	75	....	65.6
	Minimum	36	36	38	42	42	33	50	55	46	37	47	55	52	35	24	45	41	49	37	31	28	33	30	26	24	21	37	39	32	31	....	37.7
Berthold Agency	Maximum	51	60	79	77	68	80	92	86	70	79	83	93	84	70	65	82	67	85	74	50	65	56	55	47	37	41	60	54	58	75	....	68.1
	Minimum	39	45	34	40	40	30	47	55	54	34	43	56	54	30	18	45	50	45	43	29	28	35	44	35	28	23	33	53	33	28	....	38.4
Bismarck	Maximum	50	55	74	75	63	76	89	85	66	63	73	88	76	51	59	83	66	82	60	48	61	68	56	44	35	44	62	56	57	73	....	64.6
	Minimum	44	41	38	51	45	35	51	59	50	44	54	55	49	38	25	43	49	43	43	33	28	35	40	35	29	27	32	39	30	34	....	40.6
Bottineau	Maximum	51	52	75	61	62	76	87	85	80	77	75	86	84	69	59	76	72	75	74	70	59	56	48	42	37	34	48	47	49	67	....	64.4
	Minimum	40	41	37	40	43	34	50	55	50	42	53	52	54	37	27	42	43	42	40	28	29	36	40	30	30	23	23	33	34	30	....	38.6
Bowman	Maximum	57	61	72	82	65	80	90	77	68	75	85	93	72	58	64	80	69	84	64	42	61	63	54	38	30	42	60	55	61	76	....	65.9
	Minimum	40	40	35	41	44	33	45	51	49	39	42	52	51	33	24	39	43	44	33	33	26	37	33	29	24	9	36	36	31	35	....	36.9
Cando	Maximum	69	74	76	74	65	79	85	87	89	79	76	83	84	68	59	66	74	72	72	57	57	55	56	58	39	33	57	55	47	48	....	66.4
	Minimum	54	61	58	51	43	34	40	41	42	49	54	46	60	35	27	34	49	40	42	27	21	29	28	30	30	30	24	33	31	34	....	39.2
Carrington §§	Maximum	58	57	72	72	63	76	85	83	76	71	75	83	88	52	60	80	68	73	58	52	59	62	57	47	35	41	63	42	51	70	....	64.3
	Minimum	43	43	35	39	41	36	46	52	47	56	55	47	47	39	23	24	28	40	42	34	24	27	40	45	32	25	30	39	28	29	....	37.9
Carson	Maximum	65	56	75	77	64	78	90	85	67	77	78	90	75	60	64	85	70	85	62	46	62	70	64	42	34	44	65	60	60	76	....	67.5
	Minimum	43	41	35	40	44	35	57	59	48	43	47	55	59	30	21	40	42	45	44	29	25	42	35	32	25	18	33	38	28	33	....	38.9
Crosby§§	Maximum	45	60	80	72	66	81	91	80	71	81	82	90	68	50	70	76	68	80	42	48	57	38	33	30	30	41	50	43	49	69	....	61.4
	Minimum	40	40	39	39	38	38	39	46	51	43	44	46	53	34	22	22	41	39	41	30	30	30	30	30	29	22	22	31	31	34	....	35.8
Devils Lake	Maximum	55	53	72	68	63	76	84	84	77	70	73	83	85	50	58	72	64	72	60	50	57	57	55	51	35	33	57	44	47	67	....	62.4
	Minimum	44	44	35	43	43	41	44	54	52	57	53	48	49	35	27	36	44	40	41	32	29	31	47	34	31	24	30	33	32	33	....	39.5
Dickinson §§	Maximum	50	59	76	78	66	80	91	82	69	75	81	93	72	52	66	81	67	83	53	46	65	61	38	36	30	45	61	47	60	75	....	64.6
	Minimum	37	37	37	39	41	30	35	50	50	34	36	47	53	35	18	22	43	45	47	30	27	29	37	32	26	18	20	38	27	28	....	[illegible]
Drake§§	Maximum	52	57	74	72	63	76	88	86	63	68	78	86	74	51	61	77	65	80	55	50	60	57	58	40	32	42	59	39	50	69	....	[illegible]
	Minimum	43	44	38	44	46	43	49	52	52	47	46	53	58	39	26	27	46	43	44	33	25	31	34	38	29	27	28	37	30	34	....	35.5
Dunn Center §§	Maximum	47	58	76	76	65	79	90	83	68	75	80	92	71	53	67	80	65	82	51	48	65	53	39	37	34	46	59	47	58	74	....	[illegible]
	Minimum	41	40	38	41	39	34	43	44	58	35	42	54	51	39	19	26	47	44	45	29	25	34	37	34	27	24	27	36	32	28	....	[illegible]
Dunseith	Maximum	51	56	73	73	61	76	86	84	82	72	77	85	84	61	58	75	73	74	74	49	56	56	48	40	35	32	55	53	48	65	....	63.7
	Minimum	40	42	36	43	44	35	44	50	50	45	52	49	54	34	28	37	42	39	39	28	24	34	38	33	27	22	21	31	30	30	....	37.4
Edgeley	Maximum	53	56	71	76	73	74	85	89	85	66	74	82	90	70	68	76	70	74	70	59	58	69	65	64	44	69	70	60	64	74	....	69.9
	Minimum	43	41	37	42	45	34	37	36	45	55	43	45	58	41	29	30	45	35	30	38	22	28	48	42	35	29	25	26	25	25	....	37.1
Ellendale	Maximum	64	55	69	76	62	64	80	80	74	67	73	76	92	70	51	70	65	74	63	54	57	71	60	50	45	42	69	64	55	63	....	65.2
	Minimum	41	40	38	50	49	40	38	52	53	48	56	50	47	48	31	32	50	39	53	38	25	31	48	45	35	30	33	41	29	30	....	41.3
Fessenden §§	Maximum	56	57	73	72	66	76	88	86	70	71	78	88	83	50	62	78	68	77	57	52	57	60	59	46	34	46	63	37	56	70	....	64.5
	Minimum	44	44	33	42	44	38	50	56	48	51	56	45	59	39	24	30	45	35	44	34	23	31	35	41	31	26	30	35	26	31	....	39.0
Foxholm (near)	Maximum	49	58	77	70	62	76	88	84	73	74	76	81	78	57	60	77	61	78	69	48	60	53	43	37	33	36	57	49	49	66	....	62.6
	Minimum	39	42	40	43	41	43	51	55	51	45	46	48	52	36	24	47	46	45	39	25	27	29	33	32	26	25	30	30	35	35	....	38.7
Fullerton	Maximum	62	57	70	75	68	71	82	80	82	67	73	83	91	65	58	77	72	75	70	53	59	71	61	59	42	42	70	59	59	69	....	67.4
	Minimum	43	45	35	49	47	36	38	52	51	56	54	45	59	42	28	31	48	36	49	33	23	28	49	42	34	30	32	42	27	30	....	40.5
Garrison	Maximum	49	58	77	76	65	80	88	85	83	73	75	78	74	73	70	79	68	84	72	49	65	57	57	41	37	43	58	52	54	73	....	66.4
	Minimum	41	44	40	42	42	38	48	56	51	40	41	51	56	41	23	43	49	43	44	28	25	36	38	34	29	25	31	35	31	36	....	39.4
Grafton	Maximum	55	59	72	72	65	78	85	83	83	81	78	85	87	76	59	67	68	67	67	53	57	59	60	58	43	41	59	57	46	68	....	66.3
	Minimum	48	48	37	51	50	34	43	43	52	59	57	46	54	43	35	33	46	37	47	35	24	31	51	43	35	31	29	33	28	27	....	41.0
Grand Forks	Maximum	60	58	71	70	64	77	83	81	81	75	75	83	88	54	57	68	70	69	60	49	57	66	58	55	41	41	61	47	47	67	....	64.4
	Minimum	46	46	36	49	43	34	45	55	55	60	58	48	54	44	30	36	44	36	45	34	24	30	52	41	35	29	29	34	27	27	....	40.9
Granville	Maximum	51	59	67	70	64	77	89	87	68	72	78	87	72	54	61	79	69	82	62	52	62	50	46	42	34	37	59	51	50	69	....	63.3
	Minimum	43	44	35	40	44	40	47	58	58	37	48	50	50	38	22	45	53	44	42	32	25	32	40	34	29	27	30	32	33	34	....	39.5
Hansboro	Maximum	51	55	77	67	69	77	91	86	80	70	80	86	78	55	61	76	60	72	65	58	58	55	54	45	38	35	56	44	48	65	....	63.7
	Minimum	41	43	37	40	45	38	36	36	50	41	54	44	50	35	29	36	42	38	40	26	25	28	40	34	30	24	22	34	33	29	....	36.7
Hettinger	Maximum	54	63	76	82	73	79	90	81	63	72	85	92	84	66	62	80	70	81	75	47	61	74	64	35	34	45	65	61	60	76	....	68.3
	Minimum	40	43	35	44	46	29	38	57	50	38	39	54	49	34	21	36	41	47	44	33	27	38	34	32	28	15	35	34	32	35	....	37.6
Hillsboro	Maximum	66	65	68	71	65	76	84	84	86	84	73	84	90	65	57	69	70	70	70	61	58	66	63	55	40	42	64	64	50	60	....	67.3
	Minimum	47	37	38	37	46	36	43	42	52	47	58	44	64	43	36	33	46	40	52	30	25	22	50	47	36	31	29	39	27	29	....	40.2
Howard (near)	Maximum	60	75	71	75	68	80	92	80	70	80	82	84	90	80	69	78	65	81	60	56	60	50	35	33	32	44	50	46	55	70	....	65.7
	Minimum	44	50	46	45	35	48	48	46	40	40	40	40	38	31	22	48	39	49	38	26	26	31	31	26	24	20	32	31	40	36	....	33.7
Jamestown §§	Maximum	58	71	56	65	60	75	81	83	78	68	74	84	89	52	60	75	70	74	60	51	68	65	57	53	49	42	64	40	56	72	....	65.0
	Minimum	46	45	39	34	45	32	34	47	53	55	57	45	50	41	28	32	45	37	38	38	25	30	33	49	33	29	29	40	24	28	....	38.7
Kenmare	Maximum	50	60	80	79	81	79	88	82	75	76	80	89	70	60	63	78	73	82	78	50	51	52	62	37	35	36	58	55	50	69	....	65.9
	Minimum	42	43	44	45	44	41	53	48	55	48	51	60	53	37	24	49	48	47	41	27	32	34	35	33	28	28	35	33	39	38	....	41.2
Langdon§§	Maximum	55	54	74	64	54	82	90	82	87	72	75	86	84	50	64	50	80	65	50	56	58	52	54	48	42	40	44	43	40	70	....	62.2
	Minimum	42	44	32	35	42	32	36	54	50	57	50	52	50	38	25	30	36	35	36	25	26	29	36	40	36	25	30	26	30	28	....	36.9
Larimore	Maximum	63	57	74	72	66	80	85	82	81	75	74	84	90	66	61	70	71	70	67	53	58	63	60	54	43	41	62	57	47	70	....	66.5
	Minimum	45	47	37	47	44	34	45	54	52	57	55	47	58	44	31	34	44	38	47	34	26	31	50	43	34	29	27	37	27	26	....	40.8
Linton	Maximum	65	60	73	78	67	79	88	85	79	66	79	88	86	68	64	85	82	83	74	54	60	69	67	55	40	48	69	65	63	77	....	70.5
	Minimum	40	42	28	46	44	28	46	53	54	54	52	54	66	39	21	40	46	43	46	38	24	30	48	30	32	25	32	35	27	27	....	39.7
Lisbon §§	Maximum	65	60	70	78	64	74	82	81	79	69	72	80	94	55	60	78	72	75	63	52	59	69	60	68	40	40	67	54	56	70	....	66.9
	Minimum	49	48	42	49	48	33	42	42	53	58	59	47	48	45	33	31	50	40	48	40	22	26	35	53	37	32	29	39	30	29	....	41.2
McClusky	Maximum	52	54	74	74	64	76	86	85	81	68	77	85	78	61	62	79	69	79	57	50	59	59	61	51	36	40	61	52	52	71	....	65.1
	Minimum	41	43	34	43	44	37	45	54	48	41	47	51	58	38	21	38	46	39	41	32	25	31	44	34	25	26	29	34	27	31	....	38.2
Maddock	Maximum	56	56	74	74	65	76	89	85	84	72	77	86	85	71	60	76	72	76	75	59	59	58	55	55	39	35	58	56	50	68	....	66.7
	Minimum	42	44	32	41	41	31	36	52	48	53	54	44	59	38	20	37	42	33	43	30	19	25	43	36	30	22	25	31	29	30	....	37.0
Marmarth	Maximum	58	62	78	81	76	82	92	83	70	77	85	92	81	63	67	80	70	85	70	43	55	61	57	32	31	45	64	57	64	78	....	68.0
	Minimum	41	38	32	40	47	29	45	52	48	34	41	56	55	33	25	42	47	48	42	32	34	37	32	29	25	20	35	37	32	28	....	37.9
Minot §§	Maximum	51	59	79	65	64	79	89	83	64	76	78	87	72	49	65	78	67	82	55	52	65	45	40	38	33	45	60	42	53	72	....	62.9
	Minimum	42	43	36	44	43	40	40	39	49	42	43	42	57	39	22	44	41	47	43	32	29	35	35	35	29	28	28	35	33	33	....	38.3
Mohall	Maximum	51	59	78	75	64	78	89	88	82	76	78	88	83	56	62	79	72	79	78	53	63	62	39	37	34	39	57	53	51	69	....	65.7
	Minimum	49	46	41	44	42	40	50	54	53	41	48	52	54	34	25	45	47	46	41	41	24	34	36	35	28	34	24	23	39	35	....	40.2
Mott	Maximum	52	61	76	81	68	80	90	84	68	75	81	92	72	67	63	86	72	84	76	50	63	72	66	37	35	46	65	59	63	74	....	68.6
	Minimum	43	43	35	37	44	31	46	56	50	38	46	55	56	34	19	40	41	44	42	33	24	34	34	33	26	18	31	33	30	31	....	37.6
Napoleon §§	Maximum	53	56	73	77	73	77	88	84	70	64	80	85	87	50	63	85	72	80	63	55	59	66	57	48	35	44	67	63	60	75	....	67.0
	Minimum	42	42	32	42	45	34	48	53	55	54	50	50	64	40	19	36	43	39	49	37	17	25	49	38	30	25	32	39	29	28	....	39.6
New England	Maximum	78	76	76	77	79	82	92	83	77	79	84	93	86	60	63	72	85	84	77	50	64	59	52	49	38	44	54	49	63	65	....	69.7
	Minimum	50	44	40	36	32	36	38	40	36	37	44	52	53	36	19	34	37	35	49	33	23	30	34	32	24	18	34	32	34	35	....	35.9
New Salem	Maximum	78	79	74	84	76	80	92	81	79	75	78	90	79	73	62	84	78	84	78	54	61	68	67	60	50	43	63	61	63	73	....	72.2
	Minimum	45	42	38	45	44	42	49	57	52	42	49	52	58	37	25	40	47	50	43	35	26	33	33	35	28	23	33	39	30	38	....	40.3
Oakes	Maximum	65	62	72	77	70	76	83	84	80	70	77	85	93	67	61	78	75	76	68	57	59	72	65	60	45	41	70	62	60	71	....	69.4
	Minimum	46	45	35	46	48	32	41	52	55	59	57	47	60	43	28	30	47	39	52	38	22	30	49	45	36	31	31	43	28	28	....	41.4
Park River	Maximum	54	58	71	71	61	75	82	82	78	76	75	81	79	66	56	64	63	67	67	56	67	66	62	53	49	34	58	55	41	58	....	64.2
	Minimum	43	45	31	46	43	35	50	56	53	56	52	44	55	38	30	38	44	34	43	31	27	30	43	38	31	27	24	33	26	27	....	39.1
Sharon	Maximum	62	57	72	72	63	76	83	81	80	69	71	81	88	60	60	72	72	70	60	54	58	63	54	53	39	36	62	52	50	68	....	64.6
	Minimum	44	46	33	46	41	34	45	47	46	57	55	53	58	37	30	35	43	36	46	34	24	34	48	39	32	28	25	35	25	26	....	39.4
Steele	Maximum	53	54	73	71	64	76	90	86	70	65	80	88	89	66	61	83	77	80	74	53	60	66	62	58	40	43	65	56	56	73	....	67.7
	Minimum	43	46	30	47	45	30	46	55	53	54	50	51	64	34	23	41	48	41	47	37	21	30	49	38	30	27	32	37	30	28	....	40.2
Towner	Maximum	52	58	74	75	63	76	88	88	78	70	77	87	90	64	59	75	77	77	76	52	61	60	52	46	36	35	58	52	47	66	....	65.6
	Minimum	42	44	31	40	44	32	47	55	49	38	50	50	56	38	20	41	41	42	43	28	26	30	42	35	28	26	26	31	31	30	....	37.9
Valley City	Maximum	72	64	71	74	71	76	84	84	82	75	76	82	94	73	60	75	75	75	75	58	59	67	64	56	46	37	68	64	60	71	....	69.6
	Minimum	45	44	35	45	44	29	41	47	50	58	55	44	57	39	28	29	47	38	48	36	21	33	48	33	34	27	26	43	24	25	....	39.1
Wahpeton	Maximum	72	72	74	76	75	76	80	81	81	81	74	81	90	90	60	76	77	75	75	62	60	72	69	68	57	45	73	70	69	64	....	72.5
	Minimum	49	49	40	39	40	34	44	52	58	59	56	51	58	46	39	36	49	42	54	40	25	35	51	53	39	34	32	45	33	28	....	43.7
Westhope	Maximum	52	60	78	81	65	77	87	85	75	78	77	87	79	58	65	79	61	76	67	54	62	56	48	41	35	38	58	48	50	68	....	64.8
	Minimum	42	44	39	43	43	37	41	55	48	39	50	51	54	36	25	40	44	43	43	27	28	32	38	33	29	26	26	34	38	32	....	38.7
Williston	Maximum	48	62	80	75	67	78	92	77	72	77	81	91	68	52	68	79	65	81	56	48	60	45	39	34	33	45	52	46	57	74	....	63.4
	Minimum	43	42	41	45	45	39	56	59	52	42	47	64	43	34	24	51	47	52	37	32	34	35	32	29	28	28	42	35	38	36	....	41.1
Moorhead, Minn	Maximum	64	59	69	70	63	74	79	78	79	69	74	79	89	56	55	70	70	70	63	50	57	65	60	63	42	40	65	51	52	65	....	64.7
	Minimum	49	45	41	50	47	35	44	52	57	59	59	52	56	43	37	34	51	43	43	33	26	34	50	42	35	29	29	38	28	29	....	42.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 10-25-34—1050]

51.05
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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

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NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLIII Bismarck, N. D., October 1934 No. 10

GENERAL SUMMARY

Dry weather with mild temperature prevailed throughout the State during the first two decades, and fall work, consisting of late threshing, potato digging, beet lifting, and corn harvesting made excellent progress, but the top-soil was mostly too dry for best results in fall plowing and winter rye seeding. During the last decade, however, scattered heavy showers improved soil conditions in many sections and plowing and seeding were active at the close of the month. Livestock shipments from the State were heavy during the month and feed conditions were serious.

TEMPERATURE

The mean temperature for the State was 49.0°, or 5.5° above the normal, and 7.5° higher than the mean for October 1933. The highest mean reported was 53.3° at Wahpeton, Richland County; the lowest was 44.0° at Langdon, Cavalier County. The highest temperature reported was 94° at Mayville, Traill County on the 14th; the lowest was 5° at New England, Hettinger County on the 31st and at Powers Lake, Burke County on the 29th. The greatest monthly range of temperature was 84° at New England, Hettinger County; the least was 62° at Ellendale, Dickey County, Gackle, Logan County, and Wahpeton, Richland County. The greatest daily range of temperature was 54° at Linton, Emmons County on the 11th.

PRECIPITATION

The average precipitation for the State was 1.01 inches, or 0.03 inch below the normal, and 0.48 inch more than the average for October 1933. The greatest monthly amount reported was 4.39 inches at Valley City, Barnes County; there was none at New England, Hettinger County, Turtle Lake, McLean County, and Zap, Mercer County. The greatest amount recorded in any 24 consecutive hours was 2.98 inches at Grand Forks, Grand Forks County on the 15-16th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 0.1 inch.

MISCELLANEOUS PHENOMENA

Auroras: Carson, 11th; Dogden Butte, 13th, 20th; Foxholm 6th, 11th, 12th, 14th; New Salem, Rugby, Willow City, 12th; Tuttle, 14th; Velva, 1st.

Fog: Beach, 14th, 19th; Bismarck, Tuttle, 4th, 18th, 19th; Cavalier, 4th, 15th, 24th; Crosby, Howard, 19th; Devils Lake, 4th, 5th, 18th, 19th, 20th, 24th, 25th, 26th; Dogden Butte, 14th, 20th; Eckman, 19th, 20th, 25th; Edmore, 4th, 20th, 29th; Ellendale, 18th, 20th; Foxholm, Granville, 4th, 20th; Gackle, 4th, 19th; Garrison, Hannah, 19th, 20th; Grafton, Linton, Williston, 4th; Grand Forks, 24th, 25th; Hettinger, 15th, 18th, 19th; Max, 4th, 18th; Mohall, Towner, 20th; Moorhead, 24th, 26th; Mott, Sharon, 18th, 19th; New Salem, 4th, 15th, 19th; Pettibone, 4th, 18th, 20th; Richardton, 15th; Rugby, 4th, 18th, 19th, 20th, 21st; Steele, 4th, 15th; Tagus, 15th, 19th, 20th.

Hail: Gackle, 16th; Oakes, Towner, 24th; Tagus, 19th.

Halos, lunar: Bowman, 22d; Tagus, Tuttle, Williston, 25th.

Halos, solar: Moorhead, 5th; Towner, 9th; Williston, 2d.

Thunderstorms: Bismarck, Foxholm, Steele, Tagus, 19th; Devils Lake, McLeod, 16th; Fullerton, Sharon, 16th, 19th; Grand Forks, Jamestown, 15th, 16th, 19th; Moorhead, 5th, 16th, 19th; Napoleon, 19th, 20th; Oakes, 16th, 24th; Pettibone, 16th, 19th, 24th; Tuttle, 16th, 19th, 20th; Westhope, 1st.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.00	30.70	27	29.40	16	9.1	31	w.	5	74	49	51	50
Devils Lake	30.00	30.65	27	29.50	16	9.8	34	n.	16	84	60	64	46
Grand Forks	29.96	30.51	27	29.43	16	......	34	nw.	16	87	....	66	....
Williston	30.00	30.71	27	29.52	15	8.3	38	nw.	5	76	45	47	67
Moorhead, Minn	29.99	30.60	27	29.34	16	8.9	28	nw.	5	82	60	63	50
Averages & ext's	29.99	30.71	27	29.34	16	9.0	38	nw.	5	81	53	58	53

† And other dates.

COMPARATIVE DATA FOR OCTOBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	47.2	+3.6	95	7	0.58	−0.50	2.89	0.06	T.	3	15	8	8
1893.	40.6	−3.0	79	0	1.05	−0.03	1.70	0.37	0.9	5	11	11	9
1894.	43.0	−0.6	77	16	1.66	+0.58	3.17	0.35	0.0	6	14	8	9
1895.	40.5	−3.1	85	−12	0.25	−0.83	0.65	T.	0.0	2	16	8	7
1896.	40.2	−3.4	88	5	0.78	−0.30	2.73	T.	0.0	3	14	8	9
1897.	45.9	+2.3	93	6	0.77	−0.31	2.50	0.00	0.8	4	13	9	9
1898.	38.8	−4.8	84	8	2.23	+1.15	6.20	0.30	4.7	6	8	8	15
1899.	42.1	−1.5	86	7	1.18	+0.10	2.30	T.	1.3	5	11	8	12
1900.	48.2	+4.6	87	14	1.54	+0.46	3.03	0.26	T.	6	15	4	12
1901.	47.5	+3.9	88	11	1.61	+0.53	3.83	T.	T.	5	17	7	7
1902.	43.7	+0.1	87	10	1.28	+0.20	5.17	0.10	0.7	4	16	6	9
1903.	47.0	+3.4	81	11	0.94	−0.14	3.66	T.	0.2	3	19	5	7
1904.	46.6	+3.0	87	10	1.03	−0.05	2.81	T.	T.	5	12	7	12
1905.	40.3	−3.3	93	0	0.44	−0.64	1.57	T.	1.2	5	8	12	11
1906.	45.0	+1.4	89	0	0.57	−0.51	1.67	0.06	1.4	4	14	9	8
1907.	44.4	+0.8	88	4	0.70	−0.38	2.27	0.00	0.2	3	21	5	5
1908.	43.0	−0.6	86	8	1.58	+0.50	4.01	0.33	0.7	6	11	7	13
1909.	43.1	−0.5	97	0	0.64	−0.44	1.98	T.	0.9	3	14	8	9
1910.	48.2	+4.6	95	0	0.54	−0.54	1.55	T.	0.1	3	16	8	7
1911.	42.5	−1.1	86	−10	1.32	+0.24	2.48	T.	0.5	6	11	8	12
1912.	44.4	+0.8	90	0	0.94	−0.14	3.45	T.	3.5	4	16	6	9
1913.	39.3	−4.3	90	− 2	1.63	+0.55	3.95	0.52	0.7	4	12	9	10
1914.	50.0	+6.4	97	0	0.98	−0.10	2.05	0.07	T.	4	16	8	7
1915.	46.6	+3.0	87	10	1.04	−0.04	3.63	T.	0.2	4	17	8	6
1916.	40.0	−3.6	85	− 2	0.69	−0.39	2.06	T.	2.0	4	12	8	11
1917.	34.7	−8.9	82	− 4	0.77	−0.31	2.15	0.04	6.4	5	8	11	12
1918.	46.2	+2.6	90	4	0.54	−0.54	1.91	0.00	0.8	4	14	8	9
1919.	33.5	−10.1	84	−18	1.08	0.00	3.63	0.15	9.3	6	11	9	11
1920.	49.3	+5.7	95	6	0.46	−0.62	1.51	0.00	0.1	3	16	8	7
1921.	47.3	+3.7	88	16	0.73	−0.35	2.75	0.00	T.	4	16	8	7
1922.	45.7	+2.1	98	8	0.57	−0.51	1.78	0.00	2.3	3	15	7	9
1923.	44.0	+0.4	84	− 8	0.88	−0.20	2.70	T.	0.5	4	14	7	10
1924.	50.3	+6.7	86	19	2.43	+1.35	5.74	0.97	0.3	7	17	5	9
1925.	33.3	−10.3	66	−16	0.78	−0.30	2.53	0.05	3.7	6	8	9	14
1926.	42.6	−1.0	85	4	1.49	+0.41	5.06	T.	1.0	6	10	10	11
1927.	47.0	+3.4	88	12	1.39	+0.31	3.30	0.09	1.0	5	14	8	9
1928.	43.5	−0.1	85	3	0.41	−0.67	1.89	0.00	0.6	2	15	8	8
1929.	46.8	+3.2	88	10	1.85	+0.77	4.75	0.28	5.1	6	17	5	9
1930.	40.8	−2.8	86	0	1.81	+0.73	3.49	0.40	0.3	7	10	9	12
1931.	47.7	+4.1	90	10	1.39	+0.31	3.94	T.	0.2	6	15	6	10
1932.	38.3	−5.3	90	− 3	2.31	+1.23	4.11	0.66	9.1	8	9	7	15
1933.	41.5	−2.1	88	5	0.53	−0.55	1.33	0.00	1.7	4	14	8	9
1934.	49.0	+5.4	94	5	1.01	−0.07	4.39	0.00	0.1	3	14	8	9
Per..	43.6	....	98	−18	1.08	....	6.20	0.00	1.5	4	14	8	9

Climatological Data for October 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	8	...	...	...	...	...	...	...	T.	...	T.	T.	0	...	...	...	...	H. A. Bury.
Amenia	Cass	954	38	48.8	+4.2	89	13	20	29†	47	1.86	+0.49	0.75	0	4	6	17	8	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	47.2	+4.3	90	11	10	31	48	0.02	−0.93	0.02	0	1	25	4	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	50.8	+6.7	88	11	19	31	42	1.90	+0.71	1.36	0	4	18	5	8	nw.	H. D. Piper.
Beach	Golden Valley	2,759	28	49.8	+6.2	86	7	19	31	45	0.01	−0.97	0.01	0	1	16	9	6	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	50.8	+6.2	87	12	13	31	46	0.04	−0.82	0.03	0.2	2	22	4	5	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	50.9	+6.0	87	11	19	31	42	0.86	−0.08	0.61	T.	3	9	12	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	48.4	+7.4	87	13	15	31	42	0.54	−0.49	0.41	0	3	17	6	8	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	20	48.6	+4.6	88	7	12	31	45	0.36	−0.62	0.33	0	2	22	6	3	nw.	George Larsen.
Cando	Towner	1,488	33	47.5	+3.8	86	13	13	29	44	0.41	−0.45	0.18	0	5	12	4	15	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	46.8	+3.0	87	13	17	31	43	3.78	+2.81	1.16	0	7	14	4	13	nw.	L. A. Swanson.
Carson	Grant	2,500	22	50.4	+7.1	90	11	13	31	49	0.98	−0.02	0.85	0	4	20	4	7	nw.	J. W. Evens.
Cavalier	Pembina	894	24	48.7	...	85	9	18	31	41	1.91	+0.82	1.20	T.	4	14	2	15	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	...	...	...	...	...	...	...	2.97	+1.91	1.65	0	8	12	4	15	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	...	...	...	...	...	...	...	0.07	...	0.03	0.3	3	4	23	4	w.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	...	...	...	...	...	...	...	3.28	...	1.96	0	6	16	6	9	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	46.5	+4.7	86	10†	14	27†	44	T.	−0.88	T.	0	0	14	10	7	s.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	47.0	+4.6	87	13	19	31	40	1.89	+0.64	0.88	T.	8	9	6	16	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	47.6	+4.0	85	7†	12	31	47	0.11	−0.76	0.08	0	2	13	12	6	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	49.8	...	85	10†	17	31	37	0.04	...	0.02	0	2	15	5	11	nw.	R. L. Williams.
Drake	McHenry	1,634	5	47.5	...	86	12†	16	31	42	0.06	...	0.02	T.	4	9	7	15	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	49.1	+4.7	86	11	18	27	46	6.06	−0.69	0.06	0	1	22	0	9	se.	W. F. Moede.
Dunseith	Rolette	1,682	38	47.6	+6.2	86	13	15	31	44	0.59	−0.32	0.30	0	2	11	5	15	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	48.3	+6.5	89	12	16	31	48	0.21	−0.72	0.17	0	3	11	14	6	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	50.0	+4.7	86	13	19	31	50	1.84	+0.81	1.05	0	4	6	18	7	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	46.0	...	86	13	14	29	43	0.98	+0.05	0.49	T.	4	11	3	17	nw.	E. D. Warner.
Ellendale	Dickey	1,457	39	50.2	+4.6	84	12†	22	31	41	1.37	+0.20	0.87	0	4	16	6	9	nw.	J. E. Demmer.
Energy‡‡	McLean	1,750	22	50.0	...	87	11	18	31	49	0.15	−0.67	0.10	1.0	2	17	10	4	nw.	H. S. Solenberger.
Fairfield	Billings	...	5	...	...	...	...	...	...	...	0.08	...	0.08	0	1	21	7	3	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	48.8	+5.8	87	10†	20	29†	47	1.37	+0.46	0.72	0	7	11	9	11	nw.	T. D. Monsen.
Forman	Sargent	1,249	41	...	...	...	...	...	...	...	1.92	+0.52	0.85	0	5	21	6	4	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	50.8	+4.4	91	12	20	31	49	1.64	+0.73	0.82	T.	3	8	15	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	48.4	...	84	12	14	31	36	0.05	−1.02	0.03	T.	3	11	10	10	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	...	...	...	...	...	...	...	T.	−1.19	T.	0	0	22	6	3	se.	Verne King.
Fullerton	Dickey	1,439	36	50.1	+5.3	85	11	22	31	40	1.81	+0.39	1.23	0	4	15	9	7	nw.	F. O. Alin.
Gackle	Logan	1,951	4	49.5	...	82	10†	20	31	36	2.17	...	0.86	0	3	19	3	9	nw.	A. H. Haut.
Garrison	McLean	1,901	57	49.2	+6.5	89	11	15	31	47	0.12	−0.78	0.12	T.	1	15	8	8	nw.	W. F. Robinson.
Grafton	Walsh	827	42	49.4	+7.3	86	10	20	31	42	2.54	+1.53	1.30	T.	4	10	6	15	nw.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	43	48.0	+4.4	86	10	21	31	42	4.21	+2.94	2.98	T.	7	9	4	18	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	48.6	+5.3	88	10	15	31	46	0.48	−0.47	0.28	0	4	15	6	10	se.	W. A. Christianson.
Hankinson	Richland	1,068	5	51.0	...	88	13	17	31	43	1.23	...	0.41	0	6	15	8	8	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	46.2	...	88	10	14	29	47	0.20	−0.87	0.10	T.	4	9	14	8	nw.	James Muir.
Hansboro	Towner	1,597	26	46.2	+5.5	85	11†	11	31	45	0.35	−0.82	0.35	0	1	18	6	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	49.9	+4.3	87	7	10	31	47	0.14	−0.67	0.07	0	3	20	10	1	nw.	C. H. Plath.
Hillsboro	Traill	901	28	48.5	+3.3	85	16	21	31	40	2.39	+1.19	1.46	0	2	9	12	10	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	27	47.6	+6.0	85	11†	7	31	43	0.02	−0.88	0.02	T.	1	20	7	4	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	42	49.2	+4.7	86	12†	21	31	46	2.90	+1.78	1.62	0	6	13	9	9	...	S. Calvelage.
Kenmare	Ward	1,799	3	50.4	...	87	11	15	31	38	0.05	...	0.05	0	1	19	5	7	se.	R. Costello.
Langdon	Cavalier	1,615	38	44.0	+3.1	90	13	15	31	50	0.69	−0.34	0.40	0	3	16	11	4	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	48.6	+4.7	88	13	20	31	45	3.33	+1.96	2.08	0	5	12	5	14	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	50.6	+5.9	90	11	19	31	54	2.89	+1.85	1.33	0	3	14	9	8	nw.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	30	50.7	+6.9	87	12	22	31	47	1.57	+0.42	0.58	T.	5	13	3	15	se.	J. O. Halverson.
McClusky	Sheridan	1,943	16	48.6	...	88	11	15	31	46	0.27	−0.72	0.17	0	3	14	7	10	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	49.8	+3.6	87	10†	21	30	52	1.39	−0.01	0.60	0	4	16	7	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	19	47.8	+4.9	88	13	16	31	48	0.61	−0.32	0.18	0	6	9	10	12	nw.	A. T. Felland.
Mandan	Morton	1,750	20	50.0	+6.0	86	10	19	31	41	0.73	−0.11	0.62	0	3	12	3	16	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	...	...	...	...	...	...	...	0.95	−0.02	0.62	0	6	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	25	49.4	+3.9	88	7	12	27†	51	0.05	−0.79	0.05	0	1	20	4	7	nw.	S. P. Grane.
Mary	McKenzie	...	5	...	...	...	...	...	...	...	0.02	...	0.02	0	1	20	4	7	nw.	Fred Hartman.
Max	McLean	2,093	5	47.4	...	87	10	14	31	45	0.12	...	0.07	0	2	13	0	18	nw.	A. W. Rice.
Mayville	Traill	975	38	50.6	+4.7	94	14	20	31	48	2.27	+1.07	1.25	0	8	10	3	18	nw.	H. B. Addicott.
Minot	Ward	1,557	38	50.2	+6.9	87	12†	16	31	44	0.07	−0.91	0.03	0	3	7	19	5	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	40	48.3	+6.6	87	12†	11	31	45	0.51	−0.53	0.26	0	5	13	12	6	nw.	John Pehan.
Mott	Hettinger	2,424	27	50.2	+6.9	88	7†	15	31	49	0.05	−1.02	0.03	0	3	12	10	9	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	42	49.8	+6.1	88	11	16	31	46	2.84	+1.81	1.51	0	6	18	4	9	nw.	C. J. Hoof.
New England	Hettinger	2,400	40	47.6	+4.2	89	11	5	31	50	0.00	−0.70	0.00	0	0	15	10	6	nw.	F. S. Sleight.
New Salem	Morton	2,163	30	53.2	+8.4	89	10†	16	31	44	0.03	−0.93	0.02	0	2	15	9	7	nw.	J. Christiansen.
Oakes	Dickey	1,318	5	51.4	...	89	11	22	31	48	1.22	...	0.54	0	6	12	12	7	nw.	Eugene Naylor.
Park River	Walsh	998	30	47.9	+4.1	90	11	20	31	42	1.95	+0.81	0.96	T.	6	6	9	16	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	49.3	...	86	12	12	31	49	0.07	−0.62	0.05	0	2	12	14	5	nw.	C. E. Shubert.
Pembina	Pembina	789	60	...	...	...	...	...	...	...	1.44	+0.01	0.72	T.	7	...	...	...	...	...
Petersburg	Nelson	1,520	4	...	...	...	...	...	...	...	2.05	...	1.20	0	5	12	10	9	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	48.6	+6.8	87	12	18	31	46	3.34	+2.36	1.90	0	6	17	2	12	nw.	H. H. McCumber.
Portal	Burke	1,954	29	46.8	+5.4	93	12	12	31	46	0.09	−0.66	0.06	T.	2	22	2	7	w.	R. G. Wegener.
Powers Lake	Burke	2,205	29	48.4	...	87	12	5	29	42	0.33	−0.90	0.21	3.5	2	24	6	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	18	51.3	+7.9	86	11	11	31	34	0.01	−0.73	0.01	0	1	10	11	10	s.	Assumption Abbey.
Rugby (near)	Pierce	1,562	5	...	...	...	...	...	...	...	0.24	...	0.16	0	4	12	8	11	nw.	W. B. Paterson.
Ryder	Ward	2,108	5	...	...	...	...	...	...	...	0.07	...	0.02	0	4	...	...	...	...	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	49.0	...	87	11	17	27†	48	0.13	...	0.12	T.	2	...	...	...	...	H. J. Bugge.
Sharon	Steele	1,516	10	47.5	...	85	10†	18	31	40	3.61	+1.51	2.47	T.	7	10	7	14	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	...	...	...	...	...	...	...	0.05	−0.93	0.05	0.5	1	19	5	7	nw.	H. J. Gilley.
Steele	Kidder	1,857	40	50.4	+6.6	89	11	17	31	48	3.50	+2.43	2.43	0	3	16	6	9	nw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Thos. D. Alkire.
Tagus	Mountrail	2,179	5	...	...	...	...	...	...	...	0.16	...	0.13	0	3	19	6	6	w.	G. N. Pilgard.
Tioga	Williams	2,279	5	...	...	...	...	...	...	...	0.16	...	0.09	0	2	18	7	6	nw.	Anton Carlson.
Towner	McHenry	1,482	32	47.6	+4.2	86	13	16	31	44	0.15	−0.84	0.15	T.	1	14	9	8	e.	Karl Weber.
Trotters	Golden Valley	...	8	...	...	...	...	...	...	...	T.	...	T	0	0	17	8	6	...	A. J. Nellermoe.
Turtle Lake	McLean	1,899	20	...	...	...	...	...	...	...	0.00	−0.71	0.00	0	0	...	...	...	...	M. A. Slettum.
Tuttle	Kidder	1,936	26	...	...	...	...	...	...	...	1.49	+0.79	0.83	0	4	14	9	8	nw.	Adam Leno.
Valley City	Barnes	1,245	28	49.6	+5.0	85	12†	20	31	45	4.39	+3.41	2.40	0	7	16	3	12	nw.	I. C. Robertson.
Velva	McHenry	1,511	7	49.2	...	86	12†	17	31	42	0.12	...	0.11	0	2	9	14	8	nw.	Oscar Anderson.
Wahpeton	Richland	962	42	53.3	+6.7	86	13†	24	31	43	1.22	−0.25	0.45	0	6	17	0	14	nw.	C. G. Jaick.
Washburn	McLean	1,731	33	49.5	+5.0	88	11†	15	31	46	0.09	−0.92	0.06	T.	2	15	5	11	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	48.4	+6.3	87	12†	16	31	44	0.42	−0.41	0.22	0	4	17	6	8	nw.	D. W. Drake.
Williston	Williams	1,878	55	50.0	+6.6	85	12	13	31	41	0.01	−0.85	0.01	T.	1	18	8	5	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	45.8	+4.4	88	13	12	29	49	0.15	−0.69	0.10	1.0	2	15	9	7	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	5	50.7	+6.8	90	11	18	31	46	2.15	+1.18	1.20	0	6	12	1	18	nw.	E. W. Davis.
Zap	Mercer	1,838	19	...	...	...	...	...	...	...	0.00	−1.07	0.00	0	0	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	53	49.6	+5.1	84	10	21	31	43	2.07	+0.38	1.32	T.	5	8	9	14	s.	U. S. Weather Bureau.
Averages	...	...	...	49.0	+5.5	94	14	5	29†	54	1.01	−0 03	2.98	0.1	3	14	8	9	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for October 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																			T.						T.							T.
Amenia	Red				.35												.64				.75	.12											1.86
Arnegard (near)	Missouri														T.					T.							.02						0.02
Ashley	Missouri			.05													1.36	T.	T.	.16	.33												1.90
Beach	Lit. Missouri																									.01							0.01
Berthold Agency	Missouri																								.01					.03			0.04
Bismarck ***	Missouri			T.											T.		.61		T.	.14	.11				T.		T.			T.			0.86
Bottineau	Mouse	T.			.12												T.			T.	T.				.41	.01							0.54
Bowman	Grand								T.						T.					T.	.33			.03	T.								0.36
Cando	Devils Lake	.01		.09	.18												.11			.02	T.				T.								0.41
Carrington‖ ‖	James			.21												1.07	.72		.02	1.16	.57				.03								3.78
Carson	Heart			.01													.85			.01	.11												0.98
Cavalier	Red	T.	T.	T.	T.											T.	1.20	.03	T.	.06	.62	T.	T.				T.				T.	T.	1.91
Cooperstown	Sheyenne		T.		.15	T.	T.										.30	.61		.05	1.65	.15				.05	.01						2.97
Corinth	Missouri		.02																					.02			T.		.03				0.07
Courtenay	James		T.	.05	.12												1.96	T.	T.	.51	.48				.16	T.							3.28
Crosby	Mouse																													T.			T.
Devils Lake ***	Devils Lake			.05	.08										T.	.01	.82		T.	.06	.84				.02		.01				T.	T.	1.89
Dickinson‖ ‖	Heart				.08														T.	T.	.03				T.		T.						0.11
Dogden Butte	Mouse			T.	.02												T.			T.	.02				T.								0.04
Drake‖ ‖	Mouse			T	.02															T.	.02	T.				T.	.01	.01					0.06
Dunn Center	Knife																			.06													0.06
Dunseith	Mouse	T.			.29		T.										T.			T.					.30								0.59
Eckman	Mouse	T.			.02															T.	.02				.17								0.21
Edgeley	James			.33													1.05			.23	.23												1.84
Edmore	Devils Lake			T.	.01	T.											.49		T.	.05	.43						T.				T.	T.	0.98
Ellendale	James																.87			.34	.13				.03								1.37
Energy	Missouri			T.															T	.05				T.	T.		T.			.10			0.15
Fairfield	Knife				.08																												0.08
Fessenden‖ ‖	James				.08												.12	.38		.03	.72	.01				.03							1.37
Forman	Sheyenne			.40													.49	T.	T.	.85	.13				.05								1.92
Fort Yates	Missouri																.82			.20	.62									T.			1.64
Foxholm (near)	Mouse			T.	.02	T.											T.			T.	.03				.03	T.				T.			0.08
Fryburg	Heart			T.															T.	T.					T.								T.
Fullerton	James			T.	.12	T.											1.23		T	.32	.14				T.								1.81
Gackle	James																.85			.86	.46												2.17
Garrison	Missouri																								.12					T.			0.12
Grafton	Red			T.													1.30			.21	1.01	.02			T.		T.					T.	2.54
Grand Forks ***	Red			.05	.02	T.										.25	2.73		T.	.83	.31					T.	.02		T.		T.	T.	4.21
Granville	Mouse			T.	.08										T.					T.	.08				.28	T.	.04						0.48
Hankinson	Red			.20												.40	.10			.41	.09				.03	T.							1.23
Hannah	Pembina			.03	.05	.02											.10	T.											T.	T.			0.20
Hansboro	Devils Lake			.35																													0.35
Hettinger	Grand								.07							T.			T.	.03				.04									0.14
Hillsboro	Red																.93				1.46												2.39
Howard (near)	Missouri				.02															T.						T.				T.			0.02
Jamestown	James				.11													1.05	.02		1.62				.07		.03						2.90
Kenmare	Mouse																			.05						T.				T.			0.05
Langdon	Pembina																T.	.40			.23	.06											0.69
Larimore	Red				.04												2.08			.57	.57						.07						3.33
Linton	Missouri			T.													1.25			.31	1.33				T.								2.89
Lisbon	Sheyenne				.41												.36			.58	.15				.07								1.57
McClusky	Missouri																.17		T.	.07	.03				T.								0.27
McLeod	Sheyenne				.20	T.												.44			.60				.15								1.39
Maddock	Sheyenne			.04	.12										T.		.16		T.	.02	.09				T.	.18	T.						0.61
Mandan‖ ‖	Missouri															.62	T.		.01	.10					T.				T.				0.73
Manfred	James			.01	.05												.22			.03	.62				.02		T.						0.95
Marmarth	Lit. Missouri								T.								T.							.05		T.							0.05
Mary	Lit. Missouri														T.					.02							T.						0.02
Max‖ ‖	Missouri																		T.	.07				.05									0.12
Mayville	Red			.02	.05	T.											1.25	.12	T.	.01	.73	.08				T.	.01					T.	2.27
Minot	Mouse		T.		.02																.03				.02		T.						0.07
Mohall	Mouse	T.		.04	.05															.26	.04				.12	T.							0.51
Mott	Cannon Ball			.01																.01	.03			T.									0.05
Napoleon ‖ ‖	Missouri				.02												.65	.23		.01	1.51	.42											2.84
New England	Cannon Ball																																0.00
New Salem	Heart			.02														T.	T.	T	T.				.01								0.03
Oakes	James			T.	.16					T.							.54			.25	.17	.04			.06								1.22
Park River	Red			T.	.02												.56	.02	T.	.37	.96	.02			T.		T.			T.		T.	1.95
Parshall	Missouri																			T.					.05					.02			0.07
Pembina	Red					.01	.01										.72	.01		.07	.60						.02	T.			T.	T.	1.44
Petersburg	Red			T.	.02												1.20			.41	.39						.03						2.05
Pettibone	James			T.	.01											T.	1.90		T.	.12	1.25				.03		.03			T.			3.34
Portal‖ ‖	Mouse				.06																				.03				T.	T.			0.09
Powers Lake	Missouri																							.12	.21								0.33
Richardton	Heart			.01											T.				T.	T.													0.01
Rugby [near]	Mouse				.03															T.	.02				.16	.03							0.24
Ryder	Missouri			.02						.02															.01			.02					0.07
Sanish‖ ‖	Missouri			.01																.12									T.				0.13
Sharon	Red			.01	.04	T.											2.47	T.	.01	.51	.56	.01			T.		T					T.	3.61
Stanton	Missouri																													.05			0.05
Steele	Missouri			T.													2.43		T.	.07	1.00				T.								3.50
Stowers	Cannon Ball																																......
Tagus	Mouse				.01												T.		T.	.13	T.				.02								0.16
Tioga	Missouri			.07																									.09				0.16
Towner	Mouse				T.															T.					.15		T.			T.			0.15
Trotters	Lit. Missouri																										T.						T.
Turtle Lake	Missouri																																0.00
Tuttle				T	.02											T.	.83			.04	.60				T.		T.						1.49
Valley City	Sheyenne			T.	.35	.02											2.40		T.	.79	.69	.04			.10		T.						4.39
Velva	Mouse			T.	T.														T.	T.	.11				.01		T.						0.12
Wahpeton	Red				.45												.38	.02		.03	.29	.05											1.22
Washburn	Missouri				.06											T.				T.	.03				T.					T.			0.09
Westhope	Mouse	T.			.08															.08	.04				.22	T.							0.42
Williston ***	Missouri			T.	T.																				.01		T.						0.01
Willow City	Mouse																			T.					.10	.05							0.15
Wishek‖ ‖	Missouri				.04												.50	.02		.04	1.20		.35										2.15
Zap	Knife																																0.00
Moorhead, Minn ***	Red			.03	.25	T.			T.	T.						T.	.35		T.	1.26	.18			T.	T.	T.	T.					T.	2.07

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	63	60	55	65	67	70	80	70	80	87	83	84	89	78	74	66	40	50	51	60	65	63	62	54	45	50	44	41	46	40	34	62.1
	Minimum	35	38	40	39	38	40	36	38	40	41	45	41	42	45	43	44	33	33	33	37	36	34	36	28	30	30	28	29	20	22	20	35.5
Arnegard (near)	Maximum	55	62	55	65	63	70	85	71	70	84	90	86	78	61	54	56	56	59	56	59	57	58	54	52	57	52	42	39	40	42	35	60.1
	Minimum	42	25	42	40	40	34	40	40	38	44	42	42	40	38	33	30	35	42	34	37	41	38	38	32	32	32	18	24	24	18	10	34.4
Ashley	Maximum	68	68	62	69	71	68	86	75	75	82	88	84	83	77	70	64	43	43	51	51	62	70	64	56	58	58	44	46	39	45	41	63.3
	Minimum	50	28	44	48	44	38	48	51	38	46	48	42	46	45	40	41	31	34	42	44	38	37	40	28	32	37	25	25	27	28	19	38.2
Beach	Maximum	64	67	64	67	63	75	86	73	74	82	85	83	69	58	69	59	48	52	59	66	64	69	56	52	62	56	47	45	49	43	45	62.9
	Minimum	45	29	45	40	40	32	45	52	43	19	40	47	41	40	34	42	23	24	41	38	31	39	41	32	32	31	31	33	28	29	19	36.6
Berthold Agency	Maximum	66	62	62	70	66	71	81	70	78	86	83	87	86	66	68	60	49	52	55	68	75	74	63	55	61	59	48	48	48	46	41	64.6
	Minimum	49	25	54	50	53	33	39	52	37	40	39	43	44	43	37	43	26	38	45	44	35	33	56	40	26	32	15	21	28	21	13	36.9
Bismarck	Maximum	68	64	60	69	68	68	83	69	77	87	87	86	84	58	70	60	39	46	58	65	65	66	53	57	56	52	47	47	44	47	33	62.4
	Minimum	41	30	45	52	49	41	43	51	39	47	45	51	54	45	41	36	29	36	46	48	43	44	36	34	32	35	24	27	29	29	19	39.4
Bottineau	Maximum	60	59	58	57	63	64	67	68	74	83	82	85	87	84	74	58	42	45	62	57	63	66	63	56	48	43	40	48	47	41	36	60.6
	Minimum	36	28	41	44	41	33	36	50	45	41	48	51	58	53	42	38	28	29	40	34	33	31	35	35	33	35	18	26	18	24	15	36.2
Bowman	Maximum	63	67	60	68	65	77	88	63	74	82	85	82	69	50	64	57	46	52	61	63	67	62	55	53	67	51	47	46	50	49	34	61.8
	Minimum	41	32	48	40	45	32	44	49	39	38	42	40	43	40	34	32	29	37	41	40	37	40	35	29	30	36	19	26	27	18	12	35.3
Cando	Maximum	67	61	59	55	63	62	68	76	73	82	84	85	86	85	85	62	39	42	52	52	66	63	61	52	49	48	42	46	48	41	33	60.9
	Minimum	29	29	45	43	39	35	34	37	37	41	44	41	44	42	42	38	30	34	34	46	36	33	38	23	32	32	24	30	13	19	14	34.1
Carrington §§	Maximum	64	62	53	62	69	64	78	65	75	85	83	86	87	48	63	46	39	48	52	51	61	64	53	51	48	46	41	44	40	42	31	58.3
	Minimum	32	34	42	45	40	39	46	35	36	49	46	45	44	41	41	32	32	33	45	36	38	38	30	32	32	25	26	22	22	20	17	35.3
Carson	Maximum	66	65	60	70	60	70	85	70	77	87	90	84	84	54	85	56	40	45	57	64	64	69	54	55	65	55	54	43	54	56	35	63.6
	Minimum	44	31	44	44	51	35	43	54	35	45	45	50	50	41	36	38	28	34	43	43	40	44	37	36	27	36	18	17	26	22	13	37.1
Crosby	Maximum	55	62	52	65	57	65	64	71	75	86	86	85	72	70	64	47	48	53	56	67	58	64	57	47	52	42	44	44	43	41	29	58.7
	Minimum	34	28	42	45	37	45	41	41	41	42	42	43	43	42	37	39	23	27	36	32	31	35	32	35	27	27	14	27	30	27	14	34.3
Devils Lake	Maximum	62	60	54	57	65	61	75	61	72	83	82	84	87	65	64	52	37	43	51	50	61	61	52	49	44	45	39	45	38	37	30	57.0
	Minimum	43	33	38	45	42	39	43	42	38	49	47	46	47	44	43	34	32	35	43	47	40	39	34	30	30	30	24	27	19	25	19	37.0
Dickinson §§	Maximum	65	67	58	68	65	74	85	64	76	85	85	84	78	46	68	49	48	51	53	64	63	71	59	55	64	48	47	47	50	45	34	61.8
	Minimum	32	25	36	44	41	30	39	49	35	42	38	43	44	42	34	35	26	27	37	39	37	37	42	33	30	34	14	16	25	17	12	33.4
Drake §§	Maximum	61	61	54	64	65	65	76	62	77	85	82	86	86	48	71	47	43	47	56	54	62	67	53	56	51	45	44	46	42	42	31	59.0
	Minimum	41	33	39	44	43	37	38	48	40	45	49	44	46	43	38	39	27	33	37	46	41	36	39	27	29	30	19	21	23	24	16	36.0
Dunn Center	Maximum	63	61	61	68	63	71	83	72	71	85	86	85	82	58	67	56	42	51	53	56	65	70	60	52	61	48	48	46	47	42	34	61.5
	Minimum	33	29	46	47	40	35	40	47	35	45	40	42	44	48	36	42	33	32	45	43	41	41	40	32	31	36	18	26	28	24	21	36.7
Dunseith	Maximum	64	60	57	53	61	62	75	73	73	81	82	85	86	83	60	60	40	42	53	53	60	65	59	51	44	47	47	44	41	36	33	59.0
	Minimum	45	34	37	41	39	38	40	44	42	41	53	47	50	39	40	35	28	26	37	44	35	37	42	30	34	33	24	27	18	24	15	36.1
Edgeley	Maximum	70	65	71	69	61	71	80	78	84	85	84	81	86	80	55	45	46	60	57	52	60	67	61	59	57	60	45	38	40	46	39	63.0
	Minimum	45	31	59	41	40	36	42	45	34	45	49	49	49	38	41	32	32	31	32	42	40	37	29	40	32	33	25	23	25	29	19	36.9
Ellendale	Maximum	68	63	61	65	72	62	72	66	63	75	76	84	84	69	74	61	46	49	53	52	65	71	58	55	56	61	42	47	43	46	35	61.1
	Minimum	45	35	42	49	43	42	40	51	43	42	51	44	43	42	41	45	35	34	46	42	43	35	43	34	35	35	27	25	28	32	22	39.2
Fessenden §§	Maximum	63	68	56	63	67	65	77	68	76	87	83	87	87	73	74	68	39	47	53	57	61	67	51	55	49	45	42	44	45	42	31	61.0
	Minimum	45	30	44	45	43	38	41	46	35	48	45	40	42	43	46	44	30	32	39	44	39	34	40	27	29	31	23	27	20	27	20	36.7
Foxholm (near)	Maximum	62	60	53	63	62	64	73	63	74	83	80	84	83	70	62	53	44	48	53	63	61	67	59	51	52	46	42	45	42	41	35	59.3
	Minimum	46	30	40	44	44	34	47	43	42	51	46	51	47	40	36	38	27	30	42	42	41	39	42	37	28	35	20	28	25	31	14	37.4
Fullerton	Maximum	69	62	62	67	72	64	78	69	69	82	85	82	83	69	76	66	40	47	53	51	65	69	58	56	57	49	42	47	43	46	33	61.6
	Minimum	44	32	41	48	39	43	39	48	42	44	49	45	43	49	39	43	33	33	43	46	40	36	43	31	35	35	27	26	27	32	22	38.6
Garrison	Maximum	62	54	63	68	67	69	79	64	77	85	89	85	85	69	69	62	45	44	54	67	64	71	58	54	58	50	49	47	45	44	36	62.4
	Minimum	34	28	34	46	35	37	40	51	38	46	42	45	50	43	37	40	27	25	32	43	40	39	43	34	27	37	19	25	27	27	15	36.0
Grafton	Maximum	76	62	58	56	68	63	75	74	73	86	84	82	85	84	61	60	44	44	52	57	63	62	60	50	50	49	44	46	45	40	36	60.9
	Minimum	45	38	37	45	39	45	34	38	35	44	51	40	47	46	43	43	33	35	42	46	44	35	43	30	35	33	29	29	23	24	20	37.8
Grand Forks	Maximum	64	61	58	57	71	62	75	66	69	86	80	81	83	60	68	62	41	45	53	49	63	62	60	46	44	47	38	42	39	36	32	58.1
	Minimum	47	35	33	38	42	42	39	39	36	44	46	44	51	41	45	39	31	36	44	46	43	38	39	31	31	33	28	30	31	25	21	37.8
Granville	Maximum	61	62	57	63	65	67	77	67	78	88	86	86	87	55	67	54	48	49	54	55	62	70	59	56	49	44	44	47	44	43	34	60.6
	Minimum	40	30	42	48	43	37	42	45	48	48	40	45	42	42	39	48	30	32	44	37	34	34	38	30	28	35	20	25	21	33	15	36.6
Hansboro	Maximum	60	50	53	51	60	56	65	60	70	81	85	85	85	79	60	58	40	43	53	52	55	60	55	55	53	52	45	48	47	38	35	57.9
	Minimum	34	32	39	43	43	41	39	38	38	46	46	40	40	42	33	35	29	28	40	46	32	32	40	22	36	35	23	29	13	23	11	34.5
Hettinger	Maximum	65	67	60	70	65	75	87	72	77	83	86	82	77	60	75	53	47	50	58	64	66	70	57	55	69	56	48	49	52	50	42	64.1
	Minimum	49	36	47	38	48	31	40	46	35	38	41	37	43	41	34	44	25	37	45	42	37	44	40	33	28	34	18	27	24	14	10	35.7
Hillsboro	Maximum	65	62	54	56	66	63	80	65	69	68	79	81	75	69	79	85	45	46	52	51	55	64	59	52	47	48	46	41	40	35	34	59.1
	Minimum	47	32	33	46	43	38	40	45	40	45	50	44	46	42	40	45	34	35	43	46	40	35	41	32	33	31	29	31	23	24	21	37.9
Howard (near)	Maximum	66	64	64	65	64	59	68	70	76	78	85	85	77	64	64	53	64	55	60	67	65	66	64	55	50	50	52	45	45	44	44	62.2
	Minimum	24	28	28	42	34	36	40	45	42	42	42	46	42	40	30	38	26	38	38	30	34	38	36	26	34	12	30	26	26	24	7	33.0
Jamestown	Maximum	66	62	58	61	70	66	78	68	72	85	85	86	86	72	72	66	41	47	52	51	64	66	60	55	53	49	40	43	42	42	34	61.0
	Minimum	30	31	40	47	44	38	38	45	38	44	47	40	45	47	43	39	33	34	43	45	39	37	41	30	34	34	28	28	25	31	21	37.4
Kenmare	Maximum	60	62	61	66	62	68	75	66	77	86	87	84	85	75	65	63	45	55	53	67	61	70	61	51	52	51	41	47	42	44	40	62.0
	Minimum	46	33	42	46	37	37	43	48	47	58	52	46	52	52	37	40	25	34	32	42	38	42	41	40	31	35	21	31	28	33	15	38.8
Langdon §§	Maximum	60	65	45	42	43	64	72	70	70	86	80	84	90	48	60	40	39	43	52	50	62	60	50	52	50	47	38	48	42	34	29	55.3
	Minimum	36	30	30	25	36	36	34	38	38	40	40	45	40	40	40	39	30	29	33	42	37	35	40	23	27	30	21	22	25	18	15	32.7
Larimore	Maximum	65	63	59	57	69	64	78	67	72	87	80	82	88	75	66	64	41	43	51	51	62	60	58	48	45	47	41	42	37	36	35	59.1
	Minimum	46	37	34	45	42	41	43	38	35	48	54	46	43	45	44	41	32	34	42	45	42	36	45	31	34	32	27	30	21	24	20	38.0
Linton	Maximum	74	67	61	71	71	70	89	71	79	85	90	86	84	76	74	66	47	45	53	60	64	71	62	56	63	51	54	48	38	47	35	64.8
	Minimum	45	23	41	45	43	36	37	54	37	38	36	50	52	44	39	33	34	35	43	40	35	39	41	28	29	27	27	26	24	26	19	36.3
Lisbon §§	Maximum	70	63	62	66	71	64	78	67	70	84	83	87	86	72	75	72	46	47	51	52	66	67	62	58	54	57	47	47	44	44	40	63.0
	Minimum	42	35	39	48	45	43	39	45	44	43	46	40	45	43	42	46	36	35	44	49	39	33	39	29	35	34	29	28	25	29	22	38.4
McClusky	Maximum	64	64	58	67	67	68	81	70	77	85	88	81	86	72	71	61	40	45	61	55	62	68	56	57	54	47	46	45	40	43	33	61.7
	Minimum	46	26	40	46	42	34	40	48	36	42	42	46	47	41	35	37	26	34	42	45	35	37	35	27	26	34	18	24	22	28	15	35.4
Maddock	Maximum	65	62	60	60	66	67	78	75	76	84	84	84	88	85	68	65	39	42	53	56	62	66	65	53	46	46	41	42	39	39	36	61.0
	Minimum	42	28	38	44	39	37	40	45	35	43	43	40	40	42	40	37	30	34	40	40	31	32	38	23	31	34	22	26	17	22	16	34.5
Marmarth	Maximum	68	69	63	70	69	80	88	64	76	84	84	80	70	57	67	57	49	58	69	66	65	71	60	55	68	56	48	49	52	48	43	64.6
	Minimum	47	22	47	38	46	29	39	41	43	37	34	34	35	41	32	46	26	39	44	36	37	41	40	35	38	30	12	24	23	12	13	34.2
Minot	Maximum	72	63	58	65	64	69	76	70	75	85	86	87	87	70	61	60	46	48	57	65	63	70	61	56	53	45	42	47	44	44	38	62.2
	Minimum	49	28	43	45	39	36	42	42	40	50	42	53	52	43	38	39	30	34	45	46	37	37	46	40	29	40	19	29	24	34	16	38.3
Mohall	Maximum	59	61	55	62	62	66	77	71	77	86	85	87	87	48	63	46	45	48	53	64	61	69	67	56	46	44	44	47	45	47	38	60.2
	Minimum	27	31	44	45	41	35	44	40	40	43	44	42	42	43	35	40	26	31	44	44	43	48	44	30	29	35	20	27	26	34	11	36.4
Mott	Maximum	64	66	62	68	67	75	88	79	78	84	88	80	81	62	65	61	46	47	58	65	69	71	58	58	70	56	49	48	50	43	45	64.9
	Minimum	50	26	46	42	41	31	39	53	34	39	41	36	43	40	35	44	21	36	45	41	35	42	38	31	37	39	17	24	25	16	15	35.5
Napoleon §§	Maximum	68	66	61	70	72	69	84	70	79	85	88	86	85	59	73	51	40	49	52	52	64	70	55	57	57	55	44	45	43	45	32	62.1
	Minimum	49	25	42	49	38	37	43	50	33	47	42	48	46	43	39	50	31	33	42	44	39	40	39	28	29	38	23	24	25	27	16	37.4
New England §§	Maximum	61	72	70	66	59	69	70	71	83	86	89	84	75	69	62	49	52	50	52	59	66	71	66	58	59	56	55	50	51	49	35	63.4
	Minimum	28	31	42	39	32	32	44	36	38	41	39	37	42	29	29	25	29	36	37	38	42	46	36	30	26	17	24	25	19	11	5	31.8
New Salem	Maximum	71	70	65	70	72	72	81	73	80	89	89	87	89	80	71	70	58	54	63	65	70	71	70	61	59	55	49	48	53	50	49	67.9
	Minimum	58	29	41	46	49	37	43	52	40	51	50	47	47	36	34	39	27	35	44	47	41	38	41	34	30	40	19	25	29	29	16	38.5
Oakes	Maximum	72	67	62	70	73	67	79	71	71	86	89	87	87	76	76	70	43	49	54	51	67	72	61	67	60	61	44	48	46	44	37	64.7
	Minimum	49	32	41	49	42	41	39	48	42	42	41	45	44	49	39	40	36	34	45	46	36	34	40	29	32	35	28	28	25	30	22	38.2
Park River	Maximum	56	62	55	58	66	62	70	64	71	84	90	83	87	78	68	47	41	45	55	57	61	62	57	48	49	48	40	46	40	37	29	58.6
	Minimum	37	34	29	42	41	42	35	35	34	64	48	48	48	45	53	34	31	34	41	45	34	35	45	29	34	33	27	30	21	24	20	37.2
Sharon	Maximum	65	62	54	56	66	63	80	64	70	85	79	81	85	67	66	63	39	41	49	47	61	61	57	52	42	46	40	42	40	36	32	57.8
	Minimum	47	32	33	46	43	38	40	42	38	45	47	52	49	44	42	39	32	33	41	45	39	38	41	28	32	33	25	29	19	24	18	37.2
Steele	Maximum	65	67	58	67	69	68	82	70	77	87	89	88	86	70	72	67	42	46	54	54	63	68	57	57	56	57	46	44	43	46	37	63.0
	Minimum	42	36	42	50	41	36	53	49	35	43	41	47	48	41	39	40	30	35	43	40	36	41	39	30	30	36	25	27	27	30	17	37.7
Towner	Maximum	71	55	60	59	64	64	74	74	74	82	82	84	86	77	64	63	43	45	52	53	62	65	61	54	48	44	41	46	43	40	37	60.2
	Minimum	47	27	41	45	35	35	40	44	37	44	38	40	44	42	39	39	27	34	41	40	32	34	40	28	30	34	20	24	17	28	16	34.9
Valley City	Maximum	70	63	58	63	70	63	80	68	70	84	83	85	85	80	80	69	45	45	51	50	65	65	60	54	49	49	45	44	40	40	40	61.7
	Minimum	56	32	36	46	41	39	36	45	40	43	47	40	42	41	48	43	34	32	42	44	39	34	41	28	32	33	27	28	24	[illegible]	20	37.5
Wahpeton	Maximum	72	71	64	68	71	68	78	80	72	83	84	83	86	86	79	80	54	49	53	54	67	71	68	60	52	54	51	49	46	43	42	65.7
	Minimum	50	33	41	48	47	43	42	50	50	40	48	44	53	52	42	50	35	37	45	48	45	38	49	33	35	33	29	29	25	30	24	40.9
Westhope	Maximum	61	61	59	61	64	66	75	71	75	85	83	87	87	74	69	56	49	48	54	56	63	67	57	52	45	45	45	47	48	49	46	61.5
	Minimum	45	28	43	45	41	35	36	39	40	41	43	45	44	43	40	37	26	27	43	44	33	35	38	28	29	34	19	26	18	29	16	35.2
Williston	Maximum	60	66	61	66	62	72	83	67	75	83	85	85	78	52	66	48	50	58	58	67	62	67	58	51	60	53	48	46	47	43	36	61.7
	Minimum	41	31	49	47	47	35	42	52	43	48	45	51	47	39	36	39	32	39	44	36	45	46	42	36	33	29	19	30	31	21	13	38.4
Moorhead, Minn	Maximum	68	62	55	64	69	63	75	69	68	84	81	81	84	64	75	70	40	47	53	49	66	65	55	54	45	47	38	41	38	37	36	59.5
	Minimum	48	38	41	48	45	42	40	52	46	41	45	49	53	46	45	39	35	35	44	46	45	39	40	33	35	32	30	30	24	27	21	39.8

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 11-23-34—1050]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIII BISMARCK, N. D., NOVEMBER 1934 No. 11

GENERAL SUMMARY

Dry weather continued throughout the State making November the 11th consecutive month with precipitation below the normal. Only three scattered stations reported precipitation above normal and no measurable amount occurred at any station between the 10th and 17th. Considerable foggy weather prevailed, however, during the last half of the month, particularly from the 17th to the 20th and from the 24th to the 30th. The temperature averaged above the seasonal normal and the month was favorable for outdoor work. Potato digging was completed early in the month and some fall plowing was accomplished in the east portion, but the soil was too dry in the central and west portions. Though livestock ranged freely, considerable yard feeding was necessary due to grass shortage on pastures and ranges.

TEMPERATURE

The mean temperature for the State was 33.9°, or 6.5° above the normal, and 5.6° higher than the mean for November 1933. The highest mean reported was 38.1° at New Salem, Morton County; the lowest was 29.6° at Langdon, Cavalier County. The highest temperature reported was 73° at Hankinson, Richland County on the 16th, and at Powers Lake, Burke County on the 9th; the lowest was -1° at Park River, Walsh County on the 23d. The greatest monthly range of temperature was 68° at Portal and Powers Lake, Burke County; the least was 52° at Fort Yates, Sioux County. The greatest daily range of temperature was 56° at Marmarth, Slope County on the 12th.

PRECIPITATION

The average precipitation for the State was 0.28 inch, or 0.33 inch below the normal, and 0.37 inch less than the average for November 1933. The greatest monthly amount reported was 1.04 inches at Fullerton, Dickey County; there was none at Dunn Center, Dunn County. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Fullerton, Dickey County on the 25th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 1.0 inch.

MISCELLANEOUS PHENOMENA

AURORAS: Arnegard, 13th; Bottineau, 11th, 12th, 13th; Devils Lake, 2d, 8th, 13th, 15th; Foxholm, 2d, 3d, 7th, 8th, 9th, 13th; Hannah, 4th, 14th; Parshall, 5th; Petersburg, 8th; Tagus, 2d, 3d, 6th, 7th, 10th, 13th, 29th; Williston, 8th, 11th; Willow City, 9th, 10th, 13th.

FOG: Ashley, Sharon, 19th. 20th, 25th; Beach, Bowman, Trotters, 17th, 18th, 19th. 20th; Berthold Agency, Dunn Center, 18th, 24th; Bismarck, Dogden Butte, Max, Napoleon, Tuttle, Velva. 18th. 19th, 20th, 24th, 25th, 26th, 30th; Carson, 17th, 18th, 24th, 30th; Cooperstown. 6th, 25th, 26th, 27th, 28th, 29th, 30th; Crosby. 24th, 28th, 30th; Devils Lake, 10th, 16th, 20th, 24th, 25th, 26th, 27th, 28th, 30th; Dickinson, 17th, 18th, 24th; Dunseith, Jamestown, Petersburg, Williston. 30th; Eckman, Ryder, 19th, 20th. 24th, 25th, 26th, 30th; Edmore, 19th, 24th. 25th, 26th, 29th, 30th; Ellendale, Kenmare, 29th, 30th; Fairfield. Richardton, 17th, 18th, 24th, 25th; Fort Yates, 18th, 28th, 30th; Foxholm, 18th, 19th, 20th, 24th, 25th, 28th, 30th; Fryburg, 17th, 18th, 19th; Garrison, Steele, 18th, 24th, 25th, 30th; Grand Forks. 19th, 20th, 24th, 25th, 26th, 29th; Granville, 24th, 30th; Hannah, 5th, 24th, 25th, 26th, 30th; Hettinger, Mott, 17th, 18th; Howard, 24th, 26th, 27th, 28th; Larimore, 25th, 29th; Linton, 26th, 30th; McClusky, Westhope, 25th, 30th; Marmarth, 25th; Minot, Rugby, 24th, 25th, 30th; Mohall, 20th, 21st, 24th, 25th, 30th; Moorhead, 20th, 25th; New England, 16th, 17th, 18th, 19th, 30th; New Salem, Tagus, 17th, 18th, 19th, 23d, 24th, 25th, 26th, 30th; Oakes, 18th, 19th, 24th, 28th, 30th; Parshall, 24th, 25th; Pettibone, 18th, 24th, 25th, 26th, 29th, 30th; Portal, 24th, 26th, 28th, 30th; Sanish, 24th, 25th, 27th, 28th, 29th; Towner, 18th. 30th.

HALOS, lunar: Moorhead, Tagus, 23d; Tuttle, 10th.

HALOS, solar: Bismarck, Tuttle, 29th; Devils Lake, Foxholm, 23d; Moorhead, 3d, 4th, 24th, 30th; Oakes, 3d.

SLEET: Devils Lake, Pembina, 20th; Dogden Butte, 17th, 19th; Drake, Edmore, Fairfield, Foxholm, Hannah, Hansboro, Mohall, Petersburg, Richardton, Towner, Turtle Lake, Willow City, 19th; Ellendale, McClusky, Portal, Tuttle, 18th; Kenmare, 29th, 30th; New England, 17th, 18th; Park River, 29th: Rugby, 20th, 24th; Steele, 25th; Tagus, 2d.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.01	30.62	10	29.32	2	7.4	22	ne.	16	77	58	61	51
Devils Lake	30.02	30.58	10	29.30	2	8.7	27	nw.	6	89	74	81	50
Grand Forks	30.00	30.52	10	29.39	2	......	30	nw.	6	88	....	79	....
Williston	30.00	30.65	10	29.34	2	6.8	30	w.	8	79	57	61	58
Moorhead, Minn	30.02	30.54	10	29.33	2	8.5	22	nw.	9	86	67	73	48
Averages & ext's	30.01	30.65	10	29.30	2	7.8	30	nw.	6†	84	64	71	52

† And other dates.

COMPARATIVE DATA FOR NOVEMBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	22.3	−4.4	75	−26	0.79	+0.17	1.80	0.13	7.4	4	8	9	13
1893	22.4	−4.3	74	−27	0.57	−0.05	2.10	T.	4.6	3	9	10	11
1894.	23.1	−3.6	71	−25	0.47	−0.15	1.30	T.	2.6	4	10	8	12
1895.	20.6	−6.1	76	−25	1.06	+0.44	1.91	0.09	8.2	5	8	9	13
1896.	8.1	−18.6	62	−32	2.23	+1.61	4.33	0.70	21.7	9	8	7	15
1897.	20.0	−6.7	86	−28	0.32	−0.30	1.07	T.	2.8	3	12	9	9
1898.	23.0	−3.7	69	−30	0.34	−0.28	1.19	T.	3.1	3	13	8	9
1899.	36.0	+9.3	68	2	0.31	−0.31	0.85	0.00	1.0	2	15	4	11
1900.	20.4	−6.3	64	−29	0.32	−0.30	1.05	0.17	5.2	5	14	7	9
1901.	26.8	+0.1	70	− 7	0.19	−0.43	1.02	0.00	1.6	1	15	8	7
1902.	29.6	+2.9	69	−12	0.24	−0.38	0.72	T.	1.9	3	11	6	13
1903.	25.3	−1.4	78	−20	0.26	−0.36	0.90	T.	2.5	2	13	4	13
1904.	35.7	+9.0	80	−10	0.09	−0.53	0.55	0.00	0.7	1	18	5	7
1905.	31.6	+4.9	88	−38	1.54	+0.92	3.06	0.31	11.0	9	7	13	10
1906.	23.8	−2.9	68	−16	1.62	+1.00	3.94	0.62	10.2	7	10	7	13
1907.	30.2	+3.5	85	−15	0.09	−0.53	0.60	0.00	0.7	1	16	8	6
1908.	31.1	+4.4	75	−15	0.97	+0.35	2.81	0.14	8.2	4	12	8	10
1909.	29.4	+2.7	88	−23	0.43	−0.19	1.85	T.	4.6	3	11	9	10
1910.	23.9	−2.8	68	−23	0.37	−0.25	1.50	T.	3.2	2	8	10	12
1911.	16.7	−10.0	58	−33	0.65	+0.03	1.62	0.10	7.1	6	12	8	10
1912.	31.8	+5.1	70	1	0.06	−0.56	0.70	0.00	0.5	1	14	9	7
1913.	34.1	+7.4	77	− 2	0.22	−0.40	1.20	T.	1.6	2	15	8	7
1914.	30.7	+4.0	83	−30	0.35	−0.27	0.83	0.00	2.6	2	13	10	7
1915.	28.1	+1.4	71	−10	0.91	+0.29	4.44	T.	3.7	4	10	10	10
1916.	28.8	+2.1	75	−18	0.24	−0.38	1.12	0.00	1.7	2	16	8	6
1917.	36.8	+10.1	77	− 7	0.14	−0.48	0.41	0.00	1.4	1	16	6	8
1918.	28.9	+2.2	71	−18	1.04	+0.42	2.62	0.10	5.3	4	13	6	11
1919.	15.6	−11.1	57	−36	1.16	+0.54	3.40	0.13	11.8	5	11	8	11
1920.	28.0	+1.3	65	−14	0.37	−0.25	1.10	T.	2.1	3	10	9	11
1921.	21.0	−5.7	69	−30	0.68	+0.06	2.06	0.05	6.3	5	7	8	15
1922.	31.8	+5.1	65	− 8	2.33	+1.71	5.33	0.40	6.3	6	7	7	16
1923.	36.5	+9.8	72	− 5	0.50	−0.12	1.42	0.04	0.6	3	13	8	9
1924.	27.6	+0.9	69	−15	0.18	−0.44	0 85	0.00	1.9	2	11	9	10
1925.	28.8	+2.1	69	−17	0.25	−0.37	1.24	0.00	1.3	2	14	8	8
1926.	21.5	−5.2	68	−23	0.65	+0.03	2.00	T.	6.2	5	6	7	17
1927.	20.7	−6.0	59	−24	0.70	+0.08	1.56	0.17	7.1	6	7	8	15
1928.	31.0	+4.3	70	−11	0.48	−0.14	2.48	0.00	0.2	1	15	8	7
1929.	24.8	−1.9	70	−21	0.53	−0.09	1.60	T.	5.2	5	9	8	13
1930.	29.4	+2.7	72	−21	0.87	+0.25	3.09	T.	6.2	5	13	7	10
1931.	30.3	+3.6	78	−10	0.55	−0.07	1.77	0.00	5.0	3	13	7	10
1932.	25.2	−1.5	70	−17	0.49	−0.13	2.69	T.	4.6	4	10	10	10
1933.	28.3	+1.6	78	−15	0.65	+0.03	1.51	T.	6.6	5	9	8	13
1934.	33.9	+7.2	73	− 1	0.28	−0.34	1.04	0.00	1.0	3	13	7	10
Per..	26.7	....	88	−38	0.62	....	5.33	0.00	4.6	4	11	8	11

Climatological Data for November 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	.....	8	.....	.....	.....	.....	.....	.....	.....	0.06	.....	0.06	0.0	1	.....	.....	.....	.....	H. A. Bury.
Amenia	Cass	954	38	35.2	+7.2	72	15	10	23	46	0.63	−0.02	0.35	4.0	4	6	12	12	ne.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	34.5	+6.2	60	6†	6	28†	38	0.03	−0.37	0.03	T.	1	21	2	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	35.3	+7.3	65	6	8	22	39	0.08	−0.55	0.08	0.8	1	15	4	11	nw	H. D. Piper.
Beach	Golden Valley	2,759	28	37.2	+6.2	70	15	10	28	40	0.01	−0.52	0.01	T	1	.....	.....	.....	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	35.2	+6.7	70	15	8	28	55	0.17	−0.27	0.12	0.0	2	16	7	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	35.9	+7.4	67	12	13	30	40	0.20	−0.37	0.12	T.	4	12	8	10	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	32.3	+8.7	62	16	6	22	37	0.25	−0.29	0.15	1.5	2	16	5	9	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	20	36.2	+5.6	70	12	9	28	47	0.14	−0.24	0.06	1.0	4	22	2	6	nw.	George Larsen.
Cando	Towner	1,488	33	32.0	+5.5	61	16†	7	22	46	0.30	−0.23	0.19	T.	2	11	6	13	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	32.3	+4.5	65	15	10	22	40	0.12	−0.43	0.04	0.5	4	17	3	10	nw.	L. A. Swanson.
Carson	Grant	2,500	22	36.3	+6.3	68	12	12	1†	42	0.25	−0.36	0.15	T.	2	24	2	4	s.	J. W. Evens.
Cavalier	Pembina	894	24	32.0	.....	61	12	0	22	42	0.38	−0.45	0.17	1.0	5	18	4	8	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	.....	.....	.....	.....	.....	.....	.....	0.43	−0.27	0.27	2.8	4	16	2	12	ne.	Theo. Marquardt.
Corinth	Williams	2,180	6	.....	.....	.....	.....	.....	.....	.....	0.02	.....	0.02	0.2	1	0	19	11	nw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.05	3.0	2	15	7	8	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	32.6	+5.9	65	12†	0	21	40	0.02	−0.63	0.02	0.5	1	4	13	13	s.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	32.0	+7.5	63	16	8	22	31	0.25	−0.47	0.16	0.7	5	9	8	13	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	33.7	+5.4	69	12†	2	30	50	0.14	−0.38	0.12	0.2	3	13	9	8	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	8	33.6	.....	65	16	2	22	39	0.22	.....	0.15	T.	2	15	6	9	nw.	R. L. Williams.
Drake	McHenry	1,634	5	32.8	.....	67	12	8	22	42	0.51	.....	0.38	T.	4	10	10	10	sw.	Peter Anton.
Dunn Center	Dunn	2,191	35	35.0	+7.1	68	12†	4	30	48	0.00	−0.57	0.00	0.0	0	14	8	8	sw.	W. F. Moede.
Dunseith	Rolette	1,682	38	31.4	+7.0	67	16	3	22	44	0.25	−0.26	0.18	2.5	2	6	17	7	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	29	31.9	+6.1	65	15†	5	22	45	0.25	−0.33	0.17	1.0	3	13	11	6	se.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	33.2	+3.4	67	6	4	28	39	0.42	−0.05	0.25	2.5	4	5	15	10	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	30.2	.....	61	16	4	23	33	0.38	−0.20	0.13	1.7	6	11	6	13	nw.	E. D. Warner.
Ellendale	Dickey	1,457	39	34.4	+8.3	67	6	7	28	38	0.53	−0.21	0.49	4.4	2	15	5	10	nw.	J. E. Demmer.
Energy‡‡	McLean	1,750	22	34.8	.....	68	12†	4	1	50	0.29	−0.08	0.18	T.	2	11	12	7	nw.	H. S. Solenberger.
Fairfield	Billings	.....	5	.....	.....	.....	.....	.....	.....	.....	0.26	.....	0.26	0.0	1	20	3	7	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	33.0	+5.9	66	16	7	22†	44	0.16	−0.60	0.05	0.0	4	15	5	10	sw.	T. D. Monsen.
Forman	Sargent	1,249	41	.....	.....	.....	.....	.....	.....	.....	0.56	−0.08	0.49	T.	2	15	5	10	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	37.3	+7.5	65	13	13	30	41	0.16	−0.39	0.16	T.	1	11	12	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	32.2	.....	65	15	3	22	41	0.21	−0.46	0.12	0.2	2	10	10	10	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	.....	.....	.....	.....	.....	.....	.....	0.27	−0.37	0.27	T.	1	19	4	7	sw.	Verne King.
Fullerton	Dickey	1,439	36	34.4	+5.2	67	6	6	28	38	1.04	+0.19	0.80	8.7	4	13	6	11	s.	F. O. Alin.
Gackle	Logan	1,951	4	34.6	.....	63	6	9	22	32	0.20	.....	0.12	2.5	2	17	5	8	se.	A. H. Haut.
Garrison	McLean	1,901	57	34.9	+8.6	68	12†	10	1†	45	0.37	−0.18	0.35	T.	2	16	4	10	se.	W. F. Robinson.
Grafton	Walsh	827	42	33.0	+8.3	63	16	4	23	36	0.42	−0.32	0.15	0.2	5	4	12	14	nw.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	43	32.0	+6.0	63	16	7	23	34	0.65	−0.16	0.40	2.2	4	12	4	14	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	32.6	+5.9	67	16	5	22	42	0.12	−0.49	0.09	T.	2	16	4	10	se.	W. A. Christianson.
Hankinson	Richland	1,068	5	36.5	.....	73	16	10	28	46	0.86	.....	0.58	2.0	4	16	0	14	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	30.6	.....	68	16	7	22†	42	0.37	−0.41	0.25	0.2	3	2	17	11	sw.	James Muir.
Hansboro	Towner	1,597	26	31.0	+7.5	59	16	5	23	39	0.15	−0.44	0.15	T.	1	14	7	9	s.	C. E. Blackorby.
Hettinger	Adams	2,675	27	35.6	+4.0	69	11	3	28	51	T.	−0.44	T.	T.	0	22	4	4	nw.	C. H. Plath.
Hillsboro	Traill	901	28	34.2	+6.4	72	15	10	23†	46	0.61	−0.30	0.61	6.0	1	14	6	10	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	27	33.6	+7.3	66	15	1	22	45	T.	−0.61	T.	T.	0	15	7	8	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	42	33.6	+6.3	68	16	6	28	39	0.87	+0.15	0.45	6.0	6	14	5	11	se.	S. Calvelage.
Kenmare	Ward	1,799	3	33.8	.....	67	12	5	22	37	0.13	.....	0.11	1.0	2	13	8	9	nw.	R. Costello.
Langdon	Cavalier	1,615	38	29.6	+5.6	63	16	1	1	40	0.25	−0.58	0.10	1.5	3	21	9	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	32.8	+7.0	64	16	3	29	36	0.59	−0.28	0.35	3.4	4	11	3	16	nw.	Mabel Walsh.
Linton	Emmons	1,711	17	36.6	+7.6	66	6†	13	28†	41	0.18	−0.48	0.10	T.	3	12	10	8	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	30	34.8	+5.9	68	6	11	30	42	0.67	−0.06	0.55	6.0	6	13	5	12	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	16	34.1	.....	66	12†	6	22	44	0.38	−0.33	0.25	T.	2	18	4	8	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	36.0	+5.7	70	6	12	23	41	0.67	−0.06	0.53	1.4	3	14	6	10	nw.	J. G. Carlson.
Maddock	Benson	1,604	19	32.8	+6.2	64	16	6	22	40	0.10	−0.44	0.06	T.	2	12	8	10	se.	A. T. Felland.
Mandan	Morton	1,750	20	34.7	+5.5	67	12	10	30	44	0.17	−0.35	0.12	0.0	3	13	1	16	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	.....	.....	.....	.....	.....	.....	.....	0.14	−0.58	0.08	T.	4	.....	.....	.....	.....	P. B. Anderson.
Marmarth	Slope	2,714	25	35.4	+4.0	69	12†	3	30	56	0.06	−0.35	0.05	0.1	2	15	5	10	nw.	S. P. Grane.
Mary	McKenzie	.....	5	.....	.....	.....	.....	.....	.....	.....	0.16	.....	0.13	T.	3	18	6	6	sw.	Fred Hartman.
Max	McLean	2,093	5	31.6	.....	69	16	6	1	45	0.03	.....	0.03	T.	1	.....	.....	.....	.....	A. W. Rice.
Mayville	Traill	975	38	34.4	+6.2	64	16†	6	23	43	0.60	−0.19	0.44	4.1	5	10	5	15	nw.	H. B. Addicott.
Minot	Ward	1,557	38	33.8	+6.3	68	16	8	22	45	0.25	−0.42	0.15	0.1	5	15	3	12	w.	Mark M. Chatfield.
Mohall	Renville	1,646	40	33.6	+8.8	70	12	6	22	46	0.43	−0.17	0.19	T.	3	10	11	9	se.	John Behan.
Mott	Hettinger	2,424	27	36.0	+6.8	70	12†	5	1	52	0.11	−0.44	0.10	0.1	2	12	8	10	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	42	34.6	+7.9	67	15	7	22	42	0.18	−0.47	0.05	1.2	5	19	1	10	s.	C. J. Hoof.
New England	Hettinger	2,400	40	37.1	+8.0	70	9†	8	28†	51	0.10	−0.41	0.10	0.0	1	16	5	9	se.	F. S. Sleight.
New Salem	Morton	2,163	30	38.1	+8.3	70	12†	10	1	42	0.10	−0.39	0.10	0.0	1	19	5	6	nw.	J. Christiansen.
Oakes	Dickey	1,318	5	35.1	.....	68	2†	9	28	40	0.57	.....	0.47	4.9	5	5	15	10	nw.	Eugene Naylor.
Park River	Walsh	998	30	31.0	+3.2	61	16	− 1	23	37	0.52	−0.26	0.20	4.3	4	2	12	16	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	32.8	.....	68	15	5	1	49	0.22	−0.07	0.14	T.	3	10	11	9	sw.	C. F. Shubert.
Pembina	Pembina	789	60	.....	.....	.....	.....	.....	.....	.....	0.51	−0.28	0.17	1.5	6	.....	.....	.....	.....	E. H. Kruse.
Petersburg	Nelson	1,520	4	.....	.....	.....	.....	.....	.....	.....	0.35	.....	0.15	0.5	5	11	6	13	sw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	33.3	+6.9	63	15	6	22	37	0.05	−0.61	0.05	0.3	1	16	4	10	se.	H. H. McCumber.
Portal	Burke	1,954	29	30.8	+5.4	68	15	0	22	39	0.02	−0.56	0.02	0.0	1	13	4	13	e.	R. G. Wegener.
Powers Lake	Burke	2,205	29	34.8	.....	73	9	5	18	32	0.12	−0.46	0.12	1.0	1	23	5	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	18	37.2	+8.9	69	12	10	1	38	0.15	−0.31	0.09	0.0	2	15	5	10	s.	Assumption Abbey.
Rugby (near)	Pierce	1,562	5	.....	.....	.....	.....	.....	.....	.....	0.55	.....	0.35	T.	2	9	12	9	sw.	W. B. Paterson.
Ryder	Ward	2,108	5	.....	.....	.....	.....	.....	.....	.....	0.23	.....	0.12	2.0	3	.....	.....	.....	.....	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	34.6	.....	70	15	8	26	47	0.28	.....	0.18	T.	2	.....	.....	.....	.....	H. J. Bugge.
Sharon	Steele	1,516	10	31.4	.....	63	16	5	23	34	0.48	−0.41	0.28	3.2	5	11	6	13	sw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	.....	.....	.....	.....	.....	.....	.....	0.34	+0.07	0.19	0.0	2	14	10	6	se.	H. J. Giffey.
Steele	Kidder	1,857	40	35.4	+9.1	67	15	9	22	40	0.08	−0.54	0.04	0.4	2	15	8	7	sw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thos. D. Alkire.
Tagus	Mountrail	2,179	5	.....	.....	.....	.....	.....	.....	.....	0.30	.....	0.16	1.2	3	16	3	11	sw.	G. N. Pilgard.
Tioga	Williams	2,279	5	.....	.....	.....	.....	.....	.....	.....	0.12	.....	0.12	0.0	1	11	10	9	nw.	Anton Carlson.
Towner	McHenry	1,482	32	33.2	+8.0	62	15†	7	22	42	0.25	−0.34	0.15	2.0	2	16	6	8	e.	Karl Weber.
Trotters	Golden Valley	.....	8	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	T.	0	13	10	7	.....	A. J. Nellermoe.
Turtle Lake	McLean	1,899	20	.....	.....	.....	.....	.....	.....	.....	0.08	−0.32	0.08	0.0	1	.....	.....	.....	.....	M. A. Slettum.
Tuttle	Kidder	1,936	26	.....	.....	.....	.....	.....	.....	.....	0.10	−0.39	0.08	0.1	3	16	6	8	sw.	Adam Leno.
Valley City	Barnes	1,245	28	34.2	+6.2	62	6	7	28	39	0.32	−0.42	0.32	4.0	1	15	3	12	nw.	I. C. Robertson.
Velva	McHenry	1,511	7	34.1	.....	69	12	5	22	44	0.13	.....	0.11	T.	2	11	10	9	w.	Oscar Anderson.
Wahpeton	Richland	962	42	37.8	+9.0	72	16	12	30	41	0.67	−0.05	0.51	0.0	5	14	0	16	se.	C. G. Luick.
Washburn	McLean	1,731	33	34.2	+3.9	68	16	11	30	45	0.10	−0.43	0.10	T.	1	14	5	11	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	31.8	+6.2	65	12†	5	22	46	0.33	−0.22	0.29	T.	2	14	8	8	nw.	D. W. Drake.
Williston	Williams	1,878	55	34.8	+7.6	68	15	8	28	42	0.02	−0.56	0.01	0.1	2	15	6	9	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	30.4	+7.8	62	16	5	1	44	0.45	−0.14	0.40	T.	2	13	9	8	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	5	35.3	+5.5	72	6	10	22†	46	0.06	−0.46	0.06	0.0	1	14	1	15	se.	E. W. Davis.
Zap	Mercer	1,838	19	.....	.....	.....	.....	.....	.....	.....	0.11	−0.22	0.11	T.	1	.....	.....	.....	.....	R. A. Norton.
Moorhead, Minn.	Clay	935	53	34.2	+7.1	68	16	11	22	40	0.54	−0.36	0.44	0.6	6	4	14	12	s.	U. S. Weather Bureau.
Averages				33.9	+6.5	73	9†	− 1	23	56	0.28	−0.33	0.80	1.0	3	13	7	10	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for November 1934

Stations	Drainage Basin	Day of Month																														Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missour.		.06																														0.06
Amenia	Red									T.										T.	.08	.05	T.			.35	.15						0.63
Arnegard (near)	Missouri	.03			T.																	T.											0.03
Ashley	Missouri		T.																T.	T.						.08							0.08
Beach	Lit. Missouri		.01																	T.	T.	T.											0.01
Berthold Agency	Missouri		.05																	.12													0.17
Bismarck ***	Missouri		.02						T.									T.	.01	.12	.05	T					T.						0.20
Bottineau	Mouse								T.										T.	.15	.10				T.								0.25
Bowman	Grand		.06															T.	T.	.01					.03	.04	T.						0.14
Cando	Devils Lake		T.						T.											.11	.19	T.	T.		T.	T.							0.30
Carrington‖	James								T.										.04	.03	.03	T.	T.		.02								0.12
Carson	Heart		.15																	.10													0.25
Cavalier	Red		T.					T.	.02	.02										.17	.13					.04							0.38
Cooperstown	Sheyenne									T.									T.	.04	.09	T.	.03			.27	T.	T.	T.	T.	T.		0.43
Corinth	Missouri																				.02												0.02
Courtenay	James								T.										T.	T.	.05					.05							0.10
Crosby	Mouse																			.02													0.02
Devils Lake ***	Devils Lake		T.			T.			.02									T.	.01	.16	.03	T.	T.		T.	.03	T.	T.			T.		0.25
Dickinson‖	Heart		.12																	T.	.01	.01	T.										0.14
Dogden Butte	Mouse								T.									T.		.15	.07			T.									0.22
Drake‖	Mouse									.01										.02	.38	.10	T.										0.51
Dunn Center	Knife																																0.00
Dunseith	Mouse								T.											.07	.18												0.25
Eckman	Mouse								.01											.17	.07		T.										0.25
Edgeley	James								.04													.12	.01			.25							0.42
Edmore	Devils Lake		T.				T.	T.	.05									T.	T.	.13	.10	.01	.01			.08							0.38
Ellendale	James								T.										.04	T.			T.			.49							0.53
Energy	Missouri		.11															T.	T.	.18	T.	T.											0.29
Fairfield	Knife			.26																													0.26
Fessenden‖	James			.03																.05	.05	.03											0.16
Forman	Sheyenne								T.										T.	.07	T.	T.	T.	T.		.49							0.56
Fort Yates	Missouri																			.16	T.						T.						0.16
Foxholm (near)	Mouse		.09				T.		T.										T.	.12	T.	T.	T.										0.21
Fryburg	Heart		.27	T.														T.															0.27
Fullerton	James								.07										T.	.11	.06		T.		T.	.80							1.04
Gackle	James								T.													.12				.08							0.20
Garrison	Missouri		.02						T.										T.	.35													0.37
Grafton	Red		T.						.04											.11	.10	T.	.02			.15							0.42
Grand Forks ***	Red		T.						.02										T.	.13	.10	T.	T.			.40							0.65
Granville	Mouse								T.										T.	.09	.03	T.	T.										0.12
Hankinson	Red																		.11	.05		T.				.58		.12					0.86
Hannah	Pembina		T.						.02									T.		.25	.10	T.	T.				T.						0.37
Hansboro	Devils Lake																			.15													0.15
Hettinger	Grand		T.																T.	T.													T.
Hillsboro	Red									T.																	.61						0.61
Howard (near)	Missouri	T.	T.			T.													T.	T.	T.	T.	T.				T.						T
Jamestown	James								.05										.04	.05	.18	.10				.45							0.87
Kenmare	Mouse								T.											.11	.02	T.								T.	T.		0.13
Langdon	Pembina																		T.	.10			.10			.05							0.25
Larimore	Red								.05											.10	.09	T.	T.			.35							0.59
Linton	Missouri		.06																T.	.10	.02						T.						0.18
Lisbon	Sheyenne								.03										.02	.01	.02	.04				.55							0.67
McClusky	Missouri								T.											.15	.13	T.											0.38
McLeod	Sheyenne																		T.	T.		.09				.53		.05					0.67
Maddock	Sheyenne		T.						T.											.06	.04	T.			T.								0.10
Mandan‖	Missouri	.02						T.										T.	.03	.12	T.												0.17
Manfred	James		.03						.01											.08	.02	T.											0.14
Marmarth	Lit. Missouri		.05																T.	T	T.					.01	T.						0.06
Mary	Lit. Missouri		.13																	.02		.01											0.16
Max‖	Missouri								T.												.03	T.											0.03
Mayville	Red		T.						.03	T.										.07	.05	T.	.01			.44	T.						0.60
Minot	Mouse		.03						.01											.15	.05	T.	.01										0.25
Mohall	Mouse		.16			T.			T.										T.	.19	.08	T.	T.										0.43
Mott	Cannon Ball		.10																	.01													0.11
Napoleon‖	Missouri								.02											.01	.05	.05				.05							0.18
New England	Cannon Ball	.10																															0.10
New Salem	Heart		T.																	.10	T.												0.10
Oakes	James								.04											.02	.01	.03				.47							0.57
Park River	Red			T.			T.		T.									T.	T.	.10	T.	T.	.02			.20	.20						0.52
Parshall	Missouri		.14						.01										T.	.07													0.22
Pembina	Red		T.						.10											.15	.07	.01	.01	T.		.17	T.		T.				0.51
Petersburg	Red		.02				T.		.03											.08	.07	T.				.15							0.35
Pettibone	James		T.						T.											.05	T.	T.	T.			T.							0.05
Portal‖	Mouse		T.																.02														0.02
Powers Lake	Missouri																							.12									0.12
Richardton	Heart		.09																	.06													0.15
Rugby [near]	Mouse					T			T										T.	.20	.35	T.											0.55
Ryder	Missouri																			.08	.12	.03											0.23
Sanish‖	Missouri	.18																		.10	T.			T.									0.28
Sharon	Red		T.					T.	.03									T.	T.	.07	.09	.01	T.		T.	.28				T.	T.		0.48
Stanton	Missouri		.15																	.19													0.34
Steele	Missouri		T.						.04										T.	.04	T.	T.	T.			T.							0.08
Stowers	Cannon Ball																																......
Tagus	Mouse		.13						.01											.16			T.										0.30
Tioga	Missouri																			.12													0.12
Towner	Mouse							T.												.15	.10	T.	T.										0.25
Trotters	Lit. Missouri																					T.											T.
Turtle Lake	Missouri																			.08													0.08
Tuttle			T.						.01										T.	.08	.01	T.											0.10
Valley City	Sheyenne		T.						T.										T	T.	T.		T.			.32							0.32
Velva	Mouse						T.		T.										T.	.11	.02	T.	T.								T.		0.13
Wahpeton	Red																		.03	.04	.02					.51		.07					0.67
Washburn	Missouri		T.						T.											T.	.10												0.10
Westhope	Mouse		.04			T.			T.											.29													0.33
Williston ***	Missouri		.01			T.														.01	T.	T.											0.02
Willow City	Mouse								T.										T.	.40	.05			T.									0.45
Wishek‖	Missouri																				.06												0.06
Zap	Knife																			.11	T.												0.11
Moorhead, Minn ***	Red		T.				T.		T.									T.	.04	.02	.01	.03	T.		.02	.42	T.	T.			T.		0.54

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	44	50	62	60	46	52	46	50	48	44	62	64	47	68	72	70	36	42	44	40	34	26	36	34	40	38	36	34	34	29	....	46.3
	Minimum	14	14	28	32	23	28	30	32	28	25	22	28	24	22	30	32	24	22	32	34	26	13	10	18	28	31	24	20	16	14	....	24.1
Arnegard (near)	Maximum	55	52	52	54	57	60	50	60	52	51	58	58	60	58	60	59	43	28	42	35	30	39	46	32	42	30	39	36	38	30	....	46.9
	Minimum	31	27	22	29	25	35	30	26	25	22	20	24	32	32	30	34	24	14	24	24	18	14	15	10	15	22	20	6	8	6	....	22.1
Ashley	Maximum	40	56	53	54	56	65	57	45	51	45	49	59	53	55	64	64	53	32	40	40	36	25	47	39	33	32	35	38	34	35	....	46.2
	Minimum	15	29	28	31	28	42	35	20	28	24	16	25	26	26	25	35	20	18	30	34	24	8	17	23	25	26	25	15	23	12	....	24.4
Beach	Maximum	51	54	53	52	63	64	53	63	52	49	58	67	62	65	70	63	45	31	38	34	30	40	49	43	47	41	41	36	41	38	....	49.8
	Minimum	20	34	24	24	26	47	26	34	25	15	25	27	23	33	35	33	27	24	30	29	20	17	27	15	21	25	14	10	11	13	....	24.5
Berthold Agency	Maximum	49	57	55	56	57	61	54	63	58	49	53	68	59	65	70	66	55	30	37	38	34	34	50	43	33	32	38	34	38	36	....	49.1
	Minimum	36	32	27	19	19	50	35	22	28	12	20	13	13	24	23	22	25	15	16	32	23	16	13	13	22	15	16	8	14	12	....	21.2
Bismarck	Maximum	43	59	56	56	58	63	48	51	50	48	53	67	48	62	63	63	32	33	40	39	32	28	51	29	34	38	37	39	35	26	....	46.0
	Minimum	15	27	34	31	27	46	28	26	32	24	20	27	27	31	26	32	20	20	33	32	24	15	27	20	26	25	25	20	22	13	....	25.8
Bottineau	Maximum	39	50	53	50	49	57	50	40	48	45	51	58	52	58	57	62	52	30	33	36	33	33	38	35	31	29	30	35	29	28	....	43.0
	Minimum	10	28	25	21	22	37	24	20	25	19	21	27	19	28	28	25	18	15	29	31	15	6	14	20	21	24	20	17	18	22	....	21.6
Bowman	Maximum	46	54	50	52	62	65	52	49	50	48	59	70	63	65	68	65	46	30	39	36	29	41	52	37	42	36	40	31	41	38	....	48.5
	Minimum	11	28	26	24	24	36	32	33	21	26	23	23	28	26	29	28	25	24	29	28	22	20	26	25	20	30	14	9	16	11	....	23.9
Cando	Maximum	40	45	53	52	54	58	54	36	46	45	54	58	56	60	59	61	61	44	35	36	34	21	35	35	31	27	29	32	34	32	....	43.9
	Minimum	8	26	26	27	20	40	23	20	23	18	21	17	22	24	25	26	15	20	15	32	19	7	8	20	22	22	23	14	12	10	....	20.2
Carrington §§	Maximum	52	54	54	55	60	44	44	48	50	51	64	42	60	58	65	28	33	39	36	27	21	40	31	31	35	34	37	27	24	25	....	42.3
	Minimum	17	31	30	26	24	31	22	27	23	19	24	23	21	26	27	25	18	25	32	24	11	10	19	21	24	24	17	16	16	15	....	22.3
Carson	Maximum	44	56	54	55	58	66	50	54	50	50	51	68	50	66	64	66	46	30	36	36	30	33	53	43	40	38	34	40	40	40	....	48.0
	Minimum	12	26	30	26	27	44	30	30	24	20	26	26	25	28	35	34	20	16	29	29	23	19	27	28	22	20	15	16	20	12	....	24.6
Crosby	Maximum	29	53	48	50	50	57	50	60	52	49	57	65	57	58	65	65	33	26	32	32	27	39	24	25	40	37	37	25	37	25	....	43.5
	Minimum	14	20	30	23	22	43	30	27	31	26	21	25	30	32	32	30	23	13	19	27	0	15	16	15	19	19	18	7	11	13	....	21.7
Devils Lake	Maximum	38	46	52	54	52	58	40	39	47	42	49	60	38	58	56	63	32	31	38	35	30	15	37	26	32	32	29	31	26	26	....	40.4
	Minimum	16	30	31	28	24	37	27	25	29	21	23	31	24	29	28	32	18	21	31	30	12	8	15	20	25	25	18	17	15	17	....	23.6
Dickinson §§	Maximum	46	55	52	53	58	65	47	63	51	50	57	69	56	67	69	66	29	31	37	32	27	41	49	26	47	32	43	35	41	38	....	47.7
	Minimum	6	20	27	25	26	29	31	28	25	15	18	19	23	25	26	27	24	17	22	30	19	20	23	15	13	18	8	6	5	2	....	19.7
Drake §§	Maximum	42	54	56	54	58	57	44	50	50	46	53	67	44	65	65	66	28	32	39	36	29	25	47	26	30	31	34	36	27	25	....	43.8
	Minimum	10	13	29	30	23	25	28	19	28	21	18	26	22	23	25	29	25	17	24	32	25	8	9	20	23	25	22	18	18	19	....	21.8
Dunn Center	Maximum	47	54	54	53	56	64	54	64	53	49	51	68	54	64	68	64	58	31	37	36	31	39	53	27	39	34	27	39	40	34	....	48.1
	Minimum	6	35	30	39	28	43	34	29	26	17	20	20	20	26	22	23	29	12	25	29	20	20	24	12	20	18	17	6	6	4	....	22.0
Dunseith	Maximum	34	46	52	53	48	56	50	39	40	46	52	56	52	62	57	67	57	26	36	35	34	15	35	33	30	36	27	33	27	27	....	42.0
	Minimum	10	22	26	24	28	40	25	20	24	23	18	24	24	23	32	28	13	13	24	28	12	3	8	16	19	24	20	15	16	20	....	20.7
Edgeley	Maximum	40	57	57	56	64	67	55	43	51	46	57	56	48	58	59	60	38	32	40	45	38	26	39	32	31	30	30	40	23	20	....	44.6
	Minimum	14	25	26	25	34	35	33	19	30	25	27	17	24	21	24	25	20	20	31	30	24	14	12	20	25	19	13	4	8	7	....	21.7
Ellendale	Maximum	40	58	54	55	58	67	47	44	50	46	50	62	45	54	59	65	30	33	41	37	36	26	43	33	33	33	32	27	30	21	....	43.6
	Minimum	18	30	31	32	25	38	40	24	33	27	18	24	26	23	29	30	23	22	33	36	26	12	14	23	27	28	27	7	14	12	....	25.1
Fessenden §§	Maximum	40	53	55	55	52	58	45	45	49	44	52	65	45	63	63	66	29	33	39	47	32	27	47	26	31	35	35	35	26	25	....	43.8
	Minimum	13	17	28	33	24	38	28	18	27	22	17	21	23	27	24	27	24	19	25	32	27	7	7	20	23	25	24	16	16	16	....	22.3
Foxholm (near)	Maximum	42	52	53	52	54	59	48	62	49	45	52	61	55	62	65	61	50	27	32	32	30	17	35	27	29	29	32	31	30	24	....	43.2
	Minimum	10	30	30	29	23	44	25	21	28	21	14	29	22	31	26	34	20	11	25	29	15	3	11	12	20	20	18	12	13	13	....	21.3
Fullerton	Maximum	40	56	52	56	56	67	50	44	50	45	48	61	50	52	56	62	50	34	42	40	36	24	41	33	33	33	32	25	31	26	....	44.2
	Minimum	17	31	32	32	27	37	29	22	32	26	20	23	26	24	28	28	23	22	30	35	24	12	16	23	32	28	25	6	14	11	....	24.5
Garrison	Maximum	44	57	55	55	58	60	51	57	53	48	54	68	62	66	66	68	58	30	38	38	32	25	49	40	34	30	37	36	37	25	....	47.6
	Minimum	10	26	28	25	21	40	35	23	29	21	18	23	24	27	25	25	23	15	29	27	24	12	21	13	23	20	18	11	20	10	....	22.2
Grafton	Maximum	37	47	54	56	51	58	52	33	45	44	46	59	52	55	52	63	56	34	38	39	35	21	31	33	35	33	33	31	28	27	....	42.6
	Minimum	13	27	28	24	33	35	28	27	24	28	29	25	26	24	26	30	20	23	32	32	19	10	4	22	23	29	24	17	7	16	....	23.5
Grand Forks	Maximum	36	50	53	52	51	60	40	31	40	36	44	61	39	49	51	63	33	36	40	35	30	19	32	36	33	34	29	29	25	26	....	39.8
	Minimum	14	26	29	27	33	32	29	27	29	27	28	27	27	26	25	31	24	25	34	30	19	10	7	18	30	28	26	15	13	14	....	24.3
Granville	Maximum	43	55	58	54	60	58	44	55	50	46	56	64	45	65	62	67	33	31	38	38	34	20	43	25	28	28	38	37	29	28	....	44.4
	Minimum	9	24	27	25	20	38	25	20	30	20	16	24	16	30	20	29	16	15	30	32	20	5	15	17	23	20	16	14	12	18	....	20.9
Hansboro	Maximum	40	50	55	50	55	50	40	30	38	40	50	55	50	54	56	59	45	32	38	38	25	27	40	33	35	38	34	35	33	35	....	42.1
	Minimum	9	26	27	24	24	38	22	22	23	22	11	28	22	24	24	27	14	11	26	22	11	6	5	18	22	27	17	12	15	20	....	20.0
Hettinger	Maximum	42	57	53	55	62	68	52	64	51	50	69	55	57	67	68	68	55	30	34	35	33	37	54	35	44	37	41	49	42	30	....	49.8
	Minimum	4	29	25	23	23	44	30	31	22	17	18	23	21	23	22	23	25	23	29	31	23	16	24	14	21	25	10	3	12	6	....	21.3
Hillsboro	Maximum	37	51	54	50	53	62	50	40	45	41	43	62	58	68	72	70	50	42	40	39	30	23	34	35	36	35	34	32	30	28	....	44.8
	Minimum	15	26	23	28	36	40	30	28	26	27	26	24	25	22	30	30	23	22	24	23	23	12	10	18	26	27	25	18	15	10	....	23.7
Howard (near)	Maximum	60	54	54	54	54	55	54	58	60	50	56	60	64	60	66	63	35	26	38	37	30	37	42	33	42	34	35	34	38	25	....	46.9
	Minimum	26	34	26	23	26	38	33	30	16	15	20	15	20	29	28	29	20	13	22	17	14	1	18	14	17	18	15	6	8	8	....	20.3
Jamestown	Maximum	36	53	53	56	57	63	46	37	51	44	50	64	49	58	55	68	48	32	40	40	34	22	41	34	32	35	32	32	28	26	....	43.9
	Minimum	16	32	28	30	26	43	30	23	32	24	20	25	24	24	27	29	20	20	30	32	18	9	14	20	24	27	20	6	13	13	....	23.3
Kenmare	Maximum	43	54	52	53	55	59	50	58	57	49	54	67	57	61	65	65	44	27	33	33	32	18	35	24	31	26	37	31	33	30	....	44.4
	Minimum	16	32	33	29	26	43	27	25	31	24	23	31	23	36	28	40	21	16	26	30	13	5	11	15	17	19	19	12	10	12	....	23.1
Langdon §§	Maximum	40	40	50	55	50	55	36	38	45	50	45	50	38	60	65	63	30	36	36	34	32	20	31	31	34	34	28	32	27	27	....	40.1
	Minimum	1	8	18	20	35	35	25	25	21	20	21	20	21	20	21	30	20	15	32	32	20	5	4	16	26	19	10	5	12	12	....	19.0
Larimore	Maximum	38	49	54	58	54	59	50	33	45	42	46	61	51	54	53	64	52	32	38	38	32	19	32	31	33	33	32	31	24	24	....	42.1
	Minimum	14	28	33	30	30	36	30	26	27	26	27	27	25	25	26	28	19	22	31	32	19	10	4	17	23	29	25	15	3	15	....	23.4
Linton	Maximum	43	58	55	56	59	66	57	53	53	47	54	64	50	60	65	66	47	33	41	41	35	31	51	43	35	39	40	42	38	32	....	48.5
	Minimum	14	25	28	29	23	36	34	23	26	24	19	24	23	37	24	35	23	19	32	33	25	14	24	21	25	27	25	13	23	13	....	24.6
Lisbon §§	Maximum	41	53	55	58	55	68	55	38	51	45	48	63	43	51	53	65	54	37	41	41	36	24	42	34	35	34	22	29	33	30	....	44.8
	Minimum	19	32	29	28	29	35	38	27	31	27	20	22	24	21	23	23	25	24	36	36	24	13	15	20	29	29	28	12	16	11	....	24.9
McClusky	Maximum	43	59	57	54	58	59	46	50	49	46	53	66	62	65	65	66	52	31	39	39	32	22	50	38	31	32	48	39	31	28	....	47.0
	Minimum	18	23	23	20	20	43	25	19	23	18	20	22	21	26	25	29	17	15	29	30	20	6	20	19	23	22	24	13	16	8	....	21.2
Maddock	Maximum	41	52	54	54	57	58	52	38	48	45	52	63	59	61	59	64	52	32	38	37	34	21	42	32	32	31	30	34	29	38	....	44.6
	Minimum	9	25	28	27	20	41	25	18	26	19	14	26	23	26	22	24	18	17	28	32	19	6	12	19	22	23	20	12	14	19	....	21.1
Marmarth	Maximum	50	50	52	52	50	67	52	64	55	50	67	69	64	65	69	65	50	34	40	40	32	41	52	42	45	41	40	34	40	35	....	50.2
	Minimum	6	32	21	20	20	37	23	34	20	10	26	13	18	22	20	20	25	24	21	32	22	29	23	13	25	25	13	6	11	3	....	20.5
Minot	Maximum	44	54	56	54	58	59	47	59	53	47	56	63	50	65	67	68	45	29	36	36	32	21	43	29	30	29	39	34	32	24	....	45.3
	Minimum	9	33	30	24	20	45	29	20	31	21	21	27	17	30	22	32	24	16	28	31	15	8	17	15	23	21	19	10	13	15	....	22.2
Mohall	Maximum	42	54	54	53	57	58	57	58	51	48	54	70	55	61	66	65	48	28	33	33	32	18	31	25	29	27	33	35	31	28	....	44.5
	Minimum	10	31	31	31	25	44	25	23	33	22	17	24	22	32	26	28	22	16	27	31	16	6	13	14	24	18	21	16	14	22	....	22.8
Mott	Maximum	46	58	56	56	61	68	51	61	55	53	57	70	55	67	70	66	45	31	37	36	31	40	56	33	47	40	43	44	41	42	....	50.5
	Minimum	5	27	25	22	23	44	33	27	21	17	22	18	21	22	25	24	25	21	30	29	23	22	21	15	21	18	12	6	15	9	....	21.4
Napoleon §§	Maximum	42	57	54	55	56	64	47	48	50	46	53	63	46	58	67	64	27	36	41	39	28	28	47	29	32	36	35	40	35	28	....	45.0
	Minimum	14	27	27	28	25	43	32	20	29	21	18	27	25	27	25	41	24	18	30	34	26	7	20	20	23	26	23	13	16	13	....	24.1
New England §§	Maximum	34	61	55	58	65	66	68	68	70	62	59	70	70	70	67	52	48	42	46	42	31	41	55	37	42	49	44	39	43	38	....	53.1
	Minimum	16	29	27	24	30	32	24	17	29	19	20	21	22	23	21	28	28	30	32	21	19	24	17	10	12	12	18	8	8	10	....	21.1
New Salem	Maximum	46	60	58	56	60	64	62	54	54	50	51	70	65	69	68	70	59	36	37	40	30	31	55	50	40	40	40	41	40	39	....	51.2
	Minimum	10	24	31	31	28	47	33	32	28	23	20	28	28	25	31	33	28	16	30	31	23	17	25	16	24	25	20	16	16	12	....	25.0
Oakes	Maximum	43	68	55	60	57	68	49	45	51	47	52	63	49	52	59	63	52	36	42	41	36	22	52	31	35	33	32	24	37	28	....	46.1
	Minimum	14	31	30	27	25	39	36	23	32	25	20	23	24	23	23	29	24	23	35	36	22	12	12	20	28	28	24	9	15	10	....	24.1
Park River	Maximum	38	47	45	55	55	57	54	37	45	37	47	58	39	56	50	61	28	32	37	33	32	25	31	32	34	33	30	29	22	17	....	39.9
	Minimum	15	15	29	34	31	31	30	28	24	29	28	29	25	19	27	27	19	18	26	32	25	10	−1	12	21	28	24	13	5	10	....	22.1
Sharon	Maximum	37	46	52	55	47	60	44	31	47	43	47	61	40	55	55	63	45	30	37	35	31	17	33	26	32	31	30	29	24	23	....	40.2
	Minimum	13	28	29	26	26	38	29	24	27	23	22	27	24	26	28	34	18	20	30	31	17	7	5	18	23	28	16	13	11	15	....	22.5
Steele	Maximum	43	59	54	55	56	64	50	47	51	46	53	61	56	56	67	62	57	30	40	40	36	24	46	40	30	40	38	40	35	31	....	46.9
	Minimum	14	27	27	24	23	39	32	22	27	24	19	26	25	28	27	30	20	19	30	34	24	9	20	22	25	28	24	15	17	15	....	23.9
Towner	Maximum	43	55	58	54	60	58	44	55	50	46	56	60	52	60	62	62	56	54	32	35	35	34	39	35	28	28	29	31	32	33	....	45.9
	Minimum	9	24	27	25	20	38	25	20	30	20	16	24	18	26	23	22	15	12	28	12	22	7	15	18	23	23	21	21	16	13	....	20.4
Valley City	Maximum	39	50	53	56	53	62	56	52	48	47	46	61	55	51	55	60	53	34	40	39	35	24	38	36	37	33	34	30	28	26	....	44.4
	Minimum	15	30	28	27	27	39	34	24	28	24	18	22	33	33	24	31	21	21	32	32	21	10	13	18	35	26	25	7	10	8	....	23.9
Wahpeton	Maximum	42	57	57	61	56	65	70	43	52	47	48	60	54	56	59	72	65	40	42	45	40	32	36	44	45	42	38	34	31	31	....	48.8
	Minimum	26	31	29	31	31	30	35	26	29	25	23	24	26	24	25	31	30	30	37	36	25	17	14	26	33	33	28	23	15	12	....	26.8
Westhope	Maximum	41	53	55	53	54	58	48	43	49	45	54	65	42	60	60	65	56	31	35	38	30	17	37	27	28	32	31	34	31	26	....	43.3
	Minimum	9	30	28	27	22	43	25	20	29	19	18	19	20	20	22	25	16	15	27	26	15	5	15	13	15	22	21	16	13	17	....	20.4
Williston	Maximum	53	55	54	54	53	59	44	63	51	49	53	65	58	61	68	64	30	30	38	36	26	41	49	26	47	32	39	34	36	21	....	46.3
	Minimum	11	37	32	30	30	43	33	34	28	20	24	26	25	32	29	30	21	18	30	26	12	12	17	13	19	24	15	8	11	9	....	23.3
Moorhead, Minn	Maximum	37	54	53	58	51	65	42	35	45	39	41	62	42	54	55	68	32	39	39	38	32	18	32	39	37	34	30	31	29	27	....	42.0
	Minimum	18	34	29	28	31	38	28	27	31	28	27	22	27	24	26	32	26	30	37	32	18	11	11	23	33	30	26	25	21	16	....	26.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 12-27-34—1050]

51.05
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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

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MAR 13 1935
UNIVERSITY OF ILLINOIS

Vol. XLIII — Bismarck, N. D., December, 1934 — No. 12

GENERAL SUMMARY

Although somewhat changeable weather prevailed at times, the temperature averaged the normal, but the precipitation was considerably deficient. The snow covering was mostly confined to the northern portion, the average depth being three inches in that section. While livestock ranged freely, the shortage of feed on pastures and harvested fields necessitated much yard feeding. Navigation in the Missouri river closed at all points in North Dakota during the first week.

TEMPERATURE

The mean temperature for the State was 12.6°, or equal to the normal, and 4.0° higher than the mean for December 1933. The highest mean reported was 19.4° at Mott, Hettinger County; the lowest was 6.9° at Langdon, Cavalier County. The highest temperature reported was 53° at Fort Yates, Sioux County and Hettinger, Adams County on the 11th; the lowest was -44° at Bottineau and Willow City, Bottineau County on the 26th. The greatest monthly range of temperature was 84° at Towner, McHenry County and Willow City, Bottineau County; the least was 59° at Ellendale, Dickey County. The greatest daily range of temperature was 52° at Wishek, McIntosh County on the 24th.

PRECIPITATION

The average precipitation for the State was 0.30 inch, or 0.22 inch below the normal, and 0.58 inch less than the average for December 1933. The greatest monthly amount reported was 1.19 inches at Park River, Walsh County; there was none at Wishek, McIntosh County. The greatest amount recorded in any 24 consecutive hours was 0.40 inch at Hillsboro, Traill County on the 22d, and at Park River, Walsh County on the 25th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 3.9 inches.

MISCELLANEOUS PHENOMENA

Auroras: Foxholm, 1st; Howard, 8th, 26th, 28th; Tuttle, 30th; Williston, 3d, 4th.

Fog: Beach, 1st, 2d, 10th, 11th; Bismarck, 1st, 2d, 14th, 16th, 17th; Bottineau, 8th, 9th, 10th, 11th, 13th, 14th; Bowman, Crosby, Fairfield, 1st, 2d; Carson, 1st, 10th, 13th, 14th, 17th, 19th, 20th, 22d; Corinth, 1st, 2d, 9th, 10th, 16th, 20th; Devils Lake, 3d, 10th, 13th, 14th, 17th, 28th; Dickinson, 1st, 1[illegible]th; Dogden Butte, 10th; Dunn Center, 1st, 20th; Dunseith, 8th, 10th, 14th; Edmore, Gackle, Sharon, 14th; Ellendale, 15th; Fort Yates. 14th, 17th; Foxholm, 1st, 16th; Fullerton, McClusky, 2d; Garrison, 1st, 2d, 10th; Granville, Minot, Napoleon, Velva, 1st; Hannah, 8th, 10th, 13th, 14th, 17th; Hettinger, 10th, 14th, 17th, 19th, 20th; Howard, 2d, 3d, 4th, 5th, 9th, 10th, 14th, 16th, 18th; Jamestown, Moorhead, Park River, Petersburg, 3d; Kenmare, 9th; Linton, 11th; Marmarth, 10th, 21st; Max, Rugby, Westhope, Williston, 13th; Mohall, 7th, 8th, 9th, 10th, 13th, 14th, 16th; Mott, 1st, 10th, 17th, 19th; New England, 1st, 2d, 5th, 8th, 10th, 14th, 17th, 18th, 19th, 20th, 21st, 24th, 25th, 27th, 29th; New Salem, 1st, 2d, 10th, 13th, 14th, 20th; Parshall, 1st, 2d, 13th; Pettibone, 1st, 14th; Richardton, 1st, 10th, 20th; Ryder, 2d, 3d, 8th, 13th, 14th, 16th; Sanish, 1st, 16th, 18th; Steele, 1st, 3d, 10th, Tagus, 1st, 2d, 3d, 5th, 6th, 9th, 10th, 13th, 17th; Turtle Lake, 11th, 13th; Tuttle, 1st, 3d, 10th, 14th, 17th, 28th.

Halos, lunar: Foxholm, 17th; Moorhead, 20th, 23d; Oakes, 17th, 22d; Williston, 15th, 24th, 25th, 27th.

Halos, solar: Bismarck, 18th, 25th; Devils Lake, 24th; Dogden Butte, 15th, 20th, 24th, 27th; Ellendale, 11th, 28th; Foxholm, 19th, 27th; Grand Forks, 25th; Moorhead, 11th, 31st; Oakes, 31st; Steele, 25th, 28th; Williston, 14th, 24th, 25th.

Sleet: Devils Lake, 7th, 8th, 16th; Marmarth, 9th; Moorhead, New England, Pettibone, Williston, 22d; Napoleon, 8th, 22d; Steele, 9th, 18th, 26th; Tuttle, 1st, 18th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.14	30.68	6	29.46	22	8.7	35	nw.	22	81	73	78	30
Devils Lake	30.14	30.60	6	29.51	22	9.0	27	nw.	22	95	80	91	46
Grand Forks	30.13	30.60	6	29.60	15	......	35	nw.	22	92	....	91	....
Williston	30.14	30.66	6	29.42	22	7.4	27	nw.	22	84	76	80	46
Moorhead, Minn	30.16	30.68	6	29.54	22	9.1	30	nw.	22	93	86	92	33
Averages & ext's	30.14	30.68	6	29.42	22	8.6	35	nw.	22	89	79	86	39

† And other dates.

COMPARATIVE DATA FOR DECEMBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	7.1	−5.5	60	−39	0.57	+0.05	1.33	T.	7.7	4	13	8	10
1893	4.7	−7.9	55	−36	0.85	+0.33	1.92	0.04	8.4	6	11	9	11
1894	19.1	+6.5	70	−32	0.29	−0.23	1.20	T.	1.6	2	18	7	6
1895	13.8	+1.2	62	−32	0.29	−0.23	0.88	0.03	2.6	3	12	9	10
1896.	16.4	+3.8	53	−35	0.37	−0.15	1.60	T.	2.6	3	13	9	9
1897	10.8	−1.8	69	−35	0.22	−0.30	0.67	0.00	2.2	3	12	8	11
1898	12.1	−0.5	55	−38	0.24	−0.28	0.87	T.	2.1	3	14	9	8
1899	12.8	+0.2	60	−26	0.32	−0.20	0.80	T.	3.3	3	13	7	11
1900	17.3	+4.7	58	−29	0.31	−0.21	0.92	T.	3.0	4	13	8	10
1901	12.4	−0.2	61	−43	0.74	+0.22	1.45	0.08	7.2	5	10	7	14
1902	7.8	−4.8	49	−35	0.51	−0.01	1.55	T.	4.2	4	14	7	10
1903	11.6	−1.0	57	−33	0.77	+0.25	1.67	0.10	7.2	6	11	7	13
1904.	14.2	+1.6	55	−43	0.62	+0.10	2.00	0.00	6.2	5	7	8	16
1905	15.3	+2.7	55	−34	0.16	−0.36	1.10	0.00	1.6	4	16	2	13
1906	8.4	−4.2	48	−40	1.07	+0.55	1.89	0.20	10.7	6	11	7	13
1907	20.1	+7.5	68	−26	0.30	−0.22	1.28	T.	3.1	3	15	7	9
1908	14.4	+1.8	62	−37	0.38	−0.14	1.57	0.00	3.7	3	13	10	8
1909	5.2	−7.4	54	−42	1.27	+0.75	4.84	0.29	12.1	7	9	8	14
1910	12.9	+0.3	56	−34	0.42	−0.10	2.00	T.	4.6	4	12	8	11
1911	14.9	+2.3	61	−33	0.39	−0.13	1.10	0.00	4.5	4	10	8	13
1912	18.9	+6.3	72	−28	0.43	−0.09	3.13	T.	4.0	4	14	8	9
1913	22.7	+10.1	61	−21	0.07	−0.45	0.67	0.00	0.3	1	18	6	7
1914	5.4	−7.2	57	−42	0.50	−0.02	2.00	0.10	5.7	4	12	9	10
1915.	15.8	+3.2	57	−27	0.52	0.00	2.10	0.00	5.4	5	11	9	11
1916	2.7	−9.9	61	−50	1.21	+0.69	3.09	0.02	13.9	5	15	8	8
1917	0.7	−11.9	58	−44	0.60	+0.08	1.60	T.	7.4	6	9	9	13
1918.	18.5	+5.9	65	−41	0.88	+0.36	2.29	0.05	9.9	5	9	8	14
1919.	7.4	−5.2	49	−38	0.46	−0.06	1.30	0.00	4.8	3	14	9	8
1920	15.2	+2.6	59	−32	0.32	−0.20	1.50	T.	3.2	3	11	9	11
1921	16.5	+3.9	59	−33	0.41	−0.11	1.60	T.	3.9	4	14	7	10
1922	8.5	−4.1	55	−34	0.67	+0.15	2.43	0.00	7.4	5	11	8	12
1923	22.2	+9.6	62	−36	0.32	−0.20	0.96	T.	3.6	3	16	8	7
1924.	2.9	−9.7	58	−46	0.43	−0.09	1.00	T.	5.3	4	12	7	12
1925.	16.5	+3.9	67	−38	0.28	−0.24	1.20	0.00	2.6	3	12	8	11
1926.	9.2	−3.4	55	−36	0.57	+0.05	1.50	0.10	5.5	3	14	8	9
1927.	−1.8	−14.4	43	−38	0.75	+0.23	3.50	0.00	8.7	5	14	7	10
1928.	20.7	+8.1	57	−30	0.28	−0.24	0.95	0.00	3.2	3	14	7	10
1929.	12.5	−0.1	59	−38	0.81	+0.29	2.10	0.10	9.9	5	12	8	11
1930.	19.9	+7.3	53	−30	0.19	−0.33	0.90	0.00	2.0	3	12	8	11
1931.	21.0	+8.4	58	−21	0.23	−0.29	1.20	0.00	2.7	2	13	8	10
1932.	12.4	−0.2	60	−31	0.18	−0.34	0.80	0.00	1.7	3	14	10	7
1933.	8.6	−4.0	62	−38	0.88	+0.36	2.35	0.00	9.7	6	9	8	14
1934.	12.6	0.0	53	−44	0.30	−0.22	1.19	0.00	3.9	5	9	8	14
Per..	12.6	......	72	−50	0.52	......	4.84	0.00	5.2	4	12	8	11

Climatological Data for December 1934

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	8	......	......	....	....	......	....	......	0.19	......	0.06	1.9	6	......	......	......	......	H. A. Bury.
Amenia	Cass	954	38	9.6	−2.6	38	10	−29	26	34	0.04	−0.51	0.03	0.4	2	2	16	13	n.	I. Idso.
Arnegard (near)	McKenzie	2,238	21	11.8	−1.2	36	11.	−33	25	42	0.42	−0.15	0.25	4.0	6	13	10	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	38	15.8	+1.6	46	11†	−21	26	40	0.06	−0.45	0.03	1.8	3	8	7	16	nw.	H. D. Piper.
Beach	Golden Valley	2,759	28	18.0	+1.0	49	14	−22	26	37	0.17	−0.33	0.08	1.7	4	12	7	12	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	41	14.3	−1.1	40	11†	−32	26	40	0.13	−0.26	0.06	3.3	4	11	6	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	59	15.3	+0.6	48	11	−22	26	35	0.13	−0.44	0.04	2.2	5	7	7	17	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	42	10.6	+3.2	39	12	−44	26	42	0.61	+0.17	0.26	6.1	5	14	3	14	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	20	18.0	+2.9	46	11†	−18	26	37	0.41	+0.13	0.18	4.1	8	13	9	9	nw.	George Larsen.
Cando	Towner	1,488	33	11.3	+2.7	44	7	−37	26	41	0.02	−0.42	0.01	0.2	2	7	7	17	nw.	A. J. Swanson.
Carrington	Foster	1,579	36	11.3	−0.4	45	11	−26	25†	49	0.20	−0.22	0.06	4.0	5	13	3	15	nw.	L. A. Swanson.
Carson	Grant	2,500	22	15.0	+0.3	49	11	−24	26	39	0.36	−0.19	0.20	3.6	5	17	5	9	nw.	J. W. Evens.
Cavalier	Pembina	894	24	7.6	......	34	12†	−31	26	43	0.44	−0.56	0.30	3.5	3	18	5	8	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	37	9.2	......	42	13	−30	26	49	0.31	−0.21	0.14	5.0	3	9	7	15	nw.	Theo. Marquardt.
Corinth	Williams	2,180	6	......	......	....	....	......	....	......	0.65	......	0.10	6.5	11	0	19	12	......	T. C. Lorenzen.
Courtenay	Stutsman	1,523	5	......	......	....	....	......	....	......	0.27	......	0.10	2.8	4	7	13	11	nw.	Geo. E. Berg.
Crosby	Divide	1,954	27	11.6	0.0	42	11	−34	26	39	0.18	−0.27	0.10	4.0	5	4	4	23	nw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	37	9.9	+0.4	43	12	−33	26	33	0.40	−0.14	0.15	5.3	10	9	8	14	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	42	16.2	−0.2	49	11	−25	26	40	0.22	−0.27	0.05	1.8	10	8	11	12	nw.	Leroy Moonaw.
Dogden Butte‡‡	McLean	1,880	8	12.8	......	43	12	−32	26	31	0.08	......	0.05	2.0	2	14	4	13	nw.	R. L. Williams.
Drake	McHenry	1,634	5	11.5	......	44	12	−33	27	40	0.17	......	0.07	2.2	7	10	6	15	nw.	Peter Anton.
Dunn Center	Dunn	2,191	35	15.8	−1.9	47	11	−29	26	37	0.12	−0.43	0.12	T.	1	9	3	19	nw.	W. F. Moede.
Dunseith	Rolette	1,682	38	7.8	−1.3	38	12	−39	26	33	0.10	−0.30	0.05	4.0	2	10	10	11	ne.	W. T. Erickson.
Eckman	Bottineau	1,500	29	9.2	−0.1	39	12	−41	26	38	0.27	−0.24	0.10	6.0	4	10	13	8	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	33	12.0	−2.6	40	11	−21	26	43	0.05	−0.34	0.05	0.5	1	9	12	10	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	10	7.1	......	37	12	−38	26	32	0.77	+0.09	0.30	8.7	13	8	7	16	nw.	E. D. Warner.
Ellendale	Dickey	1,457	39	13.7	−3.1	40	11†	−19	26	38	0.29	−0.19	0.11	2.4	4	8	5	18	s.	J. E. Demmer.
Energy ‡‡	McLean	1,750	22	14.0	......	44	11	−33	26	50	0.35	−0.09	0.15	9.0	5	8	11	12	nw.	H. S. Solenberger.
Fairfield	Billings	......	5	......	......	....	....	......	....	......	0.45	......	0.10	4.5	5	13	4	14	nw.	F. R. Hecker.
Fessenden	Wells	1,610	22	11.4	+0.8	45	12	−34	26	46	0.35	−0.31	0.12	3.5	8	13	5	13	sw.	T. D. Monsen.
Forman	Sargent	1,249	41	......	......	....	....	......	....	......	0.20	−0.35	0.09	1.8	3	5	9	17	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	34	17.2	−1.2	53	11	−20	26	43	0.10	−0.38	0.10	1.0	1	7	9	15	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	13	10.0	......	38	12	−32	26	37	0.52	+0.09	0.18	6.2	3	6	10	15	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	16	......	......	....	....	......	....	......	0.23	−0.35	0.08	3.0	4	6	19	6	nw.	Verne King.
Fullerton	Dickey	1,439	36	14.6	+0.2	40	12	−21	26	38	0.66	−0.19	0.27	6.6	6	3	12	16	nw.	F. O. Alin.
Gackle	Logan	1,951	4	14.8	......	43	12	−22	26	41	0.07	......	0.05	0.4	2	10	8	13	nw.	A. H. Haut.
Garrison	McLean	1,901	57	13.4	−0.3	41	12	−28	26	34	0.40	−0.15	0.30	4.0	2	5	10	16	nw.	W. F. Robinson.
Grafton	Walsh	827	42	9.6	+0.7	39	12†	−32	29	45	0.42	−0.10	0.14	8.3	5	8	11	12	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	43	9.0	−1.6	38	12	−29	26†	31	0.53	−0.10	0.19	5.7	9	12	3	16	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	27	11.3	−0.7	43	12	−39	25	36	0.35	−0.17	0.20	3.5	3	10	6	15	nw.	W. A. Christianson.
Hankinson	Richland	1,068	5	13.8	......	46	12	−22	25	39	0.41	......	0.25	5.0	3	7	4	20	nw.	R. G. Stock.
Hannah	Cavalier	1,568	42	8.2	......	34	12	−36	26	30	0.36	−0.24	0.10	3.6	6	5	13	13	nw.	James Muir.
Hansboro	Towner	1,597	26	9.4	+1.4	40	12	−36	26	40	0.55	−0.10	0.15	11.0	5	10	7	14	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	27	18.8	+2.0	53	11	−19	26	47	0.11	−0.26	0.04	1.1	4	10	13	8	nw.	C. H. Plath.
Hillsboro	Traill	901	28	10.6	−0.6	39	12	−28	26	37	0.44	−0.32	0.40	5.4	2	10	7	14	nw.	H. F. Lund.
Howard ‡‡ (near)	Williams	2,275	27	9.0	−2.6	42	11	−38	26	31	0.57	−0.10	0.30	6.0	5	10	16	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	42	13.4	0.0	44	12	−26	26	41	0.23	−0.45	0.10	2.5	6	10	3	18	nw.	S. Calvelage.
Kenmare	Ward	1,799	3	11.8	......	40	11	−29	26	32	0.35	......	0.21	4.0	5	10	12	9	nw.	R. Costello.
Langdon	Cavalier	1,615	38	6.9	−1.4	40	12	−40	26	42	0.90	+0.27	0.30	9.0	5	9	22	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	41	9.0	−2.0	42	11	−31	26	44	0.53	−0.01	0.16	8.1	6	12	3	16	nw	Mabel Walsh.
Linton	Emmons	1,711	17	16.4	+2.5	50	11	−22	26	40	0.01	−0.40	0.01	1.4	1	9	9	13	nw.	Rev. E. J Oilberding.
Lisbon	Ransom	1,091	30	13.8	−0.3	42	12	−23	26	31	0.32	−0.19	0.10	3.2	4	7	7	17	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	16	12.2	......	43	12	−32	26	49	0.10	−0.52	0.05	1.0	2	17	6	8	nw.	Edw. Tapley.
McLeod	Ransom	1,075	23	12.6	−1.8	35	17	−28	26	35	0.15	−0.32	0.08	1.5	3	6	11	14	nw.	J. G. Carlson.
Maddock	Benson	1,604	19	10.6	+0.6	43	12	−37	26	41	0.16	−0.10	0.07	1.6	3	6	15	10	nw.	A. T. Felland.
Mandan	Morton	1,750	20	14.6	+0.9	48	11	−24	26	42	0.14	−0.29	0.04	3.6	5	11	1	19	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	31	......	......	....	....	......	....	......	0.25	−0.41	0.08	3.5	8	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	25	19.0	+2.2	48	14	−15	25	40	0.60	+0.20	0.20	8.7	6	12	3	16	nw.	S. P. Grane.
Mary	McKenzie	......	5	......	......	....	....	......	....	......	0.16	......	0.07	2.0	4	7	7	17	nw.	Fred Hartman.
Max	McLean	2,093	5	8.6	......	40	12	−34	25	39	0.60	......	0.20	6.0	5	......	......	......	......	A. W. Rice.
Mayville	Traill	975	38	10.3	−2.6	38	12	−29	26	40	0.40	−0.16	0.12	4.0	6	12	4	15	nw.	H. B. Addicott.
Minot	Ward	1,557	38	12.6	+0.7	42	12	−32	26	38	0.41	−0.07	0.15	4.1	5	8	9	14	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	40	10.4	−0.6	37	12	−34	26	37	0.35	−0.06	0.13	3.5	5	16	5	10	nw.	John Behan.
Mott	Hettinger	2,424	27	19.4	+5.6	52	11	−20	26	46	0.24	−0.40	0.08	3.0	3	9	8	14	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	42	14.1	+1.5	47	11†	−26	26	36	0.33	−0.12	0.10	2.2	6	10	3	18	nw.	C. J. Hoof.
New England	Hettinger	2,400	40	18.4	+1.9	51	11	−19	25	48	0.14	−0.26	0.07	2.5	3	7	8	16	nw.	F. S. Sleight.
New Salem	Morton	2,163	30	17.4	+2.1	45	11†	−26	26	42	0.34	−0.24	0.18	5.0	5	8	10	13	nw.	J. Christiansen.
Oakes	Dickey	1,318	5	12.4	......	39	12	−24	26	35	0.26	......	0.10	2.6	5	6	15	10	sw.	Eugene Naylor.
Park River	Walsh	998	30	7.6	−2.9	38	11†	−31	26	42	1.19	+0.74	0.40	10.5	6	5	4	22	nw.	C. B. Wright.
Parshall	Mountrail	1,929	19	11.8	......	43	12	−33	26	35	0.19	−0.21	0.12	2.5	3	8	11	12	nw.	C. E. Shubert.
Pembina	Pembina	789	60	......	......	....	....	......	....	......	0.50	−0.27	0.18	5.6	12	......	......	......	......	E. H. Kruse.
Petersburg	Nelson	1,520	4	......	......	....	....	......	....	......	0.30	......	0.12	3.0	5	9	5	17	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	25	11.5	+1.0	45	12	−31	26	43	0.05	−0.52	0.02	0.6	3	11	7	13	nw.	H. H. McCumber.
Portal	Burke	1,954	29	10.6	−1.6	37	11	−38	26	44	0.37	−0.13	0.14	4.0	4	12	4	15	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	29	14.7	......	37	16	−31	26	27	0.33	−0.26	0.17	4.0	2	21	5	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	18	17.8	+3.8	47	11	−23	26	41	0.14	−0.24	0.03	1.8	6	9	4	18	s.	Assumption Abbey.
Rugby (near)	Pierce	1,562	5	......	......	....	....	......	....	......	0.25	......	0.11	5.0	5	12	10	9	nw.	W. B. Paterson.
Ryder	Ward	2,108	5	......	......	....	....	......	....	......	0.27	......	0.06	2.7	7	5	9	17	nw.	S. C. Schellenbaum
Sanish	Mountrail	1,835	9	13.4	......	42	11†	−31	25	41	T.	......	T.	T	0	......	......	......	......	H. J. Bugge.
Sharon	Steele	1,516	10	9.4	......	42	12	−32	26	33	0.49	+0.09	0.20	5.9	10	9	7	15	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	10	......	......	....	....	......	....	......	0.06	−0.28	0.04	0.4	2	8	11	12	nw.	H. J. Giffey.
Steele	Kidder	1,857	40	15.0	+2.7	45	11†	−25	26	36	0.07	−0.48	0.04	2.0	3	9	5	17	nw.	R. S. Armstrong.
Tagus	Mountrail	2,179	5	......	......	....	....	......	....	......	0.11	......	0.04	8.0	5	10	7	14	nw.	O. N. Pilgard.
Tioga	Williams	2,279	5	......	......	....	....	......	....	......	0.47	......	0.15	4.7	5	0	2	29	nw.	Anton Carlson.
Towner	McHenry	1,482	32	9.6	−0.5	42	12	−42	26	43	0.25	−0.15	0.14	9.0	2	11	7	13	e.	Karl Weber.
Trotters	Golden Valley	......	8	......	......	....	....	......	....	......	0.15	......	0.06	1.7	4	7	11	13	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	20	......	......	....	....	......	....	......	0.16	−0.38	0.06	2.2	3	......	......	......	......	M. A. Slettum.
Tuttle	Kidder	1,936	26	......	......	....	....	......	....	......	0.07	−0.37	0.03	0.6	4	11	9	11	nw.	Adam Leno.
Valley City	Barnes	1,245	28	12.2	−1.5	41	12	−25	26	41	0.32	−0.14	0.10	6.0	6	12	5	14	n.	I. C. Robertson.
Velva	McHenry	1,511	7	12.7	......	43	12	−31	26	40	0.19	......	0.08	4.5	3	5	12	14	nw.	Oscar Anderson.
Wahpeton	Richland	962	42	15.5	+0.2	45	12	−26	26	49	0.54	+0.10	0.30	6.0	6	10	0	21	nw.	C. G. Luick.
Washburn	McLean	1,731	33	14.0	0.0	44	12	−27	26	37	0.28	−0.04	0.12	2.8	5	11	2	18	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	28	9.6	−0.4	39	12	−42	26	36	0.26	−0.01	0.11	7.0	3	19	4	8	nw.	D. W. Drake.
Williston	Williams	1,878	55	14.5	+0.7	45	11	−30	26	41	0.43	−0.15	0.18	4.8	10	12	3	16	s.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	8.8	+0.1	40	12	−44	26	37	0.45	−0.09	0.20	4.5	3	10	8	13	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	5	17.0	+4.0	50	11†	−20	26	52	0.00	−0.64	0.00	0.0	0	6	0	25	nw.	E. W. Davis.
Zap	Mercer	1,838	19	......	......	....	....	......	....	......	0.30	−0.03	......	3.0	2	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	53	11.0	−0.5	44	12	−24	26	32	0.40	−0.32	0.17	5.2	9	7	7	17	n.	U. S. Weather Bureau.
Averages	......	......	......	12.6	0.0	53	11	−44	26	52	0.30	−0.22	0.40	3.9	5	9	8	14	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ª, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora.

Daily Precipitation for December 1934

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri								.06							.02				T.	.03	.01	.04		T.	T.		.03					0.19
Amenia	Red								T.	T.							T.	T.			T.	T.	T.	.03					.01				0.04
Arnegard (near)	Missouri					T.	.05									.03	T.		.25			T.	.02		.02				.05				0.42
Ashley	Missouri									T.						T.	.02		.01				.03			T.							0.06
Beach	Lit. Missouri			T		T.	.06											.01		T.	T.	.02	.08					T.					0.17
Berthold Agency	Missouri			T.	T.	.03										T	T.		.02							.06			.02				0.13
Bismarck ***	Missouri	T.		T.		.04	T.		T.	T.	T.					.03	T.		.01	.04	T.	T.	T.		.01	T.			T.				0.13
Bottineau	Mouse															T.					.01	T.	.26	T.		.19	.01		.14				0.61
Bowman	Grand			.03	.04		.04									.03						.04			.02	.18		.03					0.41
Cando	Devils Lake				T.			T.	T.		T.				.01			T.	T.	T	.01		T.	T.									0.02
Carrington‖	James			T.						.01						T.				.06	.05				.02			.06					0.20
Carson	Heart			.01		.20	.05									.05				.05													0.36
Cavalier	Red													T.				T.	T.	T.	T.	.07	T.			.07	T.	T.	.30		T.		0.44
Cooperstown	Sheyenne							T.	T.	T.	T.				T.	T.	T.		T.	T.	.14	.03	T.	T.		T.	T.		.14	T.			0.31
Corinth	Missouri			.04			.06									.03	.05			.05			.10	.05	.05	.08		.10			.04		0.65
Courtenay	James			T.						T.									.02	.10			.05					.10					0.27
Crosby	Mouse			.02			.02									T.	.02						T.			.10			.02				0.18
Devils Lake ***	Devils Lake	T.		T.	T.			.01	T.	T.	T.		T.	T.	T.	.01	.02	T.	T.	.03	.07	.01	.06		.03	.01	T.	T.	.15		T.		0.40
Dickinson‖	Heart		T.	T.	.01	.01	.05	T.								.03	T.		.02	T.	.02		.01	.03		.03		T.	.01	T.			0.22
Dogden Butte	Mouse					T.				T.	T.						T.		T.		T.		T.			.05			.03				0.08
Drake‖	Mouse			T.		T.				T.	.01								.02		.02	T.		.01		.07			.02	.02			0.17
Dunn Center	Knife					T												T.		T.		T.	.12										0.12
Dunseith	Mouse							T.		T.												T.	.05						.05				0.10
Eckman	Mouse						.05			T.					T.					T.			.05			.10			.07				0.27
Edgeley	James																						.05										0.05
Edmore	Devils Lake	T.		T.	T.			T.	T.	.03	T			T.		.03	.01	.01	.02	.01	.05	.10	.04	.01	T.	.30	.01	T.	.15			T.	0.77
Ellendale	James									.05									.09		.04		.11										0.29
Energy	Missouri					.15	.04									T.	.08		.04		T.					.04			T.				0.35
Fairfield	Knife							.10								.10				.10			.10		.05								0.45
Fessenden‖	James									.01	.01					.01			.03			.09	.02			.06			.12				0.35
Forman	Sheyenne								T.	T				T.					.05		.09	T.	.06										0.20
Fort Yates	Missouri			T.		T.										T.			.10				T.			T.							0.10
Foxholm (near)	Mouse					.16			T.	T.						T.			T.	T.	T.	T.	T.			.18			.18				0.52
Fryburg	Heart				T.	.07	T.									.04			.04			T.	T.	.08		T.							0.23
Fullerton	James	T.		T.	T.			T.		.05	T.				T.	.03			.27	.10	T.		.18			T.			.03				0.66
Gackle	James									T.						T.	T.		T.			.02	.05										0.07
Garrison	Missouri					.30	T			T.						T.	T.	T.	.10	T.	T.	T.	T.					T.	T.	T.			0.40
Grafton	Red							T.	T.	T.	T.					T.	T.		.05		.06	.10	T.	T.		.07		T.	.14				0.42
Grand Forks ***	Red				T.			T.	T.	T.	T.			T.	T.	.01	T.		.03	.09	.05	.06	.07		.01	.02		T.	.19				0.53
Granville	Mouse			T.	T.	T.			T.	T.											T.	T.	.05		.10	T.		.20		T.			0.35
Hankinson	Red																		.05		.11		.25										0.41
Hannah	Pembina							T.	T.	.01	T.			T.		T.		T.	T.		.05	.08	.02			.10	T.	T.	.10				0.36
Hansboro	Devils Lake									.05									T.			.10				.15		.10	.15				0.55
Hettinger	Grand		T.			T.	.04									T.			T.	T.	.02	T.				.03		.02					0.11
Hillsboro	Red				T.						T.					T							.40					.04					0.44
Howard (near)	Missouri			T.				.02								*	.10	*	*	.30		.04		*	.11								0.57
Jamestown	James															.05	.02			.10	.02	.02		.02									0.23
Kenmare	Mouse				T.	.03	.02												.02		T		T.			.21	T.		.07				0.35
Langdon	Pembina									T.	.10											.30				.30		.10	.10				0.90
Larimore	Red								T.							T.			.07		.13	.08	.03			.06			.16				0.53
Linton	Missouri				T.	T.				T.					T.	T.	T.		T.		.01	T.	T.			T.							0.01
Lisbon	Sheyenne															.02			.10		.10		.10										0.32
McClusky	Missouri			T.		T.		T.	T.	.05							.05				T.		T.										0.10
McLeod	Sheyenne									.03				T.	T.					.08			T.	.04									0.15
Maddock	Sheyenne				T.			T.		T.						T.			T.		T.	.04		T.		.05	T.		.07				0.16
Mandan‖	Missouri	T.	T.		.04	.04			T.	T.					T.		.01	T.	T.	.03	T.				.02			T.					0.14
Manfred	James			T.	T.					.02						.01			.02		.01	.02		.02		.07		T.	.08				0.25
Marmarth	Lit. Missouri			T.		.02	.20			T.						.01					.20						.02	.15					0.60
Mary	Lit. Missouri					T.	.01									.02				.07						.06							0.16
Max‖	Missouri					.20	.20											.05	.05						.10								0.60
Mayville	Red	T.			T.				T.		T.				T.		T.	T.	T.	T.	.10	.05	.12	.01	T.	.02			.10	T.			0.40
Minot	Mouse					.14				T.								.01			T.	.01	T.		T	.10	T.		.15				0.41
Mohall	Mouse					T.	T.	.04					.01				T.		T.	.13			.07	T.		.10							0.35
Mott	Cannon Ball						.08									T.										.08		.08					0.24
Napoleon‖	Missouri				.03				.02		.05								.10				.08			.05							0.33
New England	Cannon Ball				T.	.05									.02		T.											.07					0.14
New Salem	Heart			T		.18	.06									.01			.05	.04		T.	T.						T.				0.34
Oakes	James															.01			.02		.10	.03	.10										0.26
Park River	Red					T.		.25		.25									T.		.14	.07		T.		.40			.08				1.19
Parshall	Missouri						.04												.12										.03				0.19
Pembina	Red				.04			.01	T.	.02	.02			.01	T.	.01		.02	T.		T.	.18	.03	T.	.01	.03	T.	.12	T.	T.			0.50
Petersburg	Red								T.	T	T.					.03		T.			.12	.03				.02	T.		.10				0.30
Pettibone	James			T.	T.	T.			T.	.02					T.	T.		T.		.02	T.	T.			.01				T.				0.05
Portal‖	Mouse					.09										T.			.04			.14			.10								0.37
Powers Lake	Missouri																.16								.17								0.33
Richardton	Heart			T.	T.	.02	.03									.03	T.		.01	.03			.02					T.		T.			0.14
Rugby [near]	Mouse									T.				T.	T.	T.			.01	T.	T.	.03	.02		.08				.11		T.		0.25
Ryder	Missouri				.04	.06			T.								.05		.05		T.				.02	.02	.03						0.27
Sanish‖	Missouri			T.		T.												T.		T.			T.	T.									T.
Sharon	Red	T.		T.				T.	.01	.01	T.			T.	T.	.02	.01	T.	.02	T.	.13	.04	.01			.04	T.		.20				0.49
Stanton	Missouri					.04													T.			T.	T.		.02								0.06
Steele	Missouri				T.					T.						.01			.02		T.	.04											0.07
Tagus	Mouse					.01	.02																.04			.03			.01				0.11
Tioga	Missouri			T.	T.		.15	T.	T.								.10			.08		T.		.10			.04			T.			0.47
Towner	Mouse			T.	T.					T.								T.								.11			.14				0.25
Trotters	Lit. Missouri			T.		T.	.06									.03			.03			T.	.03				T.	T.					0.15
Turtle Lake	Missouri					.05										.05										.06							0.16
Tuttle										T.						.01	T.		.01		.03	T.	T.			.02							0.07
Valley City	Sheyenne	T.								T.	T				T.	.01		T.	.03		.08	.04	.10						.06				0.32
Velva	Mouse	T.			T.	T.	T.			T.	T.								.05		T.	T				.08				.06			0.19
Wahpeton	Red									.02						.02			.05		.10		.30	.05									0.54
Washburn	Missouri					.12	.07			T.						T.	T.	.03	.04		.02					T.			T.				0.28
Westhope	Mouse									T.													.11			.07			.08				0.26
Williston ***	Missouri		T.	.01		T.	.01				T.					.01	.05	T.	.03	.01		.03	.02		.18				.05				0.43
Willow City	Mouse																		T.		T.		.05			.20	T.		.20				0.45
Wishek‖	Missouri																																0.00
Zap	Knife						.30												T.	T.													0.30
Moorhead, Minn ***	Red	T.		T.	T.	T.	T.	T.	T.	T.	T.		T.	T.	T.	.01	.01	T.	.01	.02	.06	.04	.17		.02	T.	T.	T.	.06				0.40

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December 1934

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	24	22	22	22	28	16	24	20	18	38	34	32	34	36	30	32	22	20	18	14	26	32	18	18	-4	0	4	4	4	6	4	19.6
	Minimum	12	1	5	5	0	-9	-8	0	6	6	12	12	16	14	12	14	14	9	4	10	-2	0	-16	-14	-16	-29	-24	-8	-24	-8	-10	-0.5
Arnegard (near)	Maximum	22	18	23	20	20	20	27	28	28	33	36	36	35	36	30	34	35	36	33	30	30	30	23	-16	-19	-2	-3	-3	0	22	5	20.9
	Minimum	10	5	7	4	5	0	-1	18	18	18	20	24	10	22	15	10	18	4	10	10	12	1	-19	-26	-33	-13	-15	-12	-13	-5	-20	2.7
Ashley	Maximum	26	26	23	23	17	19	33	37	32	21	46	46	37	39	31	31	32	29	24	25	22	31	17	19	5	-7	1	2	19	35	29	24.9
	Minimum	14	4	12	10	5	-1	1	24	11	11	14	25	24	21	21	21	22	9	-2	10	13	12	-4	-1	-13	-21	-7	-8	-11	3	-11	6.7
Beach	Maximum	25	24	26	25	22	16	32	37	30	39	46	43	40	49	40	31	36	30	34	34	34	39	27	21	-4	9	0	9	31	30	20	28.2
	Minimum	9	10	10	16	14	1	0	20	21	21	28	31	11	12	21	16	15	15	12	19	9	6	-6	-8	-19	-22	-11	-6	-6	13	-12	7.7
Berthold Agency	Maximum	34	22	26	26	19	22	33	35	28	30	40	40	38	37	37	30	35	35	30	26	22	36	20	18	2	-2	5	8	14	33	12	25.5
	Minimum	5	5	16	5	-3	-5	-5	-5	18	20	9	17	16	20	22	19	23	9	-2	5	8	10	-4	-8	-20	-32	-12	-9	-17	4	-13	3.1
Bismarck	Maximum	18	19	27	22	20	16	34	37	23	25	48	44	34	37	37	29	33	30	26	23	24	37	18	15	4	1	5	6	24	38	6	24.5
	Minimum	13	5	12	8	-3	-6	2	20	17	18	19	25	22	19	26	20	23	2	1	10	11	4	-5	-5	-21	-22	-7	-6	-5	3	-10	6.1
Bottineau	Maximum	29	22	29	22	24	21	31	30	26	23	36	39	30	30	31	28	32	31	23	16	14	20	12	4	-2	-25	-15	2	16	28	26	20.4
	Minimum	14	-1	10	-2	3	5	-1	15	18	10	11	21	20	14	24	19	18	4	-2	-2	6	10	-22	-12	-27	-44	-18	-22	-26	-8	-7	0.9
Bowman	Maximum	23	23	28	21	22	18	30	35	37	39	46	46	41	44	36	36	36	37	24	34	42	35	22	18	-2	6	9	10	28	34	21	28.4
	Minimum	11	12	10	13	12	-2	-7	11	18	15	22	24	13	23	22	16	15	16	15	13	19	22	-2	-10	-17	-18	-8	-11	-9	4	-11	7.5
Cando	Maximum	29	26	23	22	14	21	44	28	26	22	38	41	32	26	29	31	32	30	19	20	13	11	21	8	3	3	-6	-3	0	14	21	20.6
	Minimum	11	9	0	3	-2	-5	13	23	14	3	14	23	15	20	19	18	18	6	-3	-3	7	-3	-20	-14	-20	-37	-14	-15	-19	23	-22	2.0
Carrington §§	Maximum	24	23	18	17	23	30	35	22	26	43	45	30	32	32	25	32	17	22	20	24	34	12	1	-12	0	-4	0	15	31	13	33	21.4
	Minimum	1	1	12	5	0	-2	9	14	10	13	24	19	14	22	23	20	16	2	-2	-1	9	-13	-13	-20	-26	-26	-10	-21	-12	-16	-16	1.2
Carson	Maximum	23	23	28	23	20	17	33	27	25	26	49	45	45	40	37	34	34	33	33	31	28	26	20	13	-5	-10	-5	6	29	37	25	25.5
	Minimum	12	10	8	7	-2	-3	0	14	15	18	15	26	23	18	20	12	12	4	3	20	12	5	-5	-7	-21	-24	-17	-17	-10	8	-12	4.6
Crosby	Maximum	20	19	22	20	17	15	35	34	27	31	42	39	32	30	34	25	33	25	30	22	23	32	17	17	-7	-11	-7	-2	7	17	-1	20.5
	Minimum	12	2	7	4	8	7	0	18	18	17	20	22	19	21	24	17	8	8	10	-1	12	-7	-18	-14	-27	-34	-16	-14	-16	-7	-20	2.6
Devils Lake	Maximum	23	23	21	18	13	21	28	30	18	20	41	43	28	31	32	25	29	27	23	13	13	30	3	11	-9	-6	-5	-4	7	26	-4	18.4
	Minimum	7	1	9	6	0	0	6	17	9	8	19	20	15	22	25	18	21	7	6	-4	6	-3	-16	-9	-28	-33	-14	-20	-26	-7	-20	1.4
Dickinson §§	Maximum	18	23	29	22	21	19	34	39	23	40	49	46	42	42	33	33	35	21	34	32	39	39	25	3	-13	8	-2	7	30	33	22	26.7
	Minimum	4	7	5	11	5	9	1	17	21	18	17	26	8	9	21	15	15	15	12	16	17	18	-10	-7	-16	-25	-15	-9	-10	-4	-12	5.8
Drake§§	Maximum	21	20	25	17	19	22	32	32	19	25	41	44	35	33	32	25	31	13	27	21	31	33	15	-1	-15	2	-6	4	18	29	14	21.2
	Minimum	14	-1	3	3	4	5	5	10	13	12	18	23	26	14	21	22	21	10	-1	-2	-1	11	-15	-10	-24	-31	-33	-13	-19	-11	-18	1.8
Dunn Center	Maximum	21	27	26	25	20	19	35	37	24	38	47	45	40	38	32	32	36	32	35	27	29	37	24	15	0	1	7	1	22	32	5	26.1
	Minimum	14	8	7	8	2	7	10	22	20	26	18	26	7	19	20	11	17	12	11	10	15	5	-12	-12	-23	-29	-11	-11	-15	2	-14	5.5
Dunseith	Maximum	24	22	26	20	21	20	28	29	25	19	36	38	29	25	30	26	28	26	16	10	13	24	-7	-4	-7	-6	-14	-17	-2	15	4	16.0
	Minimum	11	2	8	-2	-3	0	2	15	8	4	12	23	16	13	20	17	15	0	-4	-1	4	5	-22	-12	-23	-39	-19	-18	-20	-7	-20	-0.5
Edgeley	Maximum	19	16	23	20	15	10	21	20	16	19	40	39	36	26	31	31	29	28	22	22	21	15	10	15	9	-3	3	-1	-1	33	30	19.8
	Minimum	10	-4	-3	10	0	-10	-4	10	10	9	16	26	20	17	22	25	20	18	12	10	8	4	-7	0	-13	-21	-10	-8	-12	-10	-11	4.3
Ellendale	Maximum	23	16	23	21	15	4	33	33	19	19	40	40	27	27	36	29	32	24	22	18	23	35	10	12	1	-4	5	4	11	36	14	20.9
	Minimum	16	0	1	15	1	-11	-4	19	12	10	9	22	15	20	27	25	23	22	9	13	11	10	-3	1	-11	-19	-5	-4	-13	-2	-7	6.5
Fessenden §§	Maximum	23	24	23	19	20	24	30	33	19	25	43	45	32	32	31	25	33	18	24	20	28	33	16	0	-12	-3	-7	0	22	32	18	21.6
	Minimum	14	-2	0	5	5	-1	-1	8	12	13	11	23	21	10	24	22	21	14	-3	-3	-4	9	-15	-9	-23	-34	-11	-12	-24	-11	-18	1.3
Foxholm (near)	Maximum	23	17	24	21	14	14	30	32	24	26	37	38	35	32	33	27	31	30	15	14	20	31	13	14	-6	-8	0	-2	1	24	0	19.5
	Minimum	10	-3	11	1	1	-5	-4	18	10	13	18	21	18	13	24	18	17	4	-1	2	7	2	-17	-14	-26	-32	-17	-17	-21	-13	-19	0.6
Fullerton	Maximum	20	16	23	23	15	3	32	34	27	19	37	40	36	30	36	33	32	31	21	23	25	34	18	21	4	-3	2	3	11	32	29	22.7
	Minimum	14	-2	7	7	2	-12	-3	23	12	10	11	24	15	23	28	25	23	15	9	12	14	18	-9	0	-19	-21	-4	-6	-14	-1	-9	6.4
Garrison	Maximum	24	19	24	24	18	11	33	33	27	27	39	41	37	32	33	30	31	31	27	15	23	35	15	17	0	-8	3	6	14	31	15	22.8
	Minimum	12	-3	10	3	6	-12	-1	17	15	18	17	20	21	18	25	21	21	10	-2	6	6	12	-12	-8	-20	-28	-11	-10	-16	4	-15	4.0
Grafton	Maximum	26	15	18	20	12	17	22	26	22	15	37	39	35	30	33	34	39	37	20	17	13	28	22	-9	-3	-11	0	-1	-8	23	31	19.3
	Minimum	12	2	-3	10	-5	-10	2	14	12	7	11	22	13	21	20	14	0	5	5	2	3	4	-12	-11	-15	-29	-16	-17	-32	-19	-14	-0.1
Grand Forks	Maximum	22	17	20	20	12	14	24	25	16	15	35	38	29	26	33	26	26	28	19	16	14	29	6	14	-6	-11	-2	0	-7	21	16	17.3
	Minimum	9	2	5	6	-2	-6	7	12	11	9	11	15	12	22	19	6	4	6	6	-6	4	10	-12	-7	-17	-29	-11	-17	-29	-3	-15	0.7
Granville	Maximum	25	22	25	22	21	20	33	32	27	24	42	43	34	34	34	29	33	28	23	24	20	30	12	-2	-5	2	6	5	-4	26	7	21.7
	Minimum	12	-5	10	3	3	-1	0	14	12	15	17	19	21	14	27	21	20	2	-3	-4	9	7	-18	-27	-39	-15	-14	-25	-18	-10	-20	0.9
Hansboro	Maximum	20	18	32	20	30	20	28	32	29	25	38	40	35	30	31	34	30	20	15	16	15	26	10	0	-9	-15	-12	0	-5	26	6	18.9
	Minimum	11	-4	8	1	-4	-3	0	20	16	6	18	20	14	20	24	17	17	-2	-5	6	3	4	-19	-10	-25	-36	-18	-21	-25	-14	-20	0.0
Hettinger	Maximum	22	21	34	25	22	19	35	42	38	45	53	49	43	44	41	38	32	24	34	35	33	48	25	18	7	-1	8	10	35	32	29	30.3
	Minimum	2	9	9	14	14	10	-3	19	17	18	21	25	9	20	26	11	10	15	14	23	11	9	-4	-2	-15	-19	-6	-13	-12	7	-9	7.4
Hillsboro	Maximum	20	27	28	20	15	13	24	30	24	15	34	39	33	26	38	32	26	26	18	15	14	30	25	15	-2	-8	0	1	-3	7	25	19.6
	Minimum	10	3	6	11	3	-8	2	14	6	8	9	21	11	20	17	22	6	7	7	0	-1	2	-11	-7	-14	-28	-12	-9	-27	-7	-12	1.6
Howard (near)	Maximum	22	20	25	22	20	15	15	20	30	32	42	38	38	35	26	31	27	30	20	25	28	25	-6	-14	-14	-20	-5	3	13	-3	-3	17.3
	Minimum	6	8	6	-2	6	6	6	0	12	15	19	25	10	9	6	19	12	8	6	10	18	-6	-16	-16	-26	-38	-12	-18	-13	-12	-22	0.8
Jamestown	Maximum	21	17	19	25	14	13	30	32	27	21	41	44	32	30	34	32	32	31	19	20	22	35	13	20	4	-6	0	0	13	35	26	22.5
	Minimum	13	0	0	11	2	-8	-1	24	10	9	12	27	18	21	26	22	21	12	4	6	7	9	-12	-4	-18	-26	-9	-10	-20	2	-15	4.3
Kenmare	Maximum	23	21	26	22	17	17	33	32	25	28	40	38	37	33	35	28	31	29	22	20	22	35	18	15	-6	-8	0	-2	-2	0	-5	20.1
	Minimum	13	-1	15	3	0	-6	6	21	14	19	25	27	17	17	26	20	18	10	8	1	8	3	-13	-11	-26	-29	-17	-14	-16	-10	-16	3.6
Langdon§§	Maximum	16	28	25	14	20	18	20	30	12	24	27	40	30	32	30	20	33	15	15	24	23	23	10	16	-12	-7	-6	10	10	22	2	18.1
	Minimum	11	-6	0	5	-9	-10	-8	5	7	3	3	15	10	14	20	15	4	-4	2	-5	3	4	-20	-20	-24	-40	-24	-23	-20	-20	-22	-4.3
Larimore	Maximum	21	15	22	20	10	16	25	28	23	13	42	39	30	26	32	32	27	25	18	14	13	30	15	11	-6	-14	-4	-1	-3	29	21	18.4
	Minimum	12	-1	-1	9	-5	-12	-2	16	11	7	12	28	12	21	21	12	0	8	9	-3	0	-5	-13	-9	-18	-31	-14	-15	-26	-15	-16	-0.5
Linton	Maximum	25	20	25	25	21	23	32	39	32	26	50	47	37	33	35	35	36	32	30	25	24	35	17	19	8	-4	2	6	25	37	30	26.7
	Minimum	14	3	14	7	4	-2	0	17	16	14	18	18	21	15	26	18	22	14	-2	9	11	10	-7	-4	-15	-22	-6	-7	-11	4	-10	6.1
Lisbon §§	Maximum	22	21	23	23	14	10	27	31	25	15	31	42	33	27	35	32	32	32	19	18	18	34	23	18	3	-8	1	5	12	30	22	21.6
	Minimum	18	3	10	11	5	-9	-2	19	13	10	14	26	13	24	24	26	21	14	13	7	7	3	-8	-3	-11	-23	-8	-5	-15	-1	-9	6.1
McClusky	Maximum	23	18	23	18	21	20	27	31	26	21	39	43	30	33	32	29	30	23	23	21	21	31	13	13	-2	-5	-7	3	13	32	31	21.6
	Minimum	13	4	9	3	-1	-1	-1	13	13	13	17	20	18	15	26	20	15	2	2	15	9	8	-15	-8	-21	-32	-14	-10	-8	-7	-18	2.9
Maddock	Maximum	25	24	23	23	17	22	29	31	28	20	42	43	32	27	31	30	34	30	23	21	17	30	17	5	-2	-10	-5	-1	11	25	6	20.9
	Minimum	13	-6	9	3	1	-7	3	20	9	8	16	24	16	11	23	20	19	10	-4	-5	8	5	-19	-8	-27	-37	-15	-18	-30	-8	-21	0.4
Marmarth	Maximum	24	27	28	23	22	18	33	38	32	38	44	45	41	48	40	36	34	34	36	34	37	42	29	21	19	7	10	10	26	35	23	30.1
	Minimum	7	13	14	17	10	1	-7	14	23	17	10	23	11	25	27	21	27	17	17	18	3	10	-1	-2	-15	-14	-7	-9	-14	0	-10	7.9
Minot	Maximum	24	20	26	23	20	16	34	34	25	26	41	42	37	33	34	28	32	30	20	17	21	34	17	15	-4	-4	-4	3	14	28	4	22.1
	Minimum	13	-5	14	4	1	-9	0	16	14	15	20	29	22	16	27	21	21	6	0	4	7	6	-13	-10	-23	-32	-14	-14	-24	-5	-15	3.0
Mohall	Maximum	21	20	24	22	22	14	30	31	28	27	36	37	34	31	34	24	32	32	12	14	17	28	18	18	-5	-11	-3	-1	-12	20	-1	19.1
	Minimum	14	-2	12	2	7	-3	-4	18	12	16	13	23	19	16	26	20	14	7	-2	1	7	17	-19	-12	-24	-34	-16	-18	-26	-14	-19	1.6
Mott	Maximum	24	27	34	27	23	22	36	41	30	42	52	49	44	44	40	38	38	35	37	35	34	44	24	20	7	2	8	10	35	40	29	31.3
	Minimum	13	8	8	9	8	7	0	17	20	19	16	20	10	19	24	13	20	16	14	21	19	8	-4	-5	-17	-20	-7	-6	-11	3	-10	7.5
Napoleon §§	Maximum	18	25	23	20	20	24	33	35	18	22	47	47	31	35	33	30	33	19	24	21	30	31	18	6	-8	-9	-3	6	21	38	15	22.8
	Minimum	12	1	8	9	4	-2	3	23	14	10	13	22	23	15	26	21	22	16	-6	5	12	9	-9	3	-15	-26	-15	-10	-15	6	-14	5.4
New England§§	Maximum	43	27	35	26	23	22	40	28	32	41	51	49	45	44	40	41	41	25	36	35	41	33	27	8	-7	10	2	8	30	37	38	30.7
	Minimum	10	8	11	14	10	2	9	15	18	23	20	11	15	22	21	16	11	10	14	18	18	-7	-6	-15	-19	-12	-8	-14	-8	-11	-10	6.0
New Salem	Maximum	30	29	29	19	24	14	34	40	30	25	45	45	41	40	39	32	29	29	22	22	26	43	30	20	19	9	15	9	29	37	30	28.5
	Minimum	13	9	5	5	-3	-4	2	19	18	18	21	28	20	21	26	26	24	3	-1	8	10	10	-8	-8	-18	-26	-9	-6	-8	10	-12	6.2
Oakes	Maximum	21	7	23	23	3	-2	25	26	27	18	25	39	33	26	32	32	30	24	20	19	20	32	17	17	4	-2	0	4	11	29	25	19.6
	Minimum	17	2	7	13	3	-10	-4	21	11	10	12	18	13	22	25	24	22	11	11	10	7	7	-10	-2	-11	-24	-6	-6	-19	-2	-10	5.3
Park River	Maximum	17	13	23	15	7	18	26	27	14	26	38	38	27	32	32	23	30	12	19	13	20	28	10	8	-12	-6	-8	-5	7	23	11	17.0
	Minimum	12	-4	-2	5	-6	-9	-6	9	11	6	8	19	12	21	22	18	2	6	6	-4	-2	-2	-14	-11	-17	-31	-30	-18	-23	-19	-16	-1.8
Sharon	Maximum	23	19	23	18	13	17	25	26	20	16	40	42	30	25	31	29	26	25	18	14	15	31	12	11	-6	-13	-3	-3	2	28	16	18.4
	Minimum	10	-4	-1	4	-4	-10	-2	19	8	5	14	24	10	21	21	16	15	7	8	-4	-1	4	-14	-9	-19	-32	-13	-17	-25	-4	-17	0.3
Steele	Maximum	25	22	25	23	20	25	30	36	32	22	45	45	37	32	34	30	33	31	23	20	20	37	17	10	0	-7	-4	2	20	35	23	24.0
	Minimum	15	2	13	6	3	1	2	18	14	13	13	21	19	14	25	22	22	11	0	6	11	13	-1	-5	-16	-25	-8	-5	-13	5	-13	5.9
Towner	Maximum	30	21	24	22	17	19	29	29	26	21	40	42	33	28	30	30	33	19	17	19	15	24	22	15	0	-7	-3	-1	7	25	4	20.3
	Minimum	14	-5	10	0	2	2	3	12	11	10	20	20	22	12	24	20	-10	-5	-9	-7	8	8	-21	-12	-25	-42	-15	-17	-28	-10	-22	-1.0
Valley City	Maximum	23	18	23	21	14	10	24	31	28	18	39	41	40	31	34	32	30	30	18	18	18	32	23	10	4	-10	-1	1	6	31	26	21.5
	Minimum	14	-3	-2	10	-2	-12	-4	20	11	8	12	24	12	22	21	23	18	11	10	5	5	3	-12	-7	-16	-25	-12	-8	-20	-5	-15	2.8
Wahpeton	Maximum	30	24	22	24	19	18	24	26	29	20	35	45	40	28	36	36	31	32	20	23	19	31	33	25	11	10	4	9	10	40	40	25.6
	Minimum	18	10	13	13	4	-5	-2	10	13	9	5	17	14	21	20	24	15	12	8	13	15	9	-9	-3	-10	-26	-10	-5	-16	0	-9	5.4
Westhope	Maximum	25	23	24	30	23	20	32	30	24	25	25	39	30	29	31	27	33	31	13	13	20	26	7	16	4	-8	-4	-1	4	15	-5	19.4
	Minimum	5	8	16	-1	7	-2	-4	14	11	13	12	18	18	13	23	20	18	4	-2	0	9	-1	-24	-13	-21	-42	-19	-24	-30	-10	-22	-0.2
Williston	Maximum	20	24	26	23	21	18	37	34	24	34	45	45	37	38	36	33	36	22	30	25	35	36	25	1	-14	4	-2	5	14	22	6	23.9
	Minimum	15	11	11	7	16	6	8	19	21	19	19	21	10	25	12	12	22	9	13	13	15	-5	-12	-14	-26	-30	-12	-8	-14	-8	-16	5.1
Moorhead, Minn	Maximum	23	21	21	21	14	14	24	25	16	12	38	44	25	26	34	28	30	30	17	15	15	30	8	19	-3	-4	0	5	5	33	13	19.3
	Minimum	11	6	11	6	1	-4	2	13	10	8	6	19	10	19	20	12	9	8	8	3	5	8	-8	-4	-17	-24	-8	-13	-18	1	-12	2.8

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 1-30-35—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

Vol. XLIII Bismarck, N. D., Annual 1934 No. 13

GENERAL SUMMARY

From a crop standpoint, the weather during 1934 in North Dakota was the poorest in the climatological history of the State, being the sixth successive year with precipitation below the normal, and the driest of record. As a result of the preceding dry years, there was a deficiency in both top-soil and sub-soil moisture at the opening of the year. The temperature during January and February was unusually high, and resulted in a further diminution of ground moisture. It was not until June that any semblance of normal precipitation occurred, and even that month showed a deficiency. To further aggravate the situation, dust storms of unprecedented severity were frequent during April and May, and crops deteriorated in all sections except a few counties in the east portion.

The average annual temperature for the State was 43.4°, or 4.1° above the normal, making the fifth successive year with the temperature above normal. The highest average annual temperature reported was 47.5° at Fort Yates, Sioux County; the lowest was 38.5° at Langdon, Cavalier County. The highest temperature reported was 112° at Edgeley, Lamoure County and Fullerton, Dickey County on July 22d, and at Fort Yates, Sioux County on the 20th; the lowest was -44° at Bottineau and Willow City, Bottineau County on December 26th.

The average annual precipitation for the State was 9.50 inches, or 7.76 inches below the normal, and was the driest of of record. The greatest annual precipitation reported was 17.68 inches at Wahpeton, Richland County; the least was 4.02 inches at Parshall, Mountrail County. The greatest monthly amount reported was 5.52 inches at Wahpeton, Richland County in June; there was none reported at several stations. The average snowfall for the State was 15.2 inches.

The average number of days with 0.01 inch or more of precipitation was 54.

There were 160 clear days, 109 partly cloudy days, and 96 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS

January.—The weather was unusually warm and dry, being the 6th warmest and the 4th driest January of record. The month opened with low temperature and considerable snow on the ground. There was a rapid diminution of the snow covering in the central and south portions, but in the north section considerable remained throughout the month. Livestock had to be yard fed during the first decade, but during the latter part of the month ranged freely.

February.—High temperature and extreme dryness characterized the weather of the month, the average precipitation (0.06 inch) being the least of record for February, thirty-six stations not having measurable amounts. The snow covering in the north portion was greatly reduced, and livestock ranged freely in nearly all sections, thus conserving feed.

March.—Generally pleasant weather prevailed. The temperature during the first half of the month was decidedly above the normal, and only light scattered precipitation occurred. A storm was quite general on the 16th, and thereafter light precipitation with lower temperature was reported. Yard feeding became necessary during the month, due to shortage of feed on pastures, ranges, and harvested fields.

April.—The precipitation during the month was the third lowest of record for April for the State. Light to moderate rain or snow fell in most sections during the first decade, but thereafter only light scattered precipitation was reported. Although the average wind movement was nearly normal, dust storms were numerous and at times severe, particularly on the 14th, 18th, 21st, and 22d. As a result of these adverse conditions pastures and ranges were in poor condition and livestock began to deteriorate. Vegetation was backward and seeding of small grains was discontinued in some sections.

May.—The average temperature was the highest of record for May since the climatological service was established in the State; the average precipitation was the third lowest. The accumulated deficiency in precipitation since the beginning of the year amounted to over four inches. While dust storms were less numerous than in the preceding month, both damage and much inconvenience were caused by them.

June.—The temperature averaged above and the precipitation below the normal. The month opened with high temperature, which resulted in showery conditions during the first decade, the heaviest precipitation occurring during this period. Droughty conditions prevailed in nearly all sections, and in many localities the drought became serious. Early planted small grains headed short, while many fields were either pastured or cut for hay.

July.—Unusually high temperature with only light scattered precipitation prevailed in most sections. The average precipitation was but slightly more than one-half of the normal, and was the third lowest of record for July in the State. Pastures ranges, and crops continued to deteriorate.

August.—Comparatively high temperature prevailed during the first and second decades, but moderated considerably towards the close of the month; the precipitation was decidedly below the normal. As a result of these adverse conditions, pastures, ranges, and feed crops deteriorated rapidly. Heavy shipments of livestock were made from the State due to a general feed shortage.

[Continued on page 53]

Climatological Data for the Year 1934

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number of days				Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall	With .01 inch or more precip.	Clear	Pt. cloudy	Cloudy	
Alpha	Golden Valley	......	......	......	......	......	......	......	9	5.28	2.43	June	T.	Oct.	......	......	......	......	......	......
Amenia	Cass	954	39	42.3	106	July 22	−29	Dec. 26	39	12.77	4.27	June	T.	Feb.	11.0	49	33	236	96	nw.
Arnegard	McKenzie	......	22	43.7	105	July 17†	−33	Dec. 25	22	6.14	1.90	June	0.02	Oct.	15.2	38	265	43	57	nw.
Ashley	McIntosh	2,001	39	45.7	110	July 22	−21	Dec. 26	39	8.71	3.09	June	T.	Feb.†	11.6	36	206	76	83	nw.
Beach	Golden Valley	2,579	29	46.1	103	Aug. 3	−24	Feb. 25	29	6.21	2.29	June	0.01	Oct.†	13.5	54	175	108	82	nw.
Berthold Agency	McLean	2,082	42	44.6	106	July 18	−32	Dec. 26	42	4.94	2.46	June	0.00	Feb.	8.5	39	219	66	80	nw.
Bismarck	Burleigh	1,674	60	45.6	106	July 18	−22	Dec. 26	60	7.74	3.39	June	0.03	Feb.	11.8	60	126	135	104	nw.
Bottineau	Bottineau	1,638	43	41.8	106	May 30	−44	Dec. 26	43	8.45	2.22	June	0.12	Feb.	17.8	69	195	81	89	nw.
Bowman	Bowman	2.961	20	45.7	103	July 18	−19	Feb. 26	21	9.30	3.17	June	0.06	Feb.	25.5	63	247	68	50	nw.
Cando	Towner	1,488	34	41.3	103	May 30	−37	Dec. 26	34	7.28	2.93	June	0.02	Mar.†	9.6	51	100	131	134	nw.
Carrington	Foster	1,579	37	41.8	105	May 29†	−26	Dec. 25†	37	11.93	3.91	June	T.	Feb.	10.7	58	200	58	107	nw.
Carson	Grant	2,500	23	45.6	109	July 18	−24	Feb. 25†	23	8.54	3.50	June	0.10	Feb.†	20.8	48	221	86	58	nw.
Cavalier	Pembina	......	......	......	......	......	......	......	25	14.36	3.33	July	0.21	Feb.	14.6	75	173	95	97	n.
Cooperstown	Griggs	1,428	......	......	......	......	......	......	38	13.63	4.12	June	T.	Feb.	15.6	53	198	32	135	nw.
Corinth	Williams	2,180	......	......	......	......	......	......	7	4.76	1.36	June	0.02	Apr.†	16.2	57	41	224	97	nw.
Courtenay	Stutsman	1,523	......	......	......	......	......	......	6	12.41	3.28	Oct.	T.	Feb.	14.3	41	169	129	67	nw.
Crosby	Divide	1,954	28	42.1	101	Aug. 17	−34	Dec. 26	28	5.39	2.07	June	0.00	Feb.†	7.0	36	95	130	140	sw.
Devils Lake	Ramsey	1,478	38	40.9	106	May 30	−33	Dec. 26	38	11.78	3.59	June	0.10	Feb.	18.0	104	105	126	134	nw.
Dickinson	Stark	2,543	43	43.8	105	July 17†	−25	Feb. 25†	43	7.91	3.88	June	0.05	Feb.	14.9	82	127	160	78	nw.
Dogden Butte	McLean	1,880	9	43.4	103	May 30	−32	Dec. 26	9	9.09	2.72	June	T.	Feb.	12.2	53	182	84	99	nw.
Drake	McHenry	1.634	5	41.9	106	May 30	−33	Dec. 27	6	8.50	3.23	June	0.03	Feb.	11.0	73	129	113	123	nw.
Dunn Center	Dunn	2,191	36	44.4	103	July 17†	−29	Dec. 26	36	5.93	2.96	June	0.00	Feb.†	3.0	39	177	84	104	nw.
Dunseith	Rolette	1,682	39	40.7	105	May 30	−39	Dec. 26	39	7.29	2.08	June	T.	Feb.	11.7	63	118	96	151	nw.
Eckman	Bottineau	1,500	30	41.9	107	May 30	−41	Dec. 26	30	6.89	1.60	Aug.	0.11	Feb.	19.0	75	125	186	54	nw.
Edgeley	LaMoure	1,468	34	44.9	112	July 22	−21	Dec. 26	34	11.60	3.61	June	0.02	Feb.	9.8	50	95	196	73	nw.
Edmore	Ramsey	1,524	10	38.8	106	May 30	−38	Dec. 26	11	12.40	4.48	June	0.13	Feb.	25.0	102	128	104	133	nw.
Ellendale	Dickey	1,449	32	44.5	110	July 22	−19	Jan. 29†	40	13.75	4.13	June	T.	Feb.	12.2	51	183	80	102	nw.
Energy	McLean	1,750	10	44.9	105	July 18†	−33	Dec. 26	23	9.77	4.57	June	T.	Feb.	23.5	42	133	183	49	nw.
Fairfield	Billings	......	......	......	......	......	......	......	6	6.58	2.06	June	0.08	Oct.	19.5	35	231	63	71	nw.
Fessenden	Wells	1,610	23	42.2	108	May 30†	−34	Dec. 26	23	9.25	2.09	June	0.04	Feb.	14.4	66	177	97	91	nw
Forman	Sargent	1,249	......	......	......	......	......	......	42	11.96	2.53	June	T.	Feb.	4.1	49	232	56	77	nw.
Fort Yates	Sioux	1.670	35	47.5	112	July 20	−25	Feb. 25	35	8.50	3.06	June	T.	Jan.†	11.0	29	167	114	84	nw.
Foxholm	Ward	1,657	10	42.0	105	May 30	−32	Dec. 26	14	6.35	1.81	June	0.05	Apr.	15.3	49	108	133	124	nw.
Fryburg	Billings	2,790	......	......	......	......	......	......	17	6.96	3.16	June	T.	Feb.†	15.0	42	217	93	55	nw.
Fullerton	Dickey	1,439	37	45.3	112	July 22	−21	Dec. 26	37	13.73	3.04	June	0.13	Feb.	28.2	53	160	117	88	nw.
Gaekle	Logan	1,951	......	44.2	106	July 22	−22	Dec. 26	4	11.73	4.45	June	0.01	Feb.	10.6	49	198	94	73	nw.
Garrison	McLean	1,901	40	44.2	105	Aug. 17	−28	Dec. 26	58	9.41	3.42	June	T.	Feb.	16.5	40	161	110	94	nw.
Grafton	Walsh	827	43	42.2	107	May 30	−32	Dec. 29	43	11.99	3.42	June	0.10	Mar.	12.7	64	153	93	119	nw.
Grand Forks	Grand Forks	830	44	41.0	105	May 30†	−29	Jan. 29†	44	14.75	4.21	Oct.	0.13	Feb.	21.4	94	89	152	124	nw.
Granville	McHenry	1,504	28	42.9	105	May 30	−39	Dec. 25	28	9.57	2.48	June	T.	Feb.	12.5	54	135	117	103	nw.
Hankinson	Richland	1.068	6	45.6	110	July 22	−22	Dec. 25	6	14.94	4.40	June	T.	Feb.	15.0	60	185	77	103	nw.
Hannah	Cavalier	1,568	26	39.4	105	May 30	−36	Dec. 26	43	9.44	2.93	June	0.04	Feb.	12.9	69	80	203	82	nw.
Hansboro	Towner	1,597	27	39.9	105	May 30†	−36	Dec. 26	27	10.51	2.84	June	0.10	Feb.†	41.5	51	210	96	69	nw.
Hettinger	Adams	2,675	28	46.6	105	July 18	−19	Feb. 26†	28	8.20	4.03	June	T.	Feb.†	6.5	46	207	103	55	nw.
Hillsboro	Traill	901	29	42.7	105	May 30	−28	Dec. 26	29	15.18	5.04	June	0.06	Feb.	16.4	49	138	128	99	nw.
Howard	Williams	2,275	28	41.8	102	Aug. 10	−38	Dec. 26	28	5.93	2.78	June	T.	Feb.†	15.6	35	182	109	74	nw.
Jamestown	Stutsman	1,390	43	43.3	107	May 30	−26	Dec. 26	43	14.01	3.38	June	0.14	Jan.	21.9	60	137	132	96	nw.
Kenmare	Ward	1,799	3	43.3	102	July 19	−29	Dec. 26	3	6.36	1.52	June	0.01	Apr.	10.5	52	163	110	92	nw.
Langdon	Cavalier	1,615	39	38.5	111	May 30	−40	Dec. 26	39	12.41	4.06	June	0.00	Feb.	26.5	52	196	129	40	nw.
Larimore	Grand Forks	1,134	42	41.9	107	May 30	−31	Dec. 26	42	13.65	3.66	June	0.12	Feb.	24.7	52	173	61	131	nw.
Linton	Emmons	1,711	17	46.5	110	July 18†	−27	Feb. 25†	18	9.48	2.89	Oct.	T.	Feb.	5.7	50	138	157	70	nw.
Lisbon	Ransom	1,091	31	44.7	110	July 23	−23	Dec. 26	31	13.18	3.02	June	0.05	Feb.	15.1	67	112	145	108	nw.
McClusky	Sheridan	1,943	10	42.6	106	July 18	−32	Dec. 26	17	10.32	3.02	June	T.	Feb.	12.5	53	206	82	77	nw.
McLeod	Ransom	1,075	23	45.0	106	May 30	−28	Dec. 26	24	15.76	3.00	June†	0.03	Feb.	24.5	54	194	81	90	nw.
Maddock	Benson	1,604	20	42.1	107	May 30	−37	Dec. 26	20	9.34	3.82	June	0.04	Feb.	5.3	62	93	164	108	nw.
Mandan	Morton	1,644	22	45.0	107	July 18	−24	Dec. 26	21	8.13	3.78	June	0.05	Feb.	11.9	58	143	35	187	nw.
Manfred	Wells	1,605	......	......	......	......	......	......	32	9.10	2.66	June	0.13	Feb.	15.6	76	......	......	......	......
Marmarth	Slope	2,714	21	46.9	103	July 18	−22	Feb. 26	26	7.70	2.57	June	0.04	Feb.	30.4	50	174	81	110	nw.
Mary	McKenzie	......	......	......	......	......	......	......	6	4.55	1.23	June	T.	Feb.	5.8	48	232	49	84	nw.
Max	McLean	2,093	6	41.3	104	May 30†	−34	Dec. 25	6	9.80	3.41	June	T.	Feb.	19.0	47	159	43	163	nw.
Mayville	Traill	975	39	44.0	105	July 22†	−29	Dec. 26	39	12.84	4.58	June	0.03	Feb.	12.6	66	114	108	143	nw.
Minot	Ward	1,557	39	43.3	105	May 30	−32	Dec. 26	39	7.13	2.45	June	0.07	Oct.	10.8	65	102	191	72	nw.
Mohall	Renville	......	41	42.7	107	May 30	−34	Dec. 26	41	9.52	2.50	Aug.	T.	Feb.	8.8	64	127	170	68	nw.
Mott	Hettinger	2,424	28	46.4	105	July 18	−22	Feb. 26	28	8.25	3.98	June	T.	Apr.	22.4	46	145	129	100	nw.
Napoleon	Logan	1,955	43	44.6	108	July 18	−26	Feb. 25	43	14.98	4.42	June	0.06	Feb.	13.9	74	205	44	116	nw.
New England	Hettinger	2,400	41	46.4	106	July 18	−24	Feb. 25	41	8.82	4.17	June	0.00	Oct.	26.0	34	162	122	81	nw.
New Salem	Morton	2,163	31	47.3	111	July 18	−26	Dec. 26	31	6.83	3.68	June	0.03	Oct.	14.4	46	202	97	66	nw.
Oakes	Dickey	1,318	6	45.7	111	July 22	−24	Dec. 26	6	12.60	3.46	June	0.02	Feb.	11.4	67	111	160	94	nw.
Park River	Walsh	998	31	40.3	107	May 30	−32	Jan. 29	31	13.39	3.93	June	0.24	May	33.4	66	88	113	164	nw.
Parshall	Mountrail	1,929	2	42.3	103	July 17†	−33	Dec. 26	20	4.02	1.68	June	T.	Feb.	8.4	49	97	200	68	nw.
Pembina	Pembina	789	61	......	106	May 30	......	......	61	13.58	3.13	June	0.17	Mar.	34.3	......	......	......	......	......
Petersburg	Nelson	1,520	......	......	......	......	......	......	5	10.55	3.68	June	0.13	Feb.	8.9	72	146	127	92	nw.
Pettibone	Kidder	1,856	26	43.2	108	July 18	−31	Dec. 26	26	11.09	3.34	Oct.	0.02	Feb.	11.4	53	215	46	104	nw.
Portal	Burke	1.954	22	41.1	101	May 29	−38	Dec. 26	30	7.21	2.50	June	0.00	Apr.	7.5	44	198	54	113	w.
Powers Lake	Burke	2,205	9	42.7	104	July 16	−31	Dec. 26	30	6.45	1.28	Sept.	0.00	Apr.	30.5	28	251	101	13	e.
Richardton	Stark	2,467	19	45.3	104	July 18	−24	Feb. 25	19	8.33	5.20	June	T.	Jan.†	9.4	38	142	118	105	nw.
Rugby	Pierce	1,562	......	......	......	......	......	......	6	......	2.26	June	......	......	......	......	......	......	......	......
Ryder	Ward	2.108	......	......	......	......	......	......	6	6.62	2.47	June	0.02	Feb.	10.4	51	......	......	......	......
Sanish	Mountrail	1,835	10	42.6	105	July 18†	−31	Dec. 25	10	5.45	1.74	June	T.	Feb.†	5.5	41	......	......	......	......
Sharon	Steele	1,516	8	41.0	107	May 30	−32	Dec. 26	11	13.60	4.13	June	0.02	Feb.	18.1	81	126	107	132	nw.
Stanton	Mercer	1,722	......	......	......	......	......	......	11	8.14	4.21	June	0.02	Feb.	12.0	44	183	101	81	nw.
Steele	Kidder	1,857	41	45.6	110	May 30†	−25	Dec. 26	41	9.92	3.50	Oct.	0.01	Feb.	6.0	38	168	115	82	nw.
Stowers	Adams	2,325	......	....	......	......	......	......	20	......	3.82	June	T.	Jan.†	......	......	......	......	......	......
Tagus	Mountrail	2,179	......	......	......	......	......	......	6	......	1.52	June	......	......	......	......	......	......	......	......
Tioga	Williams	2,279	......	......	......	......	......	......	6	5.86	1.30	Mar.	T.	Feb.†	......	45	185	87	93	nw.
Towner	McHenry	1,482	33	42.6	106	May 30	−42	Dec. 26	33	8.41	2.41	June	T.	Jan.	19.5	53	164	120	81	w.
Trotters	Golden Valley	......	......	......	......	......	......	......	9	5.09	1.53	June	T.	Oct.†	14.2	36	161	112	92	......
Turtle Lake	McLean	1,899	......	......	......	......	......	......	21	9.83	2.94	June	0.00	Oct.	8.7	46	......	......	......	......
Valley City	Barnes	1,245	29	44.3	110	July 22	−25	Dec. 26	29	15.62	4.39	Oct.	0.03	Feb.	16.0	60	193	78	94	nw.
Velva	McHenry	1,511	8	43.8	105	May 30	−31	Dec. 26	8	8.84	2.60	June	0.05	Feb.	17.0	57	95	165	105	nw.
Wahpeton	Richland	962	43	46.3	107	July 22	−26	Dec. 26	43	17.68	5.52	June	0.06	Feb.	12.6	71	197	0	168	nw.
Washburn	McLean	1,731	34	43.9	102	May 30	−27	Dec. 26	34	8.51	3.03	June	T.	Feb.	15.3	38	187	67	111	s.
Westhope	Bottineau	1,508	29	42.1	106	May 30	−42	Dec. 26	29	7.76	2.62	Aug.	0.08	Apr.	10.1	57	160	143	62	nw.
Williston	Williams	1,878	56	44.5	101	Aug. 17	−30	Dec. 26	56	6.13	2.02	June	T.	Feb.	17.3	65	182	107	76	se.
Willow City	Bottineau	1,471	43	40.0	107	May 30	−44	Dec. 26	43	7.59	2.17	June	0.05	Feb.	16.0	51	175	113	77	nw.
Wishek	McIntosh	2.010	6	43.9	106	July 18†	−23	Feb. 25	6	9.08	2.50	July	0.00	Jan.†	6.5	46	175	37	153	nw.
Zap	Mercer	1,838	......	......	......	......	......	......	20	6.53	3.65	June	0.00	Feb.†	7.9	32	......	......	......	......
Moorhead, Minn.	Clay	935	63	42.8	106	July 22	−24	Dec. 26	54	13.97	3.93	June	0.06	Feb.	18.0	104	85	134	146	s.

†Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1934, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure
Alpha	0.09	......	0.01	......	0.76	......	0.44	......	0.57	......	2.43	......	0.02	......	0.25	......	0.46	......	T.	......	0.06	......	0.19	......	5.28	......
Amenia	0.38	−0.10	T.	−0.54	0.93	+0.41	0.54	−1.26	0.80	−2.05	4.27	+0.48	0.50	−2.39	1.53	−1.02	1.29	−0.82	1.86	+0.49	0.63	−0.02	0.04	−0.51	12.77	−7.33
Arnegard	0.33	−0.22	0.05	−0.40	0.40	−0.32	0.50	−0.97	0.28	−1.78	1.90	−1.26	1.52	−0.24	0.56	−0.89	0.13	−1.30	0.02	−0.93	0.03	−0.37	0.42	−0.15	6.14	−8.83
Ashley	0.02	−0.49	T.	−0.52	0.37	−0.65	T.	−1.92	0.06	−2.34	3.09	−0.45	1.21	−1.62	0.94	−1.50	0.98	−0.47	1.90	+0.71	0.08	−0.55	0.06	−0.45	8.71	−10.25
Beach	0.17	−0.34	0.30	−0.10	1.06	+0.43	0.26	−0.96	0.32	−2.26	2.29	−1.60	0.77	−1.05	0.48	−1.29	0.37	−0.95	0.01	−0.97	0.01	−0.52	0.17	−0.33	6.21	−9.94
Berthold Agency	T.	−0.34	0.00	−0.47	0.30	−0.39	0.38	−0.71	0.23	−2.21	2.46	−1.42	0.48	−1.69	0.16	−1.57	0.59	−0.87	0.04	−0.82	0.17	−0.27	0.13	−0.26	4.94	−11.02
Bismarck	0.08	−0.37	0.03	−0.41	0.62	−0.27	0.32	−1.20	0.09	−2.23	3.39	+0.04	0.98	−1.26	0.50	−1.32	0.54	−0.69	0.86	−0.08	0.20	−0.37	0.13	−0.44	7.74	−8.60
Bottineau	0.35	−0.05	0.12	−0.23	0.29	−0.40	0.40	−0.49	0.23	−1.86	2.22	−1.09	0.58	−1.72	1.87	−0.32	0.99	−0.63	0.54	−0.49	0.25	−0.29	0.61	+0.17	8.45	−7.40
Bowman	0.51	+0.06	0.06	−0.23	1.46	+1.00	0.50	−0.65	0.30	−2.12	3.17	−0.32	0.74	−1.63	0.22	−1.14	1.43	+0.23	0.36	−0.62	0.14	−0.24	0.41	+0.13	9.30	−5.51
Cando	0.18	−0.24	0.01	−0.33	0.02	−0.66	0.27	−0.81	0.15	−2.17	2.93	−0.67	1.07	−1.45	1.04	−1.69	0.85	−0.77	0.41	−0.45	0.30	−0.23	0.02	−0.42	7.28	−9.29
Carrington	0.21	−0.11	T.	−0.39	0.49	−0.18	0.12	−1.11	0.17	−2.46	3.91	+0.40	0.99	−1.55	1.43	−0.69	0.51	−1.03	3.78	+2.81	0.12	−0.43	0.20	−0.22	11.93	−4.96
Carson	0.15	−0.20	0.10	−0.21	1.00	+0.41	0.15	−1.33	0.44	−1.85	3.50	−0.57	0.70	−1.24	0.10	−1.42	0.81	−0.93	0.98	−0.02	0.25	−0.36	0.36	−0.19	8.54	−7.91
Cavalier	0.54	−0.20	0.21	−0.40	0.25	−0.43	0.89	−0.33	0.23	−2.48	3.15	+0.23	3.33	+0.60	1.49	−0.77	1.54	−0.40	1.91	+0.82	0.38	−0.45	0.44	−0.56	14.36	−4.37
Cooperstown	0.29	−0.22	T.	−0.41	0.82	+0.24	0.17	−1.39	0.13	−2.25	4.12	+0.56	1.05	−1.50	2.46	+0.20	0.97	−0.82	2.97	+1.91	0.43	−0.27	0.31	−0.21	13.63	−4.16
Corinth	0.08	......	0.13	......	0.81	......	0.02	......	0.29	......	1.30	......	0.43	......	0.10	......	0.80	......	0.07	......	0.02	......	0.65	......	4.76	......
Courtenay	0.20	......	T.	......	0.75	......	1.08	......	0.24	......	2.20	......	0.97	......	2.14	......	1.18	......	3.28	......	0.10	......	0.27	......	12.41	......
Crosby	T.	−0.43	0.00	−0.28	0.20	−0.31	0.00	−1.12	0.37	−1.64	2.07	−1.09	1.01	−1.14	0.82	−1.10	0.72	−0.68	T.	−0.88	0.02	−0.63	0.18	−0.27	5.39	−9.57
Devils Lake	0.55	+0.08	0.10	−0.40	0.43	−0.35	0.58	−0.94	0.68	−1.35	3.59	+0.03	1.58	−0.99	1.00	−1.48	0.73	−0.90	1.89	+0.64	0.25	−0.47	0.40	−0.14	11.78	−6.26
Dickinson	0.20	−0.24	0.05	−0.38	0.69	−0.10	0.70	−0.53	0.18	−2.18	3.88	+0.69	0.75	−1.50	0.46	−1.33	0.53	−0.66	0.11	−0.76	0.14	−0.38	0.22	−0.27	7.91	−7.64
Dogden Butte	0.16	......	T.	......	0.59	......	0.37	......	0.42	......	2.72	......	1.87	......	1.31	......	1.31	......	0.04	......	0.22	......	0.08	......	9.09	......
Drake	0.16	......	0.03	......	0.17	......	0.56	......	0.27	......	3.23	......	1.61	......	0.80	......	0.93	......	0.06	......	0.51	......	0.17	......	8.50	......
Dunn Center	T.	−0.43	0.00	−0.54	0.59	−0.33	0.20	−1.18	0.49	−2.03	2.96	−1.05	0.48	−1.70	0.37	−1.04	0.66	−0.67	0.06	−0.69	0.00	−0.57	0.12	−0.43	5.93	−10.66
Dunseith	0.02	−0.38	T.	−0.42	0.13	−0.53	0.25	−0.56	0.28	−1.56	2.08	−1.00	0.97	−1.47	1.53	−0.85	1.09	−0.62	0.59	−0.32	0.25	−0.26	0.10	−0.30	7.29	−8.27
Eckman	0.28	−0.16	0.11	−0.25	0.34	−0.14	0.23	−0.73	0.39	−1.72	1.57	−1.37	0.57	−1.70	1.60	−0.47	1.07	−0.33	0.21	−0.72	0.25	−0.33	0.27	−0.24	6.89	−8.16
Edgeley	0.06	−0.27	0.02	−0.32	0.24	−0.42	0.65	−1.12	0.11	−2.55	3.61	−0.08	0.60	−2.14	2.91	+0.65	1.09	−0.73	1.84	+0.81	0.42	−0.05	0.05	−0.34	11.60	−6.56
Edmore	0.55	−0.11	0.13	−0.32	0.30	−0.13	1.05	+0.04	0.32	−1.76	4.48	+1.76	1.71	−0.87	0.76	−1.25	0.97	−0.11	0.98	+0.05	0.38	−0.20	0.77	+0.09	12.40	−2.81
Ellendale	0.02	−0.46	T.	−0.58	0.45	−0.38	0.47	−1.63	0.71	−2.34	4.13	−0.46	0.89	−2.26	3.06	−0.02	1.80	−0.22	1.37	+0.20	0.53	−0.21	0.29	−0.19	13.75	−8.55
Energy	0.13	−0.13	T.	−0.33	0.60	+0.10	0.58	−0.45	0.46	−1.76	4.57	+1.09	1.32	−0.94	0.32	−1.53	0.90	−0.57	0.15	−0.67	0.29	−0.08	0.35	−0.09	9.77	−5.36
Fairfield	0.10	......	0.10	......	1.17	......	0.30	......	0.26	......	2.06	......	0.65	......	0.65	......	0.50	......	0.08	......	0.26	......	0.45	......	6.58	......
Fessenden	0.35	−0.13	0.04	−0.51	0.46	−0.24	0.55	−1.16	0.12	−2.26	2.09	−1.74	1.83	−0.29	1.22	−0.95	0.91	−0.88	1.37	+0.46	0.16	−0.60	0.35	−0.31	9.25	−8.61
Forman	0.05	−0.49	T.	−0.65	0.31	−0.49	0.64	−1.51	0.40	−2.47	2.53	−0.96	1.78	−1.17	1.35	−1.39	2.22	+0.28	1.92	+0.52	0.56	−0.08	0.20	−0.35	11.96	−8.76
Fort Yates	T.	−0.52	T.	−0.62	0.65	−0.29	0.10	−1.49	0.02	−1.95	3.06	−0.44	2.15	−0.27	0.32	−1.68	0.30	−0.85	1.64	+0.73	0.16	−0.39	0.10	−0.38	8.50	−8.15
Foxholm (near)	0.23	−0.10	0.09	−0.48	0.38	−0.29	0.05	−1.20	0.08	−1.89	1.81	−1.28	0.43	−1.80	1.07	−0.67	1.40	−0.10	0.08	−1.02	0.21	−0.46	0.52	+0.09	6.35	−9.30
Fryburg	0.20	−0.25	T.	−0.54	1.22	+0.50	0.34	−0.99	0.14	−2.10	3.16	−0.23	0.82	−1.18	0.06	−1.40	0.52	−1.17	T.	−1.19	0.27	−0.37	0.23	−0.35	6.96	−9.27
Fullerton	0.16	−0.64	0.13	−0.79	1.03	−0.15	0.95	−1.14	0.57	−2.63	3.04	−0.71	1.49	−1.70	1.40	−1.18	1.45	−0.71	1.81	+0.39	1.04	+0.19	0.66	−0.19	13.73	−9.26
Gackle	0.12	......	0.01	......	0.31	......	0.32	......	0.35	......	4.45	......	1.28	......	1.88	......	0.57	......	2.17	......	0.20	......	0.07	......	11.73	......
Garrison	0.05	−0.37	T.	−0.50	0.37	−0.56	0.63	−0.59	0.58	−1.65	3.42	0.00	1.04	−1.16	1.53	−0.49	0.90	−0.54	0.12	−0.78	0.37	−0.18	0.40	−0.15	9.41	−6.97
Grafton	0.20	−0.37	0.12	−0.47	0.10	−0.56	1.28	−0.12	0.48	−1.71	3.42	+0.06	1.64	−0.85	0.57	−1.90	0.80	−1.26	2.54	+1.53	0.42	−0.32	0.42	−0.10	11.99	−6.07
Grand Forks	0.25	−0.29	0.13	−0.45	0.29	−0.44	0.91	−0.93	0.90	−1.71	3.70	+0.28	0.93	−1.80	1.39	−1.09	0.86	−0.99	4.21	+2.94	0.65	−0.16	0.53	−0.10	14.75	−4.74
Granville	0.02	−0.38	T.	−0.45	0.42	−0.06	0.50	−0.55	0.24	−1.69	2.48	−0.41	2.46	+0.36	0.93	−0.92	1.57	+0.08	0.48	−0.47	0.12	−0.49	0.35	−0.17	9.57	−5.15
Hankinson	0.20	......	T.	......	1.20	......	0.45	......	0.43	......	4.40	......	2.02	......	1.66	......	2.08	......	1.23	......	0.86	......	0.41	......	14.94	......
Hannah	0.39	−0.29	0.04	−0.54	0.09	−0.57	0.38	−0.89	0.16	−1.97	2.93	−0.47	1.14	−1.29	1.56	−0.26	1.82	−0.39	0.20	−0.87	0.37	−0.41	0.36	−0.24	9.44	−8.19
Hansboro	0.80	+0.11	0.10	−0.48	0.10	−0.62	0.65	−0.84	0.35	−1.96	2.84	−0.25	1.53	−0.91	2.39	+0.19	0.70	−1.30	0.35	−0.82	0.15	−0.44	0.55	−0.10	10.51	−7.42
Hettinger	0.02	−0.31	T.	−0.34	0.44	−0.24	0.20	−0.80	0.06	−2.29	4.03	+0.43	1.62	−0.93	1.19	−0.11	0.39	−1.11	0.14	−0.67	T.	−0.44	0.11	−0.26	8.20	−7.07
Hillsboro	0.18	−0.40	0.06	−0.57	0.41	−0.26	1.11	−0.74	0.79	−2.40	5.04	+1.62	1.66	−0.77	1.70	−0.79	0.79	−1.43	2.39	+1.19	0.61	−0.30	0.44	−0.32	15.18	−5.17
Howard (near)	0.30	−0.31	T.	−0.60	0.50	−0.52	T.	−1.30	0.17	−2.21	2.78	0.00	0.59	−1.19	0.15	−1.36	0.85	−0.69	0.02	−0.88	T.	−0.61	0.57	−0.10	5.93	−9.77
Jamestown	0.14	−0.44	0.19	−0.43	0.72	−0.19	0.42	−1.31	0.62	−2.16	3.38	−0.42	1.34	−1.38	1.99	−0.54	1.21	−0.52	2.90	+1.78	0.87	+0.15	0.23	−0.45	14.01	−5.91
Kenmare	0.11	......	0.05	......	0.30	......	0.01	......	0.70	......	1.52	......	0.46	......	1.22	......	1.46	......	0.05	......	0.13	......	0.35	......	6.36	......
Langdon	0.80	+0.23	0.00	−0.62	0.10	−0.71	0.60	−0.74	0.55	−1.66	4.06	+0.65	1.52	−0.95	1.84	−0.63	1.10	−1.19	0.69	−0.34	0.25	−0.58	0.90	+0.27	12.41	−6.27
Larimore	0.22	−0.43	0.12	−0.46	0.14	−0.62	1.18	−0.50	0.44	−2.32	3.66	−0.28	1.54	−1.69	0.80	−1.84	1.10	−0.98	3.33	+1.96	0.59	−0.28	0.53	−0.04	13.65	−7.48
Linton	0.08	−0.35	T.	−0.55	0.34	−0.14	0.10	−1.42	0.07	−2.21	2.72	+0.16	1.72	−0.34	1.00	−1.01	0.37	−1.41	2.89	+1.85	0.18	−0.48	0.01	−0.40	9.48	−6.30
Lisbon	0.10	−0.50	0.05	−0.62	0.48	−0.04	0.66	−1.18	0.90	−2.13	3.02	−0.94	1.33	−1.97	2.48	+0.14	1.60	−0.57	1.57	+0.42	0.67	−0.06	0.32	−0.19	13.18	−7.64
McClusky	0.45	0.00	T.	−0.68	0.43	−0.31	0.42	−1.00	0.93	−1.72	3.02	−0.13	1.56	−0.76	1.90	+0.15	0.86	−0.45	0.27	−0.72	0.38	−0.33	0.10	−0.52	10.32	−6.47
McLeod	0.12	−0.48	0.03	−0.67	1.45	+0.91	1.00	−1.17	0.22	−3.10	3.00	−1.12	2.86	−0.07	3.00	+0.85	1.87	−0.49	1.39	−0.01	0.67	−0.06	0.15	−0.52	15.76	−5.73
Maddock	0.18	−0.09	0.01	−0.33	0.14	−0.25	0.23	−1.12	0.61	−1.59	3.82	+0.44	1.98	−0.42	0.58	−1.63	0.89	−1.14	0.61	−0.32	0.10	−0.44	0.16	−0.10	9.34	−6.99
Mandan	0.06	−0.22	0.05	−0.31	0.58	−0.13	0.63	−0.79	0.17	−2.25	3.78	+0.45	1.10	−1.55	0.25	−1.25	0.47	−0.99	0.73	−0.11	0.17	−0.35	0.14	−0.29	8.13	−7.79
Manfred	0.47	−0.09	0.13	−0.28	0.70	−0.05	0.47	−0.88	0.14	−2.21	2.66	−0.96	1.69	−0.45	0.81	−1.54	0.69	−0.88	0.95	−0.02	0.14	−0.58	0.25	−0.41	9.10	−8.45
Marmarth	0.19	−0.18	0.04	−0.36	1.02	+0.44	0.39	−0.65	0.25	−2.22	2.57	−0.69	1.33	−0.51	0.15	−1.59	1.05	−0.30	0.05	−0.79	0.06	−0.35	0.00	+0.20	7.70	−7.00
Mary	0.05	......	T.	......	0.41	......	0.27	......	0.38	......	1.23	......	0.68	......	0.51	......	0.65	......	0.02	......	0.16	......	0.16	......	4.55	......
Max	0.50	......	T.	......	0.42	......	0.74	......	0.55	......	3.41	......	1.09	......	1.33	......	1.01	......	0.12	......	0.03	......	0.60	......	9.80	......
Mayville	0.25	−0.17	0.03	−0.42	0.07	−0.65	0.99	−0.71	0.28	−2.74	4.58	+1.17	0.88	−1.91	1.28	−1.34	1.21	−0.99	2.27	+1.07	0.60	−0.19	0.40	−0.16	12.84	−7.04
Minot	0.21	−0.17	0.10	−0.37	0.42	−0.27	0.16	−1.07	0.24	−1.80	2.45	−0.77	1.09	−0.78	0.41	−1.60	1.32	−0.29	0.07	−0.91	0.25	−0.42	0.41	−0.07	7.13	−8.52
Mohall	0.10	−0.23	T.	−0.32	0.33	−0.35	0.07	−0.87	0.51	−1.47	2.11	−1.19	0.83	−1.40	2.50	+0.69	1.75	+0.20	0.51	−0.53	0.43	−0.17	0.35	−0.06	9.52	−5.70
Mott	0.31	−0.53	0.08	−0.50	1.35	+0.43	T.	−1.40	0.05	−2.33	3.98	+0.44	0.39	−2.20	1.32	−0.45	0.37	−1.11	0.05	−1.02	0.11	−0.44	0.24	−0.40	8.25	−9.51
Napoleon	0.25	−0.18	0.06	−0.37	0.60	−0.23	0.25	−1.36	1.36	−1.00	4.42	+0.89	2.65	+0.15	1.35	−0.98	0.69	−0.75	2.84	+1.81	0.18	−0.47	0.33	−0.12	14.98	−2.61
New England	0.15	−0.35	0.11	−0.39	1.70	+0.91	0.32	−0.71	0.36	−1.71	4.17	+1.27	0.57	−1.38	0.42	−1.17	0.78	−0.50	0.00	−0.70	0.10	−0.41	0.14	−0.26	8.82	−5.40
New Salem	0.08	−0.42	0.01	−0.40	0.28	−0.55	0.57	−0.65	0.26	−1.99	3.68	+0.25	0.45	−1.58	0.51	−1.07	0.49	−0.88	0.03	−0.93	0.10	−0.39	0.34	−0.24	6.83	−8.85
Oakes	0.10	......	0.02	......	0.54	......	0.66	......	0.34	......	3.46	......	2.50	......	1.29	......	1.64	......	1.22	......	0.57	......	0.26	......	12.60	......
Park River	0.80	+0.42	0.25	−0.15	0.50	−0.03	0.55	−0.77	0.21	−2.13	3.93	+0.45	2.14	−0.37	0.63	−1.65	0.69	−1.30	1.95	+0.81	0.52	−0.26	1.19	+0.74	13.39	−4.24
Parshall (near)	0.08	−0.11	T.	−0.36	0.13	−0.09	0.17	−0.97	0.21	−1.90	1.68	−1.41	0.11	−1.70	0.33	−1.50	0.83	−0.73	0.07	−0.62	0.22	−0.07	0.19	−0.21	4.62	−9.67
Pembina	0.67	+0.05	0.43	−0.30	0.17	−0.70	0.71	−0.70	0.24	−2.19	3.13	−0.47	3.33	+0.87	1.49	−0.77	0.93	−1.07	1.44	+0.01	0.51	−0.28	0.50	−0.27	13.58	−5.82
Petersburg	0.18	......	0.13	......	0.20	......	0.71	......	0.23	......	3.68	......	1.02	......	0.46	......	1.24	......	2.05	......	0.35	......	0.30	......	10.55	......
Pettibone	0.15	−0.26	0.02	−0.41	0.36	−0.19	0.78	−0.55	0.13	−2.49	1.57	−1.59	1.68	−1.02	2.27	−0.16	0.69	−0.87	3.34	+2.36	0.05	−0.61	0.05	−0.52	11.09	−6.31
Portal	0.07	−0.41	0.09	−0.34	0.10	−0.54	0.00	−1.12	0.40	−1.77	2.50	−0.85	0.53	−1.37	2.18	+0.25	0.86	−0.61	0.09	−0.66	0.02	−0.56	0.27	−0.13	7.21	−8.11
Powers Lake	0.57	−0.01	0.53	+0.05	0.67	−0.15	0.00	−1.58	0.33	−1.84	1.09	−2.46	0.21	−2.01	0.89	−0.50	1.28	+0.01	0.33	−0.90	0.12	−0.46	0.33	−0.26	6.45	−10.14
Richardton	T.	−0.42	T.	−0.37	0.33	−0.20	0.23	−1.25	0.06	−2.43	5.20	+1.75	1.10	−0.94	0.58	−0.99	0.53	−0.82	0.01	−0.73	0.15	−0.31	0.14	−0.24	8.33	−6.95
Rugby	......	......	......	......	......	......	0.51	......	0.25	......	2.26	......	0.90	......	1.14	......	0.83	......	0.24	......	0.55	......	0.25	......	......	......
Ryder	0.05	......	0.02	......	0.17	......	0.10	......	0.42	......	2.47	......	0.87	......	0.90	......	1.05	......	0.07	......	0.23	......	0.27	......	6.62	......
Sanish	0.02	......	T.	......	0.70	......	0.58	......	0.16	......	1.74	......	0.72	......	0.17	......	0.95	......	0.13	......	0.28	......	T.	......	5.45	......
Sharon	0.22	−0.10	0.02	−0.36	0.39	−0.21	0.75	−0.77	0.15	−2.95	4.13	+0.46	1.12	−0.91	1.24	−0.81	1.00	−1.00	3.61	+1.51	0.48	−0.41	0.49	+0.09	13.60	−5.46
Slanton	0.09	−0.21	0.02	−0.24	0.53	+0.08	0.55	−0.42	0.14	−1.87	4.21	+1.17	1.52	−0.77	0.27	−1.36	0.36	−0.70	0.05	−0.93	0.34	+0.07	0.06	−0.28	8.14	−5.46
Steele	0.03	−0.43	0.01	−0.46	0.15	−0.66	0.27	−0.92	0.32	−2.26	2.33	−1.17	1.26	−1.64	1.34	−1.03	0.56	−0.89	3.50	+2.43	0.08	−0.54	0.07	−0.48	9.92	−8.05
Stowers	T.	−0.36	T.	−0.55	0.39	−0.40	0.04	−1.12	0.42	−1.96	3.82	+0.37	1.05	−0.68	0.57	−0.74	......	......	......	......	......	......	......	......	......	......
Tagus	......	......	......	......	......	......	......	......	0.08	......	1.52	......	1.28	......	1.39	......	1.19	......	0.16	......	0.30	......	0.11	......	......	......
Tioga	0.10	......	T.	......	1.30	......	T.	......	0.31	......	1.21	......	1.01	......	0.28	......	0.90	......	0.16	......	0.12	......	0.47	......	5.86	......
Towner	T.	−0.44	0.20	−0.24	0.13	−0.60	0.43	−0.67	0.30	−1.91	2.41	−0.49	1.14	−1.12	2.04	+0.15	1.11	−0.66	0.15	−0.84	0.25	−0.34	0.25	−0.15	8.41	−7.31
Trotters	0.25	......	0.01	......	0.77	......	0.22	......	0.23	......	1.53	......	1.13	......	0.31	......	0.43	......	T.	......	T.	......	0.15	......	5.09	......
Turtle Lake	0.05	−0.33	T.	−0.41	0.59	−0.15	0.29	−0.90	0.68	−1.64	2.94	−1.04	2.13	−0.77	1.99	−0.36	0.92	−0.38	0.00	−0.71	0.08	−0.32	0.16	−0.38	9.83	−7.39
Tuttle	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	0.55	−0.89	1.49	+0.79	0.10	−0.39	0.07	−0.37	......	......
Valley City	0.08	−0.47	0.03	−0.46	0.12	−0.45	0.73	−0.79	0.34	−2.57	4.23	+0.90	1.11	−1.68	2.46	+0.39	0.89	−1.06	4.39	+3.41	0.32	−0.42	0.32	−0.14	15.02	−3.34
Velva	0.11	......	0.05	......	0.31	......	0.18	......	0.41	......	2.60	......	2.06	......	1.40	......	1.28	......	0.12	......	0.13	......	0.19	......	8.84	......
Wahpeton	0.25	−0.19	0.06	−0.45	0.45	−0.33	1.28	−0.87	0.53	−2.15	5.52	+1.66	2.38	−1.08	2.73	0.00	2.02	−0.23	1.22	−0.25	0.67	−0.05	0.54	+0.10	17.68	−3.84
Washburn	0.21	−0.10	T.	−0.41	0.42	−0.16	0.82	−0.31	0.29	−1.85	3.03	−0.51	1.93	−0.45	0.84	−0.59	0.47	−0.79	0.09	−0.92	0.10	−0.43	0.28	−0.04	8.51	−6.57
Westhope	0.09	−0.31	0.15	−0.05	0.31	−0.15	0.08	−0.83	0.45	−1.49	1.51	−1.50	0.39	−1.84	2.62	+0.58	1.15	−0.20	0.42	−0.41	0.33	−0.22	0.26	−0.01	7.76	−6.43
Williston	0.17	−0.37	T.	−0.41	0.62	−0.07	0.30	−0.90	0.33	−1.73	2.02	−1.41	0.83	−1.06	0.21	−1.26	1.19	+0.10	0.01	−0.85	0.02	−0.56	0.43	−0.15	6.13	−8.67
Willow City	0.53	−0.01	0.05	−0.47	0.20	−0.53	0.39	−0.61	0.12	−1.80	2.17	−0.94	1.12	−0.97	1.06	−0.94	0.90	−0.82	0.15	−0.69	0.45	−0.14	0.45	−0.09	7.59	−8.01
Wishek	0.00	−0.53	0.00	−0.59	0.34	−0.38	0.31	−0.73	0.10	−2.78	2.39	−0.53	2.50	−0.12	0.45	−1.66	0.78	−0.57	2.15	+1.18	0.06	−0.46	0.00	−0.64	9.08	−7.81
Zap	0.13	−0.21	0.00	−0.27	0.42	−0.21	0.41	−0.64	0.00	−2.39	3.65	−0.12	0.88	−1.08	0.18	−1.64	0.45	−0.78	0.00	−1.07	0.11	−0.22	0.30	−0.03	6.53	−8.66
Moorhead, Minn.	0.41	−0.23	0.06	−0.63	0.83	−0.18	0.66	−1.52	1.15	−1.74	3.93	−0.12	0.80	−2.63	2.16	−0.73	0.93	−1.29	2.07	+0.38	0.54	−0.36	0.40	−0.32	13.97	−9.37
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace

Monthly and Annual Mean Temperatures for the Year 1934, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Amenia	10.5	+ 5.6	13.8	+ 5.0	23.6	−1.0	41.5	−0.5	64.9	+10.9	65.8	+2.4	72.9	+4.2	67.2	+0.7	54.2	−3.1	48.8	+4.2	35.2	+7.2	9.6	−2.6	42.3	+2.7
Arnegard	19.4	+10.4	23.8	+ 9.9	28.0	+2.7	44.0	+2.9	64.2	+11.5	62.3	+0.6	71.6	+2.3	67.9	+0.6	49.6	−6.7	47.2	+4.3	34.5	+6.2	11.8	−1.2	43.7	+3.6
Ashley	20.2	+11.6	22.0	+10.9	27.2	+2.9	44.7	+2.1	67.4	+13.9	67.4	+5.0	74.0	+5.3	69.2	+2.7	54.5	−2.8	50.8	+6.7	35.3	+7.3	15.8	+1.6	45.7	+5.6
Beach	24.4	+13.3	26.2	+10.0	30.2	+3.0	46.5	+4.5	64.2	+12.8	63.8	+2.1	72.7	+4.2	68.2	+1.8	51.6	−4.8	49.8	+6.2	37.2	+6.2	18.0	+1.0	46.1	+5.1
Berthold Agency	17.1	+ 8.5	23.8	+11.6	27.2	+1.2	43.6	+0.1	64.6	+10.5	61.2	+1.4	72.9	+3.7	68.2	+0.5	53.2	−3.7	50.8	+6.2	35.2	+6.7	14.3	−1.1	44.6	+3.8
Bismarck	19.8	+12.0	23.6	+13.3	28.2	+4.0	45.4	+3.3	65.6	+11.1	66.0	+2.3	74.2	+4.4	69.8	+2.5	52.6	−5.5	50.9	+6.0	35.9	+7.4	15.3	+0.6	45.6	+5.1
Bottineau	11.0	+10.4	15.0	+10.8	25.0	+4.9	42.7	+3.6	62.8	+11.5	63.0	+1.7	71.9	+5.3	66.9	+2.8	51.5	−3.4	48.4	+7.4	32.3	+8.7	10.6	+3.2	41.8	+5.6
Bowman	25.4	+12.4	26.2	+ 7.7	30.0	+2.3	44.9	+2.3	63.3	+11.1	63.0	+0.5	73.2	+3.8	68.4	+0.7	51.4	−5.4	48.6	+4.6	36.2	+5.6	18.0	+2.9	45.7	+4.0
Cando	11.0	+11.0	14.1	+ 8.5	24.8	+2.6	40.9	+0.2	62.0	+10.0	63.8	+2.3	69.6	+2.8	65.4	+0.5	52.8	−3.4	47.5	+3.8	32.0	+5.5	11.3	+2.7	41.3	+3.9
Carrington	15.1	+ 8.4	19.2	+10.5	22.7	−0.7	41.3	+1.7	61.9	+ 9.4	63.8	+0.8	70.6	+1.9	66.0	−0.8	51.1	−5.5	46.8	+3.0	32.3	+4.5	11.3	−0.4	41.8	+2.7
Carson	21.7	+12.7	22.2	+ 6.8	26.6	+0.3	45.8	+3.1	65.0	+11.9	66.2	+3.8	74.1	+5.3	70.2	+2.3	53.2	−3.2	50.4	+7.1	36.3	+6.3	15.0	+0.3	45.6	+4.8
Cavalier	......	......	......	......	......	......	......	......	......	......	......	......	......	......	66.8	......	52.7	......	48.7	......	32.0	......	7.6	......	......	......
Crosby	15.5	+11.9	22.4	+13.0	28.7	+5.2	43.4	+3.2	61.2	+10.0	61.2	+0.1	68.8	+2.0	64.8	+0.2	48.6	−5.5	46.5	+4.7	32.6	+5.9	11.6	0.0	42.1	+4.2
Devils Lake	11.6	+ 9.8	14.2	+ 9.1	23.0	+3.2	41.0	+2.2	61.3	+ 8.7	63.0	+1.1	70.5	+3.1	66.1	+1.3	51.0	−4.9	47.1	+4.7	32.0	+7.5	9.9	+0.4	40.9	+3.9
Dickinson	19.5	+ 9.0	23.6	+10.5	27.4	+2.1	43.8	+1.7	62.9	+10.7	62.0	+0.3	71.9	+3.7	66.7	+0.4	49.8	−6.2	47.6	+4.0	33.7	+5.4	16.2	−0.2	43.8	+3.5
Dogden Butte	17.2	......	19.8	......	26.8	......	44.5	......	63.0	......	63.0	......	71.0	......	67.4	......	52.4	......	49.8	......	33.6	......	12.8	......	43.4	......
Drake	13.5	......	18.6	......	24.1	......	41.8	......	61.8	......	63.0	......	70.4	......	66.2	......	51.1	......	47.5	......	32.8	......	11.5	......	41.9	......
Dunn Center	19.8	+ 6.0	24.8	+10.2	29.7	+4.2	44.8	+3.0	63.1	+10.4	62.3	+0.3	71.2	+3.2	66.4	+0.2	50.5	−5.7	49.1	+4.7	35.0	+7.1	15.8	−1.9	44.4	+3.5
Dunseith	12.2	+ 9.7	14.8	+ 8.4	23.0	+2.8	41.6	+1.7	61.2	+ 9.1	61.9	+1.0	70.3	+4.4	65.7	+1.8	50.6	−3.8	47.6	+6.2	31.4	+7.0	7.8	−1.3	40.7	+3.9
Eckman	11.6	+ 8.5	18.2	+10.6	27.0	+4.1	43.4	+2.8	62.0	+10.6	62.6	+1.0	70.6	+3.8	66.1	+1.9	51.6	−3.6	48.3	+6.5	31.9	+6.1	9.2	−0.1	41.9	+4.4
Edgeley	19.4	+10.6	21.3	+ 8.6	28.0	+0.7	44.8	+2.1	66.3	+12.6	66.6	+3.7	74.5	+5.7	69.1	+2.2	53.5	−4.1	50.0	+4.7	33.2	+3.4	12.0	−2.6	41.9	+4.0
Edmore	9.0	......	10.2	......	22.0	......	40.0	......	59.6	......	61.2	......	66.4	......	63.6	......	49.7	......	46.0	......	30.2	......	7.1	......	38.8	......
Ellendale	19.0	+ 8.3	20.8	+10.1	26.4	+0.8	44.2	+0.6	64.8	+ 9.1	66.0	0.0	73.1	+2.4	68.4	−0.4	53.2	−5.2	50.2	+4.6	34.4	+8.3	13.7	−3.1	41.5	+2.9
Energy	17.6	......	23.8	......	29.5	......	46.0	......	65.0	......	63.5	......	72.6	......	68.3	......	53.2	......	50.0	......	34.8	......	14.0	......	44.9	......
Fessenden	12.4	+ 7.9	18.0	+ 7.9	25.1	+1.7	42.0	+1.3	62.4	+10.4	63.8	+2.1	71.0	+3.0	66.6	+0.7	51.8	−3.9	48.8	+5.8	33.0	+5.9	11.4	+0.8	42.2	+3.6
Fort Yates	21.7	+12.5	25.0	+13.2	30.2	+3.9	46.9	+2.0	69.3	+13.2	68.9	+2.7	76.4	+4.7	71.0	+1.7	55.6	−4.2	50.8	+4.4	37.3	+7.5	17.2	−1.2	47.5	+5.0
Foxholm (near)	14.5	......	19.6	......	26.0	......	43.0	......	61.7	......	62.4	......	70.0	......	65.5	......	50.6	......	48.4	......	32.2	......	10.0	......	42.0	......
Fullerton	20.0	+11.1	21.2	+ 9.2	28.0	+1.2	44.6	+1.8	65.7	+11.7	68.1	+4.7	73.6	+4.6	68.8	+1.7	54.0	−3.2	50.1	+5.3	34.4	+5.2	14.6	+0.2	45.3	+4.5
Gaekle	15.6	......	23.2	......	26.5	......	42.8	......	63.8	......	65.7	......	72.6	......	67.9	......	53.9	......	49.5	......	34.6	......	14.8	......	44.2	......
Garrison	17.2	+ 9.6	23.2	+12.3	28.4	+4.6	42.7	+0.4	63.4	+10.7	63.6	+1.4	72.7	+4.5	68.8	+2.7	52.9	−2.0	49.2	+6.5	34.9	+8.6	13.4	−0.3	44.2	+4.9
Grafton	12.2	+10.0	13.0	+ 6.3	24.8	+3.6	43.7	+3.1	63.1	+ 9.8	65.0	+2.2	71.4	+3.7	67.8	+2.6	53.6	−2.7	49.4	+7.3	33.0	+8.3	9.6	+0.7	42.2	+4.6
Grand Forks	10.6	+ 7.1	12.1	+ 4.5	21.6	−0.8	41.3	−0.4	62.0	+ 8.3	64.6	+1.6	71.1	+3.6	66.6	+1.2	52.6	−3.8	48.0	+4.4	32.0	+6.0	9.0	−1.6	41.0	+2.6
Granville	16.2	+11.6	21.2	+11.1	28.4	+4.3	44.2	+3.4	62.0	+10.4	62.6	+0.4	70.0	+2.5	65.7	+0.8	51.4	−3.4	48.6	+5.3	32.6	+5.9	11.3	−0.7	42.9	+4.3
Hankinson	16.8	......	20.2	......	27.6	......	45.6	......	68.0	......	69.4	......	74.0	......	69.0	......	54.8	......	51.0	......	36.5	......	13.8	......	45.6	......
Hannah	7.8	......	10.1	......	21.4	......	40.4	......	61.1	......	61.8	......	69.8	......	65.0	......	50.7	......	46.2	......	30.6	......	8.2	......	39.4	......
Hansboro	9.8	+ 9.9	14.0	+ 8.2	22.6	+2.0	40.5	+1.6	59.6	+ 8.9	60.4	0.0	68.4	+3.2	66.8	+4.4	50.2	−3.3	46.2	+5.5	31.0	+7.5	9.4	+1.4	39.9	+4.1
Hettinger	25.4	+12.4	25.9	+ 9.4	29.6	+1.0	45.8	+3.0	66.0	+12.4	65.6	+2.7	74.4	+4.3	69.7	+0.9	53.0	−4.6	49.9	+4.3	35.6	+4.0	18.8	+2.0	46.6	+4.3
Hillsboro	13.2	+ 8.6	15.3	+ 5.0	24.4	−1.2	43.8	+1.0	63.2	+ 9.3	65.8	+1.6	72.1	+2.5	67.8	+0.3	53.8	−4.8	48.5	+3.3	34.2	+6.4	10.6	−0.6	42.7	+2.6
Howard (near)	14.2	+ 9.8	20.2	+11.2	26.3	+4.4	42.3	+3.2	60.6	+10.8	60.6	+0.4	68.2	+2.2	67.1	+2.2	51.4	−2.9	47.6	+6.0	33.6	+7.3	9.0	−2.6	41.8	+4.4
Jamestown	17.0	+10.0	18.6	+ 9.0	26.9	+2.9	42.6	+0.5	63.3	+ 9.8	64.8	+1.6	72.0	+3.5	65.8	−0.6	51.8	−4.7	49.2	+4.7	33.6	+6.3	13.4	0.0	43.3	+3.6
Kenmare	14.4	......	20.7	......	25.5	......	44.4	......	63.6	......	63.4	......	70.7	......	67.8	......	53.6	......	50.4	......	33.8	......	11.8	......	43.3	......
Langdon	7.6	+ 8.5	9.6	+ 4.8	20.9	+1.3	39.2	+1.4	58.3	+ 7.4	61.8	+1.9	69.6	+5.0	64.8	+2.3	49.6	−2.7	44.0	+3.1	29.6	+5.6	6.9	−1.4	38.5	+3.1
Larimore	12.0	+ 8.4	13.4	+ 6.1	24.3	+2.0	43.2	+2.8	63.1	+10.5	64.9	+2.5	71.2	+4.2	67.2	+2.2	53.6	−1.7	48.6	+4.7	32.8	+7.0	9.0	−2.0	41.9	+3.9
Linton	21.3	+11.8	22.6	+ 8.1	28.8	+1.1	45.2	+2.5	67.6	+13.4	67.7	+3.4	74.8	+3.5	71.4	+2.2	55.1	−3.4	50.6	+5.9	36.6	+7.6	16.4	+2.5	46.5	+4.9
Lisbon	18.2	+10.9	19.8	+ 8.6	28.0	+0.9	44.2	+1.8	64.9	+11.0	67.2	+3.7	73.0	+3.7	67.6	+0.6	54.0	−3.5	50.7	+6.9	34.8	+5.9	13.8	−0.3	44.7	+4.2
McClusky	13.8	......	19.0	......	27.1	......	43.3	......	63.4	......	61.8	......	70.4	......	66.5	......	51.6	......	48.6	......	34.1	......	12.2	......	42.6	......
McLeod	16.0	+ 7.6	19.3	+ 6.0	29.2	+1.5	46.2	+2.0	67.9	+13.4	68.4	+3.9	71.4	+1.2	67.2	−0.7	55.8	−3.2	49.8	+3.6	36.0	+5.7	12.6	−1.8	45.0	+3.3
Maddock	12.4	+ 7.6	16.6	+ 5.5	25.6	+1.0	43.0	+2.0	62.8	+10.1	63.9	+2.8	70.7	+3.1	67.1	+1.4	51.8	−3.9	47.8	+4.9	32.8	+6.2	10.6	+0.6	42.1	+3.5
Mandan	17.8	+ 9.5	22.8	+ 9.9	27.0	+0.8	45.2	+2.5	65.6	+11.7	65.5	+2.2	74.2	+3.6	69.8	+1.7	53.3	−4.1	50.0	+6.0	34.7	+5.5	14.6	+0.9	45.0	+4.1
Marmarth	25.9	+13.1	28.4	+10.7	31.4	+3.7	47.6	+4.6	61.5	+13.3	64.8	+2.8	73.6	+4.2	69.8	+2.5	53.0	−3.5	49.4	+3.9	35.4	+4.0	19.0	+2.2	46.9	+5.1
Max	13.0	......	18.9	......	23.8	......	42.6	......	62.2	......	61.8	......	70.5	......	65.8	......	49.6	......	47.4	......	31.6	......	8.6	....	41.3	......
Mayville	14.5	+ 8.7	15.8	+ 6.3	26.3	+1.8	44.8	+1.8	64.7	+10.0	68.3	+4.3	74.2	+5.2	68.8	+1.8	55.6	−1.8	50.6	+4.7	34.4	+6.2	10.3	−2.6	44.0	+3.8
Minot	16.8	+10.6	21.7	+12.0	28.3	+5.5	44.2	+3.4	62.6	+10.4	62.2	−0.1	[a]70.6	+2.7	66.2	+1.2	50.6	−5.3	50.2	+6.9	33.8	+6.3	12.6	+0.7	43.3	+4.5
Mohall	13.8	+ 9.2	19.4	+12.3	26.7	+5.8	42.8	+2.3	62.2	+ 9.9	63.4	+2.3	72.2	+5.9	66.2	+2.3	53.0	−1.0	48.3	+6.6	33.6	+8.8	10.4	−0.6	42.7	+5.3
Mott	22.8	+14.0	25.6	+12.1	28.8	+1.9	46.0	+4.2	66.7	+13.2	64.7	+0.3	74.8	+4.5	69.2	+2.1	53.1	−3.5	50.2	+6.9	36.0	+6.8	19.4	+5.6	46.4	+5.6
Napoleon	19.1	+12.7	21.2	+12.9	26.4	+3.7	43.6	+2.2	65.6	+13.2	66.0	+3.6	72.4	+3.8	68.6	+2.2	53.3	−3.4	49.8	+6.1	34.6	+7.9	14.1	+1.5	44.6	+5.6
New England	22.5	+ 9.1	26.8	+12.7	30.0	+4.8	45.0	+2.7	65.4	+13.4	64.8	+2.2	75.8	+7.0	70.7	+3.8	52.8	−3.6	47.6	+4.2	37.1	+8.0	18.4	+1.9	46.4	+5.5
New Salem	21.3	+12.2	25.3	+12.2	28.8	+2.9	45.8	+3.4	65.4	+13.0	67.4	+4.5	75.5	+5.6	72.7	+5.5	56.2	−1.3	53.2	+8.4	38.1	+8.3	17.4	+2.1	47.3	+6.4
Oakes	18.6	......	20.6	......	28.2	......	45.7	......	67.4	......	68.8	.....	75.2	...	69.4	......	55.4	.....	51.4	......	35.1	.....	12.4	.....	45.7	......
Park River	11.0	+ 8.3	10.8	+ 3.1	22.0	−1.1	42.8	+1.5	62.0	+ 9.0	64.0	+1.1	69.0	+1.1	64.4	−1.8	51.6	−5.0	47.9	+4.1	31.0	+3.2	7.6	−2.9	40.3	+1.7
Parshall	14.4	......	21.3	......	27.7	......	42.2	......	61.6	.....	61.2	......	70.1	......	66.0	......	49.2	......	49.3	......	32.8	......	11.8	......	42.3	......
Pembina	7.0	+ 9.4	5.5	+ 2.5	16.6	−1.6	38.3	−0.3	57.6	+ 4.8	62.1	−0.6	.....	.....	.....	.....	.....	.....	....	.....	....	.....	....	.....	.....	.....
Pettibone	14.8	+11.8	18.6	+ 9.8	26.8	+2.5	43.9	+3.0	63.6	+11.8	65.0	+3.5	72.4	+4.4	67.2	−1.1	52.6	−2.6	48.6	+6.8	33.3	+6.9	11.5	+1.0	43.2	+4.8
Portal	10.2	+ 7.7	21.2	+15.8	24.0	+6.3	43.6	+2.2	61.2	+10.7	61.2	+2.0	69.5	+3.3	61.0	−0.2	49.8	−4.6	46.8	+5.4	30.8	+5.4	10.6	−1.6	41.1	+4.4
Powers Lake	15.7	......	20.6	......	25.1	......	43.8	......	64.4	......	60.0	......	68.2	.....	65.6	......	51.2	......	48.4	......	34.8	......	14.7	......	42.7	......
Richardton	21.5	+11.3	23.2	+ 8.0	26.8	−0.3	44.4	+3.3	64.3	+11.7	63.0	+0.4	71.8	+1.7	69.4	+1.3	52.6	−4.2	51.3	+7.9	37.2	+8.9	17.8	+3.8	45.3	+4.5
Sanish	11.9	......	21.4	......	24.6	......	43.3	......	63.2	......	61.8	......	70.6	......	66.9	......	50.2	......	49.0	.....	34.6	......	13.4	......	42.6	......
Sharon	11.7	......	13.5	......	23.5	......	41.6	......	62.0	.....	63.2	......	70.8	......	66.0	......	52.0	......	47.5	.....	31.4	......	9.4	.....	41.0	......
Steele	18.6	+11.3	22.1	+12.7	28.7	+5.4	46.8	+3.6	66.0	+12.6	66.1	+3.6	75.2	+5.8	69.5	+2.8	54.0	−2.9	50.4	+6.6	35.4	+9.1	15.0	+2.7	45.6	+6.0
Towner	14.0	+10.2	18.3	+10.6	27.9	+5.8	45.1	+3.2	64.2	+11.0	64.3	+1.5	70.8	+2.8	64.6	−0.8	51.8	−4.4	47.6	+4.2	33.2	+8.0	9.6	−0.5	42.6	+4.3
Valley City	16.6	+11.1	19.0	+ 7.5	27.3	+1.3	44.8	+2.2	65.1	+11.6	66.6	+3.5	73.4	+4.7	67.8	+1.0	54.4	−3.8	49.6	+5.0	34.2	+6.2	12.2	−1.5	44.3	+4.1
Velva	16.4	......	21.0	......	27.8	......	45.4	......	63.8	......	63.8	......	71.1	......	66.8	......	53.2	......	49.2	......	34.1	......	12.7	......	43.8	......
Wahpeton	16.0	+ 7.6	19.4	+ 7.4	28.3	+0.8	45.6	+1.2	68.1	+12.5	69.8	+4.7	74.0	+4.2	70.0	+2.1	58.1	−1.1	53.3	+6.7	37.8	+9.0	15.5	+0.2	46.3	+4.6
Washburn	16.9	+ 9.5	22.4	+12.9	26.6	+2.2	44.5	+0.7	64.7	+10.9	63.5	−0.6	71.6	+2.1	66.6	−0.8	52.1	−6.4	49.5	+5.0	34.2	+3.9	14.0	0.0	43.9	+3.3
Westhope	12.8	+11.5	18.2	+11.2	27.4	+5.4	44.2	+4.8	62.4	+10.6	63.0	+1.0	69.9	+3.1	65.7	+1.0	51.8	−3.1	48.4	+6.3	31.8	+6.2	9.6	−0.4	42.1	+4.8
Williston	16.8	+10.4	23.7	+15.6	28.8	+5.9	45.6	+3.6	64.1	+10.1	62.9	+0.2	72.2	+3.3	68.0	+1.9	52.2	−4.4	50.0	+6.6	34.8	+7.6	14.5	+0.7	44.5	+5.2
Willow City	9.5	+ 8.6	13.8	+ 8.9	24.0	+4.3	40.8	+1.2	61.0	+ 9.5	62.3	+1.3	69.2	+3.5	64.6	+1.0	49.8	−4.4	45.8	+4.4	30.4	+7.8	8.8	+0.1	40.0	+3.8
Wishek	16.2	+ 9.2	19.0	+10.0	24.0	−2.3	41.2	−0.7	61.2	+10.5	66.4	+4.1	[c]73.2	+4.6	68.4	+2.6	53.9	−1.7	50.7	+6.8	35.3	+5.5	17.0	+4.0	43.9	+4.4
Moorhead, Minn.	13.8	+10.0	15.4	+ 7.3	24.2	+1.5	42.4	+1.8	63.6	+ 8.5	66.2	+1.8	72.5	+4.4	67.5	+1.4	53.5	−4.7	49.6	+5.1	34.2	+7.1	11.0	−0.5	42.8	+3.6

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing. [b], 2 days missing, etc.

[Continued from page 49]

September.—While the dry conditions of the preceding eight months continued, there was a decided moderation in the temperature. Threshing and corn harvesting made excellent progress, but the yields were disappointing. Pastures, ranges, and harvested and abandoned fields afforded little feed, necessitating heavy livestock shipments from the State.

October.—Dry weather with mild temperature prevailed throughut the State during the first two decades, and fall work, consisting of late threshing, potato digging and corn harvesting, made excellent progress, but the top-soil was too dry generally for fall plowing and winter rye seeding. During the last decade however, scattered heavy showers improved conditions in many sections and plowing and seeding were active at the close of the month. Feed conditions were serious and heavy shipments of livestock from the State were made.

November.—The temperature averaged above and the precipitation below the normal. Considerable foggy weather prevailed during the month, partcularly from the 17th to the 20th and from the 24th to the 30th. Potato digging was completed and considerable fall plowing was done in the east portion, but the soil was too dry in the west and central portions. Though livestock ranged freely considerable yard feeding was necessary.

December.—Although somewhat changeable weather prevailed at times, the temperature averaged the normal. The precipitation was deficient, December being the 12th consecutive month with average precipitation below the normal. The snow covering was mostly confined to the north portion, the average depth being three inches. Due to favorable weather, livestock ranged on pastures and harvested fields, but much yard feeding was required. Navigation in the Missouri River closed at all points in the State during the first week.

Killing Frosts

Stations	Last in Spring	First in Autumn	Stations	Last in Spring	First in Autumn
Amenia	May 22	Sept. 21	Kenmare	May 13	Sept. 15
Arnegard	" 24	Aug. 24	Langdon	" 24	Aug. 24
Ashley	" 24	Sept. 15	Larimore	" 22	" 28
Beach	" 13	" 15	Linton	" 22	Sept. 3
Berthold Agency	" 22	Aug. 24	Lisbon	" 22	" 21
Bismarck	Apr. 27	" 15	McClusky	June 11	Aug. 24
Bottineau	July 6	" 24	McLeod	May 22	Sept. 21
Bowman	May 13	Sept. 15	Maddock	" 24	Aug. 24
Cando	" 24	" 15	Mandan	" 24	Sept. 15
Carrington	" 23	" 14	Marmarth	" 22	" 6
Carson	" 13	Aug. 25	Max	" 13	Aug. 24
Crosby	" 13	" 23	Mayville	" 11	Sept. 21
Devils Lake	" 13	Sept. 15	Minot	" 13	Aug. 24
Dickinson	" 14	Aug. 24	Mohall	" 13	" 24
Dogden Butte	" 13	" 24	Mott	" 13	Sept. 15
Drake	" 13	Sept. 15	Napoleon	" 24	Aug. 24
Dunn Center	" 13	" 15	New England	" 12	Sept. 15
Dunseith	" 13	" 15	New Salem	" 24	" 15
Eckman	" 24	Aug. 24	Oakes	" 22	" 15
Edgeley	" 24	Sept. 15	Park River	" 24	Aug. 28
Edmore	" 24	Aug. 28	Parshall	July 6	" 24
Ellendale	" 11	Sept. 21	Pettibone	May 24	" 24
Energy	" 24	" 25	Portal	July 6	" 24
Fessenden	" 24	Aug. 27	Powers Lake	" 6	" 23
Fort Yates	" 24	" 26	Richardton	May 13	Sept. 15
Foxholm	" 13	" 24	Sanish	" 23	" 23
Fullerton	" 24	Sept. 15	Sharon	" 22	Aug. 24
Gackle	" 24	Aug. 24	Steele	" 24	" 24
Garrison	June 11	" 24	Tagus	" 24	Sept. 15
Grafton	May 22	" 28	Towner	" 24	Aug. 25
Grand Forks	" 22	Sept. 21	Valley City	" 22	Sept. 6
Granville	" 24	Aug. 24	Velva	" 24	" 15
Hankinson	" 10	Sept. 20	Wahpeton	" 21	" 21
Hannah	" 24	Aug. 28	Washburn	" 13	" 15
Hansboro	" 24	Sept. 20	Westhope	July 6	Aug. 24
Hettinger	" 13	" 15	Williston	May 13	Sept. 15
Hillsboro	" 11	" 20	Willow City	" 22	Aug. 22
Howard	July 6	Aug. 27	Wishek	" 24	Sept. 6
Jamestown	May 22	Sept. 15	Moorhead, Minn.	" 11	" 21

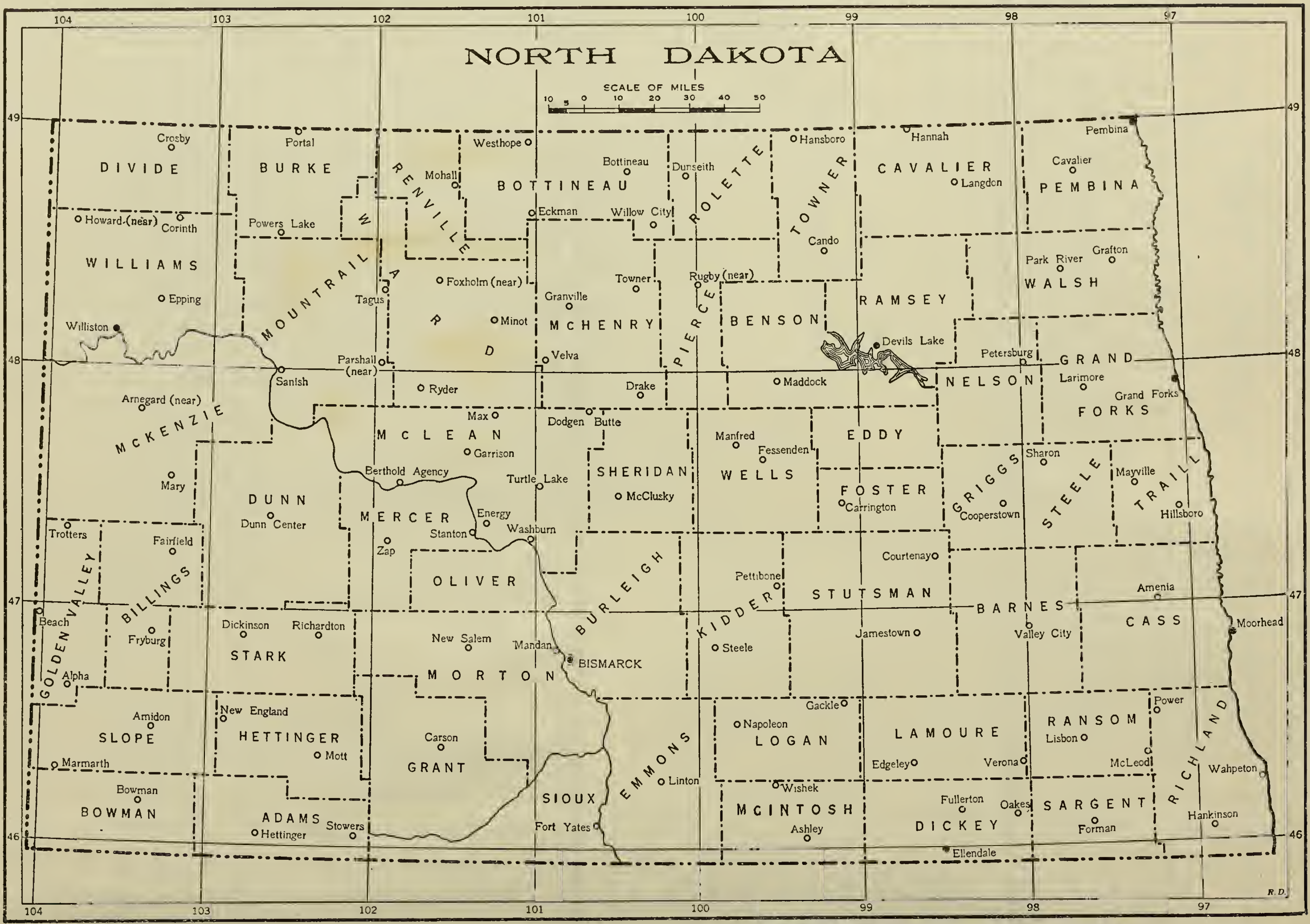
Climatological Summary, 1934

Month	Temperature in degrees Fahrenheit: Mean	Departure	Highest	Lowest	Precipitation, in inches: Average	Departure	Snowfall	Number of days: Precip., .01 inch or more	Clear	Pt. cloudy	Cloudy	Prevailing direction of the wind
January	15.8	+9.1	54	−36	0.20	−0.27	2.0	3	11	9	11	nw.
February	19.5	+9.6	61	−30	0.06	−0.40	0.7	1	13	8	7	nw.
March	26.3	+2.9	74	−12	0.49	−0.27	3.6	4	11	11	9	nw.
April	43.7	+2.1	95	7	0.44	−1.02	1.9	3	15	8	7	nw.
May	63.6	+10.3	111	18	0.35	−1.99	0	3	17	10	4	nw.
June	64.3	+1.3	100	29	3.04	−0.39	0	11	12	10	8	nw.
July	71.8	+3.4	112	29	1.22	−1.23	0	6	18	10	3	se.
August	67.4	+1.2	108	25	1.15	−0.92	0	5	16	11	4	nw.
September	52.4	−4.0	95	9	0.96	−0.65	2.0	7	11	9	10	nw.
October	49.0	+5.4	94	5	1.01	−0.07	0.1	3	14	8	9	nw.
November	33.9	+7.2	73	− 1	0.28	−0.34	1.0	3	13	7	10	nw.
December	12.6	0.0	53	−44	0.30	−0.22	3.9	5	9	8	14	nw.
Annual	43.4	+4.1	112	−44	9.50	−7.76	15.2	54	160	109	96	nw.

COMPARATIVE DATA FOR YEAR

Year	Temperature: Mean	Departure	Highest	Lowest	Precipitation: Average	Departure	Greatest annual	Least annual	Average snowfall	Number of days: Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	37.8	−1.5	108	−52	18.34	+1.08	26.60	14.26	34.9	70	157	95	114
1893.	35.8	−3.5	112	−54	15.91	−1.35	22.29	11.64	46.1	65	154	104	107
1894.	40.3	+1.0	107	−47	15.64	−1.62	20.98	10.84	24.6	56	174	100	91
1895.	37.7	−1.6	104	−50	17.30	+0.04	22.78	11.76	20.9	63	155	117	93
1896.	37.3	−2.0	107	−42	23.57	+6.31	33.18	13.43	48.3	80	143	111	112
1897.	37.8	−1.5	109	−48	15.88	−1.38	28.55	8.49	33.9	63	162	105	98
1898.	39.2	−0.1	106	−38	16.15	−1.11	23.91	8.81	22.7	57	159	108	98
1899.	36.9	−2.4	109	−48	17.67	+0.41	28.84	12.50	26.6	60	161	105	99
1900.	40.9	+1.6	114	−48	19.06	+1.80	28.32	11.78	23 2	62	178	97	90
1901.	40.4	+1.1	110	−43	19.48	+2.22	29.75	12.92	20.2	63	175	92	98
1902.	39.4	+0.1	106	−39	19.34	+2.08	27.45	6.58	29.9	62	160	79	126
1903.	38.3	−1.0	108	−49	19.25	+1.99	26.02	13.18	28.8	65	166	81	118
1904.	37.6	−1.7	103	−52	19.02	+1.76	28.83	9.44	38.1	68	150	73	143
1905.	39.3	0.0	107	−46	19.96	+2.70	30.39	10.66	29.6	66	152	79	134
1906.	39.4	+0.1	109	−40	19.72	+2.46	33.87	13.24	35.4	78	164	93	108
1907.	36.9	−2.4	104	−49	14.41	−2.85	23.02	8.75	33.7	63	175	101	89
1908.	40.7	+1.4	104	−41	18.64	+1.38	26.71	13.49	43.7	75	164	97	105
1909.	38.2	−1.1	109	−48	17.73	+0.47	27.89	9.77	33.5	71	143	110	112
1910.	41.1	+1.8	114	−50	12.19	−5.07	19.09	7.55	21.0	52	180	92	93
1911.	38.0	−1.3	108	−43	19.40	+2.14	26.27	8.17	36.5	76	160	100	105
1912.	38.2	−1.1	124	−52	20.35	+3.09	29.13	13.86	19.3	74	161	102	103
1913.	40.0	+0.7	106	−54	14.69	−2.57	26.70	9.60	19.4	64	166	104	95
1914.	40.1	+0.8	109	−47	19.16	+1.90	26.41	12.99	30.0	70	155	110	100
1915.	39.7	+0.4	104	−48	19.42	+2.16	26.83	12.24	21.2	72	148	101	116
1916.	36.2	−3.1	105	−56	20.50	+3.24	35.51	12.01	54.2	70	170	97	99
1917.	36.3	−3.0	114	−48	10.92	−6.34	17.20	6.02	40.5	60	154	111	100
1918.	40.0	+0.7	102	−44	16.02	−1.24	25.54	10.18	29.7	63	159	104	102
1919.	38.6	−0.7	108	−44	15.76	−1.50	25.33	7.07	47.2	60	165	107	93
1920.	39.5	+0.2	108	−44	15.34	−1.92	23.78	9.88	27.9	64	166	108	92
1921.	42.0	+2.7	110	−33	19.59	+2.33	33.78	9.22	29.4	74	158	111	96
1922.	39.7	+0.4	115	−46	19.75	+2.49	33.14	14.50	42.8	75	155	100	110
1923.	40.7	+1.4	103	−40	17.76	+0.50	25.50	11.03	30.1	64	160	110	95
1924.	38.2	−1.1	105	−46	17.55	+0.29	27.56	10.87	26.1	66	158	101	107
1925.	40.6	+1.3	111	−39	16.81	−0.45	28.33	9.80	19.7	64	158	107	100
1926.	40.7	+1.4	108	−36	15.70	−1.56	21.78	10.01	23.7	68	151	105	109
1927.	38.0	−1.3	101	−44	21.52	+4.26	32.12	13.87	36.2	79	150	102	113
1928.	41.1	+1.8	107	−41	18.40	+1.14	30.38	10.70	17.3	59	177	101	88
1929.	38.0	−1.3	109	−44	14.32	−2.94	22.36	8.29	41.8	65	171	98	96
1930.	41.4	+2.1	107	−43	14.90	−2.36	22.13	7.38	25.0	66	166	101	98
1931.	44.9	+5.6	111	−31	14.99	−2.27	22.98	5.62	18.0	56	180	92	93
1932.	40.0	+0.7	108	−34	17.11	−0.15	23.13	10.07	34.9	69	156	108	102
1933.	41.1	+1.8	110	−45	13.34	−3.92	19.36	7.10	42.3	65	161	104	100
1934.	43.4	+4.1	112	−44	9.50	−7.76	17.68	4.02	15.2	54	160	109	96
Per..	39.3	....	124	−56	17.26	....	35.51	5.62	30.2	66	162	100	103

CHART SHOWING METEOROLOGICAL OBSERVATION.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations).

[WBO, Minneapolis, 2-15-35—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLIV Bismarck, N. D., January 1935 No. 1

GENERAL SUMMARY

January 1935 was the coldest January since 1930. The readings were considerably below average in the extreme eastern and northern portions, but most stations in the southwestern section reported monthly means above average. Temperatures were moderate at the beginning and again at the close of the month, but a severe cold spell prevailed from the 13th to the 23d. The precipitation was slightly below the 44 year average and it was well distributed throughout the month. Most stations in the northern half of the State reported amounts slightly in excess of the January mean, but precipitation was below normal in the southern half. Much cloudy weather prevailed. At the close of the month stock was ranging freely, but there was a shortage of feed due to the continuous dry weather.

TEMPERATURE

The mean temperature for the State was 3.3°, or 3.3° below the 44 year average, and 12.5° lower than the mean for January 1934. The highest mean reported was 14.8° at Hettinger, Adams County; the lowest was -5.8° at Hannah, Cavalier County. The highest temperature reported was 60° at Mott, Hettinger County on the 30th; the lowest was -44° at Sanish, Mountrail County on the 23d. The greatest monthly range of temperature was 94° at Mott, Hettinger County; the least was 62° at Grafton, Walsh County. The greatest daily range of temperature was 75° at Dickinson, Stark County and Mandan, Morton County on the 24th.

PRECIPITATION

The average precipitation for the State was 0.41 inch, or 0.06 inch below the 44 year average, and 0.21 inch more than the average for January 1934. The greatest monthly amount reported was 1.10 inches at Howard, Williams County; the least was a trace at Ashley, McIntosh County. The greatest amount recorded in any 24 consecutive hours was 0.60 inch at Howard, Williams County on the 17th. The average number of days with 0.01 inch or more of precipitation was 6. The average snowfall was 4.9 inches.

MISCELLANEOUS PHENOMENA

Auroras: Corinth, 21st, 28th; Devils Lake, Howard, Mohall, New Salem, Parshall, Petersburg, Pettibone, Sharon, Trotters, Willow City, 27th; Foxholm, 22d, 27th, 28th, 30th; Howard, 29th, 30th; New England, 19th, 20th; Petersburg, 31st; Tuttle, 28th.

Fog: Alpha, Dickinson, Fryburg, Hettinger, 26th; Ashley, Devils Lake, Grand Forks, Hillsboro, Rugby, Moorhead, 31st; Beach, Tuttle, 9th; Bismarck, 8th, 9th; Bowman, 12th, 25th, 26th; Carson, 6th, 12th; Fryburg, Marmarth, Mott, New Salem, Tuttle, 12th; Hettinger, 25th; New England, 6th, 12th, 15th, 17th; Parshall, 11th; Pettibone, 26th, 27th; Williston, 23d, 31st; and at nearly all stations on the 28th, 29th, 30th.

Halos, lunar: Bismarck, 11th, 16th; Devils Lake, 18th, 20th; Ellendale, New Salem, 19th; Grand Forks, 17th; Linton, Willow City, 20th; Moorhead, 13th, 17th, 19th, 20th; Oakes, 16th, 18th, 19th, 20th; Petersburg, 16th, 17th, 19th, 20th; Rugby, 23d; Sharon, 17th, 19th; Williston, 18th, 21st.

Halos, solar: Bismarck, 15th, 21st; Carrington, 13th, 18th; Cavalier, Devils Lake, 17th; Dogden Butte, Foxholm, 21st; Drake, Ellendale, Napoleon, 13th; Eckman, 19th, 24th, 27th; Grand Forks, 13th, 14th, 17th; Marmarth, 15th, 20th; Moorhead, 5th, 13th, 17th, 19th, 25th; New Salem, 13th, 14th, 19th; Oakes, 13th, 17th, 18th, 19th; Petersburg, 18th; Sharon, 17th, 25th; Trotters, 14th, 16th; Tuttle, 3d, 13th, 14th, 16th, 17th, 18th, 21st; Williston, 3d, 11th, 13th.

Sleet: Bismarck, Ellendale, Linton, Max, Napoleon, Stanton, 25th; Richardton, Rugby, 29th; Steele, 9th, 25th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.20	30.89	23	29.55	16	8.2	36	nw.	2	74	68	70	36
Devils Lake	30.22	30.86	22	29.40	5	9.1	24	n.	2	97	85	91	47
Grand Forks	30.21	30.80	22	29.42	5	......	35	nw.	3	96	....	90	....
Williston	30.20	30.92	22	29.42	5	7.0	25	n.	2	90	78	81	40
Moorhead, Minn	30.23	30.87	22	29.48	5	9.6	28	n.	3	96	88	92	35
Averages & ext's	30.21	30.92	22	29.40	5	8.5	36	nw.	2	91	80	86	40

† And other dates.

COMPARATIVE DATA FOR JANUARY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	3.3	−3.3	58	−52	0.32	−0.15	1.40	0.04	2.8	4	15	8	8
1893.	0.8	−5.8	52	−48	0.98	+0.51	2.54	0.15	8.4	7	11	11	9
1894.	0.6	−6.0	60	−47	0.39	−0.08	1.30	0.06	3.6	4	13	9	9
1895	−2.9	−9.5	42	−46	0.56	+0.09	1.20	0.20	5.5	5	16	8	7
1896.	5.3	−1.3	58	−42	0.70	+0.23	2.02	T.	6.6	6	9	9	13
1897.	3.6	−3.0	49	−38	0.79	+0.32	2.04	T.	7.5	5	11	9	11
1898.	14.6	+8.0	69	−32	0.11	−0.36	0.65	0.00	1.1	2	15	8	8
1899.	5.2	−1.4	55	−41	0.25	−0.22	0.78	T.	2.4	3	13	9	9
1900.	15.4	+8.8	70	−30	0.22	−0.25	0.90	T.	2.0	3	15	9	7
1901.	7.7	+1.1	68	−39	0.28	−0.19	1.64	T.	3.0	4	14	8	9
1902.	12.7	+6.1	51	−40	0.14	−0.33	0.80	0.00	1.4	2	17	7	7
1903.	9.4	+2.8	56	−37	0.66	+0.19	1.64	T.	6.7	5	13	8	10
1904.	3.6	−3.0	50	−52	0.37	−0.10	1.10	T.	4.0	5	15	6	10
1905	0.9	−5.7	48	−40	0.30	−0.17	1.10	0.00	2.9	3	15	8	8
1906.	12.2	+5.6	60	−38	0.69	+0.22	1.62	0.09	6.9	4	14	6	11
1907.	−6.2	−12.8	45	−45	1.40	+0.93	3.94	0.30	14.5	8	12	8	11
1908.	17.0	+10.4	70	−41	0.18	−0.29	1.25	0.00	1.9	2	17	8	6
1909.	3.5	−3.1	53	−48	0.42	−0.05	1.45	0.00	4.3	4	14	8	9
1910	9.4	+2.8	49	−35	0.33	−0.14	1.80	0.00	4.1	3	16	8	7
1911.	−1.0	−7.6	56	−43	0.91	+0.44	3.65	0.05	8.5	6	11	8	12
1912.	−4.6	−11.2	63	−52	0.35	−0.12	1.04	0.03	3.6	4	16	6	9
1913.	3.2	−3.4	60	−54	0.45	−0.02	1.97	T.	4.6	5	12	9	10
1914.	14.8	+8.2	62	−38	0.50	+0.03	1.80	0.00	4.9	4	12	8	11
1915.	5.8	−0.8	51	−48	0.29	−0.18	1.25	0.00	3.4	3	12	9	10
1916.	−6.4	−13.0	49	−56	1.38	+0.91	3.50	0.20	15.1	6	13	8	10
1917.	1.7	−4.9	47	−46	0.73	+0.26	2.80	0.05	8.6	5	13	8	10
1918.	0.5	−6.1	48	−44	0.45	−0.02	1.38	T.	5.0	5	12	8	11
1919.	18.7	+12.1	66	−44	0.17	−0.30	0.66	0.00	1.7	2	17	8	6
1920.	2.7	−3.9	49	−44	0.93	+0.46	2.97	0.00	10.0	5	10	9	12
1921	15.9	+9.3	58	−31	0.24	−0.23	1.21	T.	2.5	2	13	9	9
1922	7.0	+0.4	55	−46	0.49	+0.02	1.60	0.10	5.2	5	12	9	10
1923	10.1	+3.5	56	−35	0.53	+0.06	1.36	0.00	6.0	5	9	9	13
1924.	2.6	−4.0	61	−42	0.23	−0.24	0.96	0.00	2.5	3	14	9	8
1925.	8.6	+2.0	52	−35	0.22	−0.25	1.17	0.00	2.5	3	11	10	10
1926.	16.3	+9.7	55	−30	0.38	−0.09	1.10	0.00	4.1	4	13	8	10
1927.	10.1	+3.5	60	−44	0.41	−0.06	1.24	0.00	4.3	4	14	8	9
1928.	13.0	+6.4	50	−41	0.21	−0.26	1.04	0.00	2.3	3	14	9	8
1929.	−4.8	−11.4	42	−42	0.63	+0.16	1.82	T.	9.2	6	13	8	10
1930.	−1.9	−8.5	41	−43	0.29	−0.18	1.41	0.00	2.7	4	12	9	10
1931.	21.4	+14.8	68	−31	0.15	−0.32	0.91	0.00	1.4	2	15	8	8
1932.	9.5	+2.9	50	−34	0.55	+0.08	1.60	T.	6.3	4	12	7	12
1933.	11.8	+5.2	53	−30	0.80	+0.33	1.79	0.11	10.0	7	12	7	12
1934.	15.8	+9.2	54	−36	0.20	−0.27	0.80	0.00	2.0	3	11	9	11
1935	3.3	−3.3	60	−44	0.41	−0.06	1.10	T.	4.9	6	8	10	13
Per.	6.6	....	70	−56	0.47	....	3.94	0.00	5.0	4	13	8	10

Climatological Data for January 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	9	.....	......	....	....	.....	....	......	0.16	....	0.07	1.6	4	13	12	6	.....	H. A. Bury.
Amenia	Cass	954	39	0.8	−4.1	34	4	−35	23	52	0.11	−0.37	0.04	1.1	5	1	9	21	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	5.8	−3.2	44	31	−41	23	42	0.30	−0.25	0.15	3.0	4	8	6	17	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	8.9	+0.3	43	5†	−30	23	49	T.	−0.51	T.	T.	0	11	5	15	nw.	H. D. Piper.
Beach	Golden Valley	2,759	29	11.7	+0.6	49	31	−31	23	41	0.44	−0.07	0.40	4.4	4	10	10	11	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	6.5	−2.1	42	4	−40	23	55	0.18	−0.16	0.10	1.8	3	14	8	9	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	60	8.6	+0.8	47	31	−32	23	49	0.04	−0.41	0.02	0.6	3	4	16	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	−2.0	−2.6	33	31	−38	21†	46	0.72	+0.32	0.23	7.2	13	18	0	13	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	13.6	+0.6	55	31	−28	21	55	0.22	−0.23	0.10	2.2	4	17	9	5	nw.	George Larsen.
Cando	Towner	1,488	34	.....	......	....	....	.....	....	......	......	....	......	......	......	......	......	......	.....	A. J. Swanson.
Carrington	Foster	1,579	37	2.9	−3.8	50	31	−31	22	62	0.33	+0.01	0.11	7.0	5	10	5	16	nw.	L. A. Swanson.
Carson	Grant	2,500	23	9.8	+0.8	56	30	−33	23	55	0.16	−0.19	0.05	1.6	6	12	8	11	nw.	J. W. Evens.
Cavalier	Pembina	894	25	−4.2	......	32	31	−33	23	41	0.63	−0.11	0.23	7.3	6	7	4	20	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	−1.4	......	37	6	−34	23	43	1.09	+0.67	0.39	13.7	9	15	3	13	nw.	Theo. Marquardt.
Corinth	Williams	2,180	7	.....	......	....	....	.....		......	0.42	....	0.20	4.2	9	3	22	6	sw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	.....	......	....	....	.....	....	......	0.70	....	0.20	7.0	5	11	7	13	nw.	Geo. E. Berg.
Crosby	Divide	1,954	28	0.6	−3.0	37	4	−40	23	39	0.24	−0.19	0.05	5.0	7	6	9	16	nw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	−2.2	−4.0	35	4	−36	23	37	0.50	+0.03	0.14	6.2	14	6	5	20	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	9.8	−0.7	53	31	−37	23	75	0.39	−0.05	0.11	3.9	8	6	16	9	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	4.4	......	39	30	−31	23	49	0.23	0.00	0.20	3.5	2	10	8	13	nw.	R. L. Williams.
Drake	McHenry	1,634	6	1.4	......	39	4	−34	23	66	0.31	....	0.09	3.8	11	5	9	17	sw.	Peter Anton.
Dunn Center	Dunn	2,191	36	8.0	−5.8	50	31	−43	23	43	0.14	−0.29	0.13	1.4	2	8	5	18	nw.	W. F. Moede.
Dunseith	Rolette	1,682	39	−3.4	−5.9	38	30	−38	23	48	0.10	−0.30	0.04	1.0	3	4	18	9	ne.	W. T. Erickson.
Eckman	Bottineau	1,500	30	−3.6	−6.7	35	4	−39	21†	46	0.35	−0.09	0.10	6.0	5	2	19	10	se.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	4.5	−4.3	42	2†	−30	24	46	0.17	−0.16	0.10	1.7	2	9	11	11	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	−5.0	......	32	4†	−39	23	43	0.63	−0.03	0.15	6.5	13	4	9	18	nw.	E. D. Warner.
Ellendale	Dickey	1,457	40	7.6	−3.1	44	5	−27	23	44	0.28	−0.20	0.15	3.5	4	5	8	18	s.	J. E. Demmer.
Energy‡‡	McLean	1,750	23	6.2	......	45	31	−42	23	55	0.12	−0.14	0.08	3.0	2	4	18	9	nw.	H. S. Solenberger.
Fairfield	Billings	......	6	.....	......	....	....	.....	....	......	0.50	....	0.40	5.0	2	8	16	7	nw.	F. R. Hecker.
Fessenden	Wells	1,610	23	1.1	−3.4	39	31	−35	23	55	0.53	+0.05	0.21	6.0	8	11	7	13	sw.	T. D. Monsen.
Forman	Sargent	1,249	42	.....	......	....	....	.....	....	......	0.25	−0.29	0.10	3.0	3	4	15	12	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	35	10.6	+1.4	48	2	−33	23	43	0.13	−0.39	0.09	1.5	2	15	4	12	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	0.2	......	36	4†	−35	23	47	0.71	+0.38	0.19	6.2	7	6	10	15	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	.....	......	....	....	.....	....	......	0.47	+0.02	0.23	4.5	4	13	11	7	nw.	Verne King.
Fullerton	Dickey	1,439	37	7.6	−1.3	41	5	−28	23	48	1.01	+0.21	0.45	10.1	6	8	8	15	nw.	F. O. Alin.
Gackle	Logan	1,951	5	5.8	......	39	5	−31	23	43	0.16	....	0.07	3.2	3	5	17	9	sw.	A. H. Haut.
Garrison	McLean	1,901	58	5.2	−2.4	39	31	−36	23	49	0.40	−0.02	0.20	4.0	3	5	15	11	se.	W. F. Robinson.
Grafton	Walsh	827	43	−2.4	−4.6	29	31	−33	23	42	0.70	−0.13	0.30	17.2	4	8	11	12	nw.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	44	−2.2	−5.7	35	5	−35	23	39	0.63	+0.09	0.20	6.3	10	8	4	19	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	1.0	−3.6	38	4	−37	23	45	0.67	+0.27	0.26	15.5	9	5	8	18	nw.	W. A. Christianson.
Hankinson	Richland	1,068	6	4.8	......	46	5	−31	22	57	0.56	....	0.28	7.0	3	10	5	16	nw.	R. G. Stock.
Hannah	Cavalier	1,568	43	−5.8	......	32	31	−36	21	39	0.71	+0.03	0.18	7.1	9	5	16	10	nw.	James Muir.
Hansboro	Towner	1,597	27	−3.8	−3.7	39	31	−36	19	46	0.35	−0.34	0.20	7.0	3	13	11	7	nw.	C. F. Blackorby.
Hettinger	Adams	2,675	28	14.8	+1.8	58	31	−28	23	58	0.07	−0.26	0.03	0.7	3	17	9	5	nw.	C. H. Plath.
Hillsboro	Traill	901	29	−0.4	−5.0	37	5	−33	23	42	0.33	−0.25	0.16	3.3	3	6	9	16	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	28	−0.2	−4.6	38	6	−42	23	52	1.10	+0.49	0.60	11.0	2	15	10	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	43	4.6	−2.4	41	31	−33	23	46	0.70	+0.12	0.18	7.0	7	6	18	7	.....	S. Calvelage.
Kenmare	Ward	1,799	4	2.2	......	40	30†	−34	23	44	0.67	....	0.10	6.7	9	7	8	16	nw.	R. Costello.
Langdon	Cavalier	1,615	39	−5.3	−4.4	33	30†	−40	23	60	0.70	+0.13	0.40	7.0	3	18	13	0	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	−1.8	−5.4	35	5	−31	23	44	0.53	−0.12	0.14	9.7	6	9	7	15	nw.	Mabel Walsh.
Linton	Emmons	1,711	18	9.2	−0.3	48	4	−35	23	54	0.04	−0.39	0.03	0.6	2	7	12	12	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	5.5	−1.8	42	5	−30	23	41	0.80	+0.20	0.50	8.0	5	4	9	18	sw.	J. O. Halverson.
McClusky	Sheridan	1,943	17	4.2	......	38	4	−37	23	52	0.66	+0.21	0.15	6.6	6	13	9	9	nw.	Edw. Tapley.
McLeod	Ransom	1,075	24	3.2	−5.2	42	5	−32	23	54	0.47	−0.13	0.19	4.7	4	14	9	8	sw.	J. G. Carlson.
Maddock	Benson	1,604	20	−0.5	−5.3	35	4†	−37	23	52	0.25	−0.02	0.07	2.5	6	4	14	13	nw.	A. T. Felland.
Mandan	Morton	1,750	21	7.1	−1.2	48	31	−35	23	75	0.13	−0.15	0.03	1.3	8	9	3	19	sw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	.....	......	....	....	.....	....	......	0.43	−0.13	0.16	6.8	9	7	9	15	.....	P. B. Anderson.
Marmarth	Slope	2,714	26	13.0	+0.2	54	31	−28	21	38	0.29	−0.08	0.15	3.6	4	9	9	13	nw.	S. P. Grane.
Mary	McKenzie	......	6	.....	......	....	....	.....	....	......	0.17	....	0.13	2.0	2	14	7	10	nw.	Fred Hartman.
Max	McLean	2,093	6	1.2	......	35	3	−38	23	55	0.25	....	0.10	2.5	4	11	1	19	nw.	A. W. Rice.
Mayville	Traill	975	39	−0.1	−5.9	38	5	−34	23	39	0.52	+0.10	0.13	5.2	7	5	8	18	n.	H. B. Addicott.
Minot	Ward	1,557	39	2.8	−3.4	40	3†	−35	23	47	0.87	+0.49	0.35	8.7	12	2	19	10	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	41	0.5	−4.1	40	31	−34	23	48	0.64	−0.31	0.17	6.5	7	4	15	12	nw.	John Behan.
Mott	Hettinger	2,424	28	13.0	+4.2	60	30	−34	23	52	0.20	−0.64	0.14	2.5	3	18	8	5	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	43	6.0	−0.4	41	5	−38	23	49	0.23	−0.20	0.08	2.1	7	7	6	18	w.	C. J Hoof.
New England	Hettinger	2,400	41	10.8	−2.6	54	30	−34	21	57	0.24	−0.26	0.20	2.6	3	12	10	9	nw.	F. S. Sleight.
New Salem	Morton	2,163	31	10.7	+1.6	49	31	−35	23	57	0.09	−0.41	0.02	0.9	7	9	13	9	nw.	J. Christiansen.
Oakes	Dickey	1,318	6	6.0	......	42	2†	−30	23	49	0.41	....	0.35	6.0	3	5	13	13	sw.	Eugene Naylor.
Park River	Walsh	998	31	−3.6	−6.3	36	31	−32	23†	56	0.32	−0.06	0.11	4.4	5	8	6	17	nw.	C. B. Wright.
Parshall	Mountrail	1,929	20	2.7	......	36	4	−42	23	43	0.24	+0.05	0.06	3.0	7	3	16	12	nw.	C. E. Shubert.
Pembina	Pembina	789	61	.....	......	....	....	.....	....	......	0.63	+0.01	0.12	6.6	15	......	......	......	.....	E. H. Kruse.
Petersburg	Nelson	1,520	5	.....	......	....	....	.....	....	......	0.38	....	0.13	3.8	8	14	5	12	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	3.2	+0.2	40	2	−38	23	48	0.30	−0.11	0.12	3.0	5	14	3	14	sw.	H. H. McCumber.
Portal	Burke	1,954	30	−2.8	−5.3	37	3†	−40	23	65	0.64	+0.16	0.20	6.5	6	11	4	16	nw	R. G. Wegener.
Powers Lake	Burke	2,205	30	1.6	......	41	31	−41	22	55	0.64	+0.03	0.22	7.0	4	22	6	3	e.	Geo. B. Gee.
Richardton	Stark	2,467	19	11.0	+0.8	53	31	−30	23	48	0.13	−0.29	0.06	2.1	4	7	10	14	s.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	.....	......	....	....	.....	....	......	0.14	....	0.05	1.4	5	10	12	9	nw.	W. B. Paterson.
Ryder	Ward	2,108	6	....	......	....	....	.....	....	......	0.36	....	0.06	3.6	9	7	10	14	nw.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	1.2	......	38	1†	−44	23	55	0.50	....	....	5.0	......	......	......	......	.....	H. J. Bugge.
Sharon	Steele	1,516	11	−1.6	......	36	5	−35	23	43	0.74	+0.42	0.26	8.0	14	4	11	16	sw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	.....	......	....	....	.....	....	......	0.06	−0.24	0.03	2.0	3	7	12	12	nw.	H. J. Giffey.
Steele	Kidder	1,857	41	6.2	−1.1	40	2	−36	23	50	0.11	−0.35	0.07	4.0	2	6	14	11	sw.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	.....	......	....	....	.....	....	......	......	....	......	......	......	......	......	......	.....	G. N. Pilgard.
Tioga	Williams	2,279	6	.....	......	....	....	.....	....	......	0.57	....	0.20	5.7	7	5	6	20	nw.	Anton Carlson.
Towner	McHenry	1,482	33	0.2	−3.6	36	4†	−37	23	52	0.26	−0.18	0.10	5.0	3	9	8	14	nw.	J. A. Gilje.
Trotters	Golden Valley	......	9	.....	......	....	....	.....	....	......	0.34	....	0.23	5.0	3	7	11	13	nw.	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	.....	......	....	....	.....	....	......	0.20	−0.18	0.07	1.8	4	......	......	......	.....	M. A. Slettum.
Tuttle	Kidder	1,936	27	.....	......	..	....	.....	....	......	0.13	−0.39	0.03	1.7	8	7	14	10	sw.	Adam Leno.
Valley City	Barnes	1,245	29	3.6	−1.9	40	5	−31	23	42	0.30	−0.25	0.08	4.0	6	11	3	17	ne.	I. C. Robertson.
Velva	McHenry	1,511	8	3.2	......	42	30†	−33	23	49	0.70	....	0.28	9.5	7	2	10	19	nw.	Oscar Anderson.
Wahpeton	Richland	962	43	6.6	−1.8	42	5	−32	24	50	0.92	+0.48	0.30	9.0	8	13	0	18	nw.	C. G Lnick.
Washburn	McLean	1,731	34	5.8	−1.6	49	31	−34	23†	73	0.21	−0.14	0.07	2.1	5	5	9	17	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	−3.0	−4.3	32	4	−38	23	38	0.45	+0.05	0.17	7.0	4	9	12	10	se.	D. W. Drake.
Williston	Williams	1,878	56	4.3	−2.1	38	1	−40	23	46	0.69	+0.15	0.15	7.2	11	5	11	15	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	−3.8	−4.7	31	5	−42	23	39	0.85	+0.31	0.30	8.5	7	6	21	4	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	6	6.9	−0.1	41	5	−32	23	56	0.14	−0.39	0.08	1.4	3	2	0	29	se.	E W. Davis.
Zap	Mercer	1,838	20	.....	......	....	....	.....	..	......	0.30	−0.04	0.20	3.0	3	16	12	3	.....	R. A. Norton.
Moorhead, Minn.	Clay	935	54	1.5	−2.3	40	5	−31	23	41	0.66	−0.01	0.39	7.6	11	3	5	23	n.	U. S. Weather Bureau.
Averages	....	......	.....	3.3	−3.3	60	30	−44	23	75	0.41	−0.06	0.60	4.9	6	8	10	13	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for January 1935

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
		Day of Month																															
Alpha	Lit. Missouri		T.					T.	T.	T.			.01				T.	T.	.03	T.	.05	T.	.07	T.									0.16
Amenia	Red								T.	.02			.02	.04			T.		.01	.02	T.	T.											0.11
Arnegard (near)	Missouri			T.				.05					.05	.05							T.	T.	.15										0.30
Ashley	Missouri												T							T.	T.				T.								T.
Beach	Lit. Missouri					T.							.01					T.	.02	T.	.01	T.	.40					T.					0.44
Berthold Agency	Missouri													.04					.04				.10										0.18
Bismarck ***	Missouri						T.		T.	T.	T.		T.				T.	T.	T.	T	.02		.01	T.		.01	T.	T.					0.04
Bottineau	Mouse		.01					.04	.02	.06	T.	.01	.11	.23	.03				.04	.02			.01		T.	.05	.09	T.					0.72
Bowman	Grand									T.			T.	T.			T.	T.	.01	.10	.03		.08				T.						0.22
Cando	Devils Lake																																......
Carrington‖‖	James							T.	.11				.07			T.		.01			.03				T.	.11		T.	T.				0.33
Carson	Heart												.01						.01	.03	.05		.05			.01							0.16
Cavalier	Red		T.	T.			.05	T.	.03	.17	T.		.10	T.	.23		.05																0.63
Cooperstown	Sheyenne			.09						.10			T.	.25	T	T.	.03	T.	.02	.02	.39	.07					.12			T.	T.		1.09
Corinth	Missouri							T.		.08				.20		.02		.01	.02				.01			.02		.04		.02			0.42
Courtenay	James								.10	.20		.20							.10		.10												0.70
Crosby	Mouse		.02							.02			.05	.05			.02								.03		.05						0.24
Devils Lake ***	Devils Lake		.01					.01	.10	.04	T.	T.	.13	.02	.06		.03	.01	.02	.01	.02	T.	T.		T.	.02	.02	T.	T.	T.			0.50
Dickinson‖‖	Heart			T.			T.		T.		T.		T.	.08			T.	T.	.04	.02	.03	.02	.11	.08		T.	.01	T.					0.39
Dogden Butte	Mouse							T.	.20				T.	T.	T.				T.	T.	T.					T.	.03						0.23
Drake‖‖	Mouse			T.					.01	.05		T.	.02	.03		.03	T.		.03		T.	.02	.01		.01	.01	.09						0.31
Dunn Center	Knife								T.					.01			.13						T.										0.14
Dunseith	Mouse												.03	.03	.04																		0.10
Eckman	Mouse		T.					.05					.08				.10								.02	T.	.10						0.35
Edgeley	James													.07													.10						0.17
Edmore	Devils Lake		.02			T.	T.	.10	.03	.08	.01	T.	.15	.03	.03		.02		.05	.04	.05	T.	T.		T.	T.	.02	T.	T.	T.			0.63
Ellendale	James										.09		.15							T.	T.		T.			.02	.02						0.28
Energy	Missouri								T.					T.							T.		.08				.04						0.12
Fairfield	Knife												.10										.40										0.50
Fessenden‖‖	James									.21			.03	.06	.01				.03				.06			.03	.10						0.53
Forman	Sheyenne											T.	.10								.08		.07				T.	T.					0.25
Fort Yates	Missouri												T.						T.	T	.09	.04				T.							0.13
Foxholm (near)	Mouse		T.					.12	T.	T.			.08	.07	.05		T.		T.	T.			T.		.15	.05	.19		T.				0.71
Fryburg	Heart					.15							.04								.05		.23			T.							0.47
Fullerton	James								T.	.02	T.	T.	.45				T.		T.	.06	.35		.10			.03		T.	T.	T.	T.		1.01
Gackle	James									T.			.04							.07							.05						0.16
Garrison	Missouri								.20			T.	T.	T.					T.	T.	T.	T.	.10			T.	.10						0.40
Grafton	Red		T.	T.			T.	T.	.05	.18	T.		T.	.30							.17								T.				0.70
Grand Forks ***	Red		.03					.01	.09	.13	T.		.20	T.	.11		.02		.01	.02	.01					T.							0.63
Granville	Mouse		T.			T.		.10	.10	T.			.05	.05	.03		T.		.02	T.	T	T.	T.		.03	.03	.26						0.67
Hankinson	Red											.20	.08				.28						T.										0.56
Hannah	Pembina		T.	.02				.07		.12	T.		.18	.12			.04		.07	T.	T.	.05					T.	.04	T.	T.			0.71
Hansboro	Devils Lake		T.					.05		.10			.20																				0.35
Hettinger	Grand													T.						.02	.03		.02	T.		T.							0.07
Hillsboro	Red									.07			.16								.10												0.33
Howard (near)	Missouri					T.						T.	.50					.60		T					T.								1.10
Jamestown	James							.05		.05				.10						.05	.12	.15					.18						0.70
Kenmare	Mouse							T.		.05		T.	.07	.10	.03				.10			.05			.09	.09	.09						0.67
Langdon	Pembina							.10		.40			.20																				0.70
Larimore	Red		T.	.03					.10	.12			.06	.08			.14				T.				T.								0.53
Linton	Missouri									T.			T.							.03	T.		T.			T.	.01						0.04
Lisbon	Sheyenne									.10			.50							.10	.05						.05						0.80
McClusky	Missouri								.15	.15			T.	.10				T.	.15		.05						.06						0.66
McLeod	Sheyenne											T.		.19						.11	.14		.03			T.		T.	T.				0.47
Maddock	Sheyenne							T.	.06	.04			T.	.03	.04		T.		.01							T.	.07			T.			0.25
Mandan‖‖	Missouri						T.	T.	T.	T.		T.	.01			T.		.01	T	.02	.03	.01	.01	.01	T.	.03	T.						0.13
Manfred	James		T.						.16	.02		.05		.03	T.	.01			.03	T.	.03		T.		.02		.08						0.43
Marmarth	Lit. Missouri												T.				T.	.01	.10	.03			.15										0.29
Mary	Lit. Missouri													.04							.13	T.					T.						0.17
Max‖‖	Missouri										.05	.10							.05				.05			T.							0.25
Mayville	Red		T.						.05	.13		T.	.09	T.	T.		.05		.02	.13		T.	.05						T.				0.52
Minot	Mouse		.01					.35	.01	.05			.02		.05		.02			T.	.02	T.			.07	.01	.25		.01				0.87
Mohall	Mouse		T.					.10	T.	.06		T.	.08	.10	T.	T.			.03	T.		T.	T.	T.	.10		.17		T.				0.64
Mott	Cannon Ball													.03						.03	T.	T.	.14										0.20
Napoleon‖‖	Missouri									.02	.02						T.		.02	.02		.08				.02	.05						0.23
New England	Cannon Ball													.03			T.		.01				T.	T.	.20								0.24
New Salem	Heart								.01				.02	.01					T.	.01	.02	T.	.01	T.		.01	T.	T.	T.		T		0.09
Oakes	James									T.			.35								.03		.03			T.							0.41
Park River	Red			.01			T.		.01	.08			T.	.11				.08			T.												0.32
Parshall	Missouri							.03						.05						.03		.03				.01	.06	.03					0.24
Pembina	Red		.05	.02		T.	T.	T.	.10	.01	.12	.03	.12	.04	.04		.03	T.	T.	.01	.02		T.	T.	T.			.01	.02	T.	.01	T.	0.63
Petersburg	Red			.02					.13	.02			.08		.01	.01		.05			T.						.06			T.			0.38
Pettibone	James		T.						.12	.10									T.	T.	.01		.02				.05						0.30
Portal‖‖	Mouse							.09			.10	.20						T.							.10	.05	.10						0.64
Powers Lake	Missouri								T.		.22			.17											.14				.11				0.64
Richardton	Heart												.03						.01	T.			.03							.06			0.13
Rugby [near]	Mouse		T.			T.			.01		T.	T.	.05	.05		T.	T.	T.	T.	T.					.02					.01			0.14
Ryder	Missouri							.04	.05	T.		.04	.06		T.				.02			.01	T.	.06	.04	.04	T.						0.36
Sanish‖‖	Missouri																																0.50
Sharon	Red		.03	T.		T.		T.	.15	.09	T.		.26	.01	.01		.01		.02	.05	.01		.02		T.	T.	.05	.01	.02	T.	T.		0.74
Stanton	Missouri								.03				.01					T.	T		.02					T.							0.06
Steele	Missouri								T.	.04			T.				T.		T.		T.		T.			.07	T.						0.11
Tagus	Mouse																																......
Tioga	Missouri										.05	.10		.20				.08	.04	T.		.06				.04							0.57
Towner	Mouse							.10							.06										T.	T.	.10						0.26
Trotters	Lit. Missouri												.04				T.	T.	T.		.07		.23			T.							0.34
Turtle Lake	Missouri								.03										.05					T.		.07	.05						0.20
Tuttle									.03	.02			T.				T.		.01		.01		.01		.02	.01	.02	T.					0.13
Valley City	Sheyenne								.05	.03			.05				T.			.05	.04						.08						0.30
Velva	Mouse		T.					T.	.06	T.			.06	.07	.05				T	T.	T.	T.	T.		.28	.09	.09		T.				0.70
Wahpeton	Red									.02			.20				.30		.10	.10	.10		.05						.05				0.92
Washburn	Missouri									.03				.01					T.		T.	.07	T.		.04	T.		.06					0.21
Westhope	Mouse												.17		.07			.08								.13							0.45
Williston ***	Missouri		.01			T.		.05	.09	T.		.05	.15		.06			.06	.01	.02	.04	T.	.15	T.		T.	T.						0.69
Willow City	Mouse		.05					.20					.30		.10				.05	T.	T.	T.					.15						0.85
Wishek‖‖	Missouri										.01										.08							.05					0.14
Zap	Knife								.05			T.	T.						.05	T.	T.		.20			T.	T.						0.30
Moorhead, Minn ***	Red		.01	T.					.04	.04		T.	.39	.01	T.	T.	.04		.03	.04	.03		T.		T.	.02	.01	T.	T.	T.	T.		0.66

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	28	16	14	34	28	18	20	22	26	20	16	10	0	-4	10	10	15	0	-10	-15	-5	-18	-4	20	10	8	20	18	20	30	32	12.5
	Minimum	-18	-6	-20	-18	12	12	2	4	8	10	0	-11	-14	-25	-24	-20	-7	-15	-16	-25	-29	-28	-35	-29	-4	-15	-18	-5	-10	-4	10	-10.9
Arnegard (near)	Maximum	36	33	18	34	32	24	25	22	18	27	30	20	0	-7	11	8	5	-7	-20	-16	-2	-6	0	32	22	16	28	27	38	32	44	16.9
	Minimum	-6	-7	-22	11	12	0	10	10	8	4	10	0	-23	-22	-26	-5	-12	-26	-27	-27	-31	-25	-41	0	1	-3	5	20	22	11	11	-5.4
Ashley	Maximum	35	41	37	37	43	25	30	19	29	31	27	15	10	0	9	16	10	4	-10	-17	0	0	-7	27	25	5	27	31	21	31	43	19.3
	Minimum	-6	21	-12	3	20	1	18	6	12	5	14	7	-11	-16	-11	5	-9	-12	-22	-24	-24	-19	-30	-15	3	-5	-3	15	11	19	12	-1.5
Beach	Maximum	37	38	22	41	38	40	36	36	26	27	32	30	-11	-3	13	11	1	-7	-20	-15	8	14	4	40	40	14	39	39	42	47	49	22.8
	Minimum	9	7	-12	18	8	8	24	20	18	12	14	-11	-20	-19	-10	0	-13	-22	-27	-26	-24	-24	-31	4	6	8	9	24	21	23	25	0.6
Berthold Agency	Maximum	38	40	15	42	36	28	27	27	27	35	29	26	3	-1	9	13	0	-1	-11	-14	3	1	-6	40	20	10	34	40	36	33	39	19.9
	Minimum	-9	-7	-20	12	9	-1	8	9	10	-5	5	3	-17	-21	-27	-1	-14	-21	-30	-28	-30	-21	-40	-15	1	-3	-3	14	15	10	4	-6.9
Bismarck	Maximum	39	43	15	37	41	25	32	19	32	33	27	13	2	2	10	15	5	-3	-18	-13	2	2	-3	42	18	4	37	30	27	38	47	19.4
	Minimum	6	-6	-11	13	6	5	16	9	11	6	12	2	-15	-15	-15	-4	-7	-18	-26	-26	-24	-23	-32	-3	4	0	2	17	17	19	14	-2.1
Bottineau	Maximum	29	24	5	28	30	14	16	10	12	9	11	3	4	-8	-3	6	-2	0	-17	-20	-16	-16	-19	16	15	5	20	21	22	31	33	8.5
	Minimum	-17	-4	-28	-4	-2	-8	0	0	5	-11	-4	-3	-13	-33	-32	-5	-15	-27	-30	-33	-38	-29	-38	-22	0	-13	-10	5	8	10	3	-12.5
Bowman	Maximum	37	41	20	42	41	41	42	33	34	33	36	28	-3	0	16	18	5	-6	-14	-19	13	10	-6	45	40	19	45	45	50	52	55	25.6
	Minimum	12	0	-12	14	18	11	20	16	17	11	16	-5	-17	-16	-10	-4	-8	-14	-26	-25	-28	-18	-21	-10	14	10	14	25	20	21	26	1.6
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carrington §§	Maximum	34	20	39	39	21	11	16	23	19	5	7	-8	-2	10	11	-2	-11	-19	-20	-15	-4	3	32	6	9	24	19	24	30	37	50	13.2
	Minimum	12	-19	-18	20	-2	-1	2	3	-4	0	-3	-10	-21	-17	-16	-11	-15	-28	-28	-27	-27	-31	-30	2	-7	-8	6	9	10	13	16	-7.4
Carson	Maximum	37	40	10	42	40	32	36	37	36	34	26	20	5	3	5	18	8	-2	-17	-18	1	1	-8	45	30	6	45	40	30	56	54	22.3
	Minimum	15	5	-13	-13	10	7	15	10	16	12	17	4	-18	-22	-13	-12	-12	-19	-29	-30	-29	-20	-33	-8	4	0	0	22	18	16	18	-2.6
Crosby	Maximum	30	30	13	37	30	20	20	14	14	15	17	14	1	-9	5	6	-7	-7	-25	-17	-8	-16	-7	26	5	4	26	25	24	27	27	10.8
	Minimum	-9	-7	-20	11	-2	-4	4	0	-4	-6	7	-3	-22	-28	-25	-11	-14	-30	-33	-30	-33	-28	-40	-13	0	-2	-2	15	15	10	9	-9.5
Devils Lake	Maximum	28	10	7	35	33	15	8	8	19	13	0	3	-4	-8	2	10	-9	-14	-21	-17	-11	-17	-7	25	6	-6	21	17	23	32	34	7.6
	Minimum	-9	-11	-22	6	-3	-4	-1	0	-2	-6	-6	-5	-23	-26	-24	-17	-18	-24	-30	-25	-32	-35	-36	-8	-7	-15	-11	-1	-1	13	9	-12.1
Dickinson §§	Maximum	38	44	26	41	40	40	39	27	33	33	31	13	-8	0	12	15	2	-14	-19	-15	8	-16	26	41	12	16	44	41	46	51	53	22.6
	Minimum	-12	20	-17	-15	23	6	13	12	12	11	12	12	-18	-20	-15	-12	-14	-15	-26	-25	-25	-20	-37	-34	10	3	3	14	21	19	19	-3.1
Drake§§	Maximum	33	29	20	39	37	21	11	19	21	18	12	1	-4	-4	7	9	-5	-15	-22	-16	-5	-22	5	33	3	10	26	19	27	36	38	12.3
	Minimum	-17	12	-19	-19	19	-1	3	2	2	-6	0	-2	-13	-24	-23	-18	-15	-23	-32	-30	-29	-27	-34	-33	2	-7	-11	9	12	17	12	-9.5
Dunn Center	Maximum	36	36	16	37	36	29	31	27	28	30	27	29	3	0	10	11	1	-7	-18	-16	8	3	0	27	7	8	40	35	35	47	50	19.5
	Minimum	3	-3	-16	6	4	2	12	10	13	8	6	3	-20	-20	-19	-4	-9	-22	-28	-22	-25	-23	-43	4	0	1	11	15	20	10	13	-3.6
Dunseith	Maximum	20	19	2	26	32	8	13	9	12	7	5	0	-16	-14	4	8	4	-12	-20	-20	-16	-16	-23	23	13	-3	17	21	19	38	36	6.3
	Minimum	-17	-11	-27	-2	-3	-6	-4	-4	-3	-9	-12	-8	-17	-27	-27	-10	-15	-29	-32	-33	-32	-32	-38	-25	-5	-18	-12	12	5	12	19	-13.2
Edgeley	Maximum	3	42	35	30	40	22	21	16	22	20	9	10	10	3	6	16	9	8	-13	-10	2	2	-2	-2	-17	7	10	25	29	29	42	13.7
	Minimum	-10	20	-11	2	21	10	10	6	1	4	3	4	-8	-18	-15	-9	-8	-13	-23	-22	-23	-20	-20	-30	-24	-6	-5	6	9	9	15	-4.7
Ellendale	Maximum	36	40	28	30	44	24	26	15	28	27	20	12	10	-1	7	19	7	-6	-13	-14	-2	-6	-5	24	10	9	24	23	23	31	36	16.3
	Minimum	-8	24	-10	1	24	1	15	7	12	8	4	10	-6	-16	-12	6	-6	-13	-21	-20	-21	-19	-27	-16	9	-6	-3	10	9	19	15	-1.0
Fessenden §§	Maximum	32	23	18	38	38	20	14	20	23	20	10	6	-9	-2	9	10	-2	-13	-20	-18	-5	-20	-12	33	2	9	25	17	25	37	39	11.8
	Minimum	-13	3	-21	-17	20	-4	3	2	5	-8	-3	-3	-13	-24	-25	-24	-13	-23	-30	-29	-31	-24	-35	-21	0	-8	-7	8	12	15	10	-9.6
Foxholm (near)	Maximum	33	33	8	36	36	20	20	6	20	18	13	7	-7	-6	0	6	-8	-14	-25	-18	-10	-15	-13	30	13	0	29	25	27	34	34	10.7
	Minimum	-10	-8	-20	6	-1	-3	-3	0	3	-5	2	-7	-20	-25	-22	-10	-18	-30	-34	-31	-31	-29	-35	-17	-1	-8	-6	10	10	13	15	-10.2
Fullerton	Maximum	35	38	37	30	41	20	23	15	27	25	10	17	12	0	8	20	11	2	-12	-13	0	0	-5	24	21	4	24	24	23	32	36	17.1
	Minimum	-9	24	-11	1	20	1	10	7	12	11	2	7	-7	-16	-13	7	-6	-13	-21	-21	-22	-18	-28	-21	4	-6	-3	12	9	15	12	-2.0
Garrison	Maximum	24	37	11	36	33	25	25	21	25	26	26	8	3	-3	5	11	2	-1	-11	-15	-3	0	-12	34	31	4	31	27	30	32	39	16.2
	Minimum	-9	10	-16	8	7	0	10	6	8	2	2	1	-17	-20	-23	0	-14	-19	-27	-25	-28	-23	-36	-15	1	-3	-3	14	15	10	4	-5.8
Grafton	Maximum	20	13	1	25	25	10	12	3	21	27	3	8	11	-6	7	14	5	-10	-18	-14	-12	-12	-12	10	11	-3	18	19	14	28	29	8.0
	Minimum	-19	1	-21	-10	2	-5	-7	-4	2	-9	-17	-13	-10	-26	-23	-16	-12	-20	-25	-20	-30	-29	-33	-20	-6	-14	-24	5	-11	13	5	-12.8
Grand Forks	Maximum	20	17	3	27	35	15	12	8	23	14	2	11	10	-5	-7	15	3	-12	-19	-14	-13	-11	-10	12	5	-4	18	11	15	27	28	7.6
	Minimum	-16	-6	-23	3	-4	-5	0	1	7	-10	-17	-11	-12	-25	-24	-6	-13	-19	-25	-23	-30	-32	-35	-16	-7	-16	-21	-6	-9	14	15	-12.0
Granville	Maximum	33	33	10	38	34	23	24	8	22	18	12	8	2	-4	0	8	-3	-10	-11	-16	-8	-10	-12	30	15	3	28	25	27	33	34	12.7
	Minimum	-12	-7	-24	8	0	4	-2	2	5	-15	-3	-2	20	-30	-32	-7	-17	-30	-23	-30	-36	-27	-37	-14	-1	-9	-5	7	12	12	3	-10.6
Hansboro	Maximum	30	7	0	30	28	10	12	14	12	16	14	0	-5	-5	0	2	0	-16	-23	-18	-13	-18	-20	18	5	4	19	20	20	34	39	7.0
	Minimum	-16	-5	-27	-4	-2	-6	-6	-4	0	-9	-21	-7	-16	-30	-26	-16	-18	-32	-36	-30	-33	-31	-33	-25	-8	-25	-19	7	5	15	10	-11.5
Hettinger	Maximum	41	42	19	41	45	41	45	32	33	36	34	26	7	6	10	23	10	2	-15	-16	9	10	-1	42	39	49	50	51	40	57	58	27.9
	Minimum	5	6	-12	14	14	10	20	13	17	12	15	7	-15	-20	-11	-4	7	-16	-26	-24	-18	-17	-28	-16	14	9	20	21	23	14	20	1.7
Hillsboro	Maximum	27	25	8	30	37	10	15	13	25	20	8	14	-5	-5	-2	13	0	-10	-17	-16	-10	-10	-14	17	15	-3	10	11	15	28	28	8.9
	Minimum	-15	4	-19	-6	8	-4	2	3	8	-7	-10	-7	-8	-25	-22	-10	-11	-17	-23	-24	-28	-28	-33	-20	-3	-11	-19	4	-9	10	15	-9.8
Howard (near)	Maximum	5	5	27	34	35	38	28	24	14	27	24	20	-3	-20	-1	8	3	-10	-28	-20	-8	-10	10	26	10	4	20	26	24	16	27	11.5
	Minimum	-16	-10	-22	1	1	-2	2	-8	2	-1	18	-4	-28	-30	-25	-12	-12	-33	-35	-35	-34	-29	-42	-30	-30	-4	-4	14	18	10	8	-12.0
Jamestown	Maximum	34	40	11	31	40	19	23	12	27	24	17	10	7	0	7	15	4	-6	-18	-15	-3	-3	-7	28	24	21	25	25	22	35	41	15.8
	Minimum	-11	5	-16	0	8	-3	5	4	6	-3	0	-1	-14	-20	-17	1	-10	-18	-27	-25	-27	-24	-33	-18	-1	-9	-7	11	9	18	9	-6.7
Kenmare	Maximum	26	15	10	36	36	24	11	9	21	21	17	8	-3	-5	4	7	-4	-10	-22	-18	-8	-13	-11	32	11	1	29	28	32	40	40	11.7
	Minimum	-5	-4	-17	20	0	-1	0	0	4	-1	7	-5	-20	-22	-18	-9	-15	-27	-32	-28	-27	-27	-34	-12	0	-5	-1	14	15	13	14	-7.2
Langdon§§	Maximum	20	2	10	30	22	24	0	14	20	10	10	-6	-12	0	-2	-3	-10	-15	-18	-19	0	16	0	16	0	-5	8	12	28	33	33	7.3
	Minimum	-22	-2	-30	-30	5	-10	-8	-10	-5	-3	-23	-15	-25	-32	-32	-36	-23	-24	-31	-29	-39	-32	-40	-15	-6	-20	-20	-5	-10	5	12	-17.9
Larimore	Maximum	29	20	0	28	35	10	12	2	23	17	2	7	7	-7	2	14	0	-15	-20	-17	-8	-10	-13	15	13	-5	18	18	16	34	34	8.4
	Minimum	-15	0	-22	-9	5	-7	-4	-2	2	-7	-11	-10	-14	-23	-19	-15	-16	-20	-26	-25	-30	-30	-31	-18	-5	-16	-22	7	-10	15	5	-12.0
Linton	Maximum	37	45	22	48	40	25	31	26	35	33	29	20	10	0	10	16	10	4	-12	-15	1	1	-6	40	28	6	28	33	25	40	44	21.1
	Minimum	-7	10	-12	8	12	5	17	9	15	2	6	7	-13	-16	-13	5	-9	-13	-25	-25	-30	-19	-35	-14	4	-2	-1	12	14	20	4	-2.7
Lisbon §§	Maximum	29	39	20	31	42	25	20	13	27	25	18	15	12	-2	6	14	9	-2	-12	-14	-6	-5	-10	21	20	1	22	22	20	28	34	14.9
	Minimum	-10	11	-13	-1	23	0	11	6	12	0	0	3	-6	-21	-19	4	-8	-14	-21	-20	-22	-21	-30	-20	1	-6	-6	14	5	20	6	-3.9
McClusky	Maximum	30	34	8	38	33	21	27	23	25	21	25	15	3	3	8	10	-1	-11	-17	-16	-5	-4	-13	32	26	12	27	22	26	34	36	15.2
	Minimum	-13	-6	-19	7	5	-2	8	3	7	12	6	0	-17	-25	-23	-1	-14	-22	-30	-31	-32	-24	-37	-20	0	2	10	12	14	14	6	-6.8
Maddock	Maximum	30	26	9	35	31	19	18	7	18	15	14	3	1	-5	-3	7	2	-11	-17	-21	-8	-12	-13	29	22	0	22	20	25	33	35	10.7
	Minimum	-17	-2	-24	4	4	-6	-4	0	2	-11	-4	-5	-11	-28	-29	-8	-18	-30	-31	-31	-36	-27	-37	-23	-3	-12	-10	9	6	17	6	-11.7
Marmarth	Maximum	39	41	21	40	40	40	41	33	33	34	36	30	0	0	17	18	5	-6	-14	-19	-13	-10	-6	42	34	27	45	43	48	50	54	24.1
	Minimum	7	12	-10	7	17	12	20	19	17	12	13	0	-16	-15	-9	-4	-8	-14	-26	-25	-28	-18	-21	4	14	14	15	18	17	15	17	1.9
Minot	Maximum	33	34	12	39	34	23	21	9	21	20	15	11	-4	-4	6	10	-6	-10	-18	-15	-4	-10	-10	32	18	2	28	28	34	40	40	13.8
	Minimum	-7	-6	-19	11	2	0	3	3	5	8	6	-4	-19	-25	-25	-8	-15	-25	-30	-28	-29	-26	-35	-15	-2	-5	-3	6	14	8	3	-8.3
Mohall	Maximum	32	31	8	37	31	19	19	7	19	15	11	5	-2	-4	-1	5	-5	-10	-23	-23	-18	-18	-18	31	26	2	30	26	26	33	40	10.7
	Minimum	-11	-6	-21	17	1	-3	-4	-3	4	-7	-4	-1	-18	-25	-27	-11	-17	-28	-32	-28	-30	-27	-34	-17	0	-8	-3	10	13	9	10	-9.7
Mott	Maximum	41	44	18	45	43	40	42	32	40	38	33	20	10	8	11	21	7	2	-14	-14	10	8	-2	49	36	11	50	46	36	60	59	26.8
	Minimum	1	1	-14	5	13	8	19	14	18	10	10	9	-16	-19	-10	-4	-9	-17	-26	-25	-29	-18	-34	-3	9	3	7	17	24	13	17	-0.8
Napoleon §§	Maximum	35	40	17	37	41	24	28	22	27	26	24	11	-5	0	15	14	5	-6	-17	-17	-1	-18	4	30	10	6	28	23	24	31	39	16.0
	Minimum	-10	21	-16	4	19	0	17	5	10	-2	10	3	-12	-20	-16	3	-12	-10	-28	-28	-30	-19	-38	-19	8	-5	-5	12	11	18	5	-4.0
New England§§	Maximum	39	42	26	42	45	38	42	30	36	41	33	17	-3	9	15	22	8	-6	-4	-8	-19	-8	9	16	18	22	48	50	46	54	53	24.3
	Minimum	22	-15	-8	19	8	10	14	6	16	12	10	-18	-19	-15	-10	-9	-20	-26	-24	-27	-34	-30	-21	-12	-10	-9	18	23	17	20	26	-2.8
New Salem	Maximum	40	41	41	43	42	40	26	29	35	33	34	30	19	-3	8	17	15	3	-15	-16	-3	-12	-15	42	39	19	45	39	30	47	49	23.9
	Minimum	-1	25	-16	8	10	3	11	9	10	9	9	3	-18	-19	-15	-10	-11	-19	-28	-29	-27	-20	-35	-10	5	-1	1	20	21	17	19	-2.5
Oakes	Maximum	32	42	35	31	42	21	21	13	27	22	20	14	14	-4	7	20	8	-2	-9	-11	-4	-3	-7	20	19	1	24	24	20	28	34	16.1
	Minimum	-12	10	-14	-1	17	0	11	6	11	-2	2	7	-6	-18	-18	3	-8	-14	-21	-21	-24	-20	-30	-29	1	-7	-4	16	8	19	8	-4.2
Park River	Maximum	22	4	9	35	31	12	0	14	19	7	0	5	-4	-7	9	10	-8	-14	-17	-13	-13	-22	-3	15	-1	2	19	10	22	33	36	6.8
	Minimum	-16	1	-23	-21	6	-6	-7	-6	-3	-8	-21	-13	-12	-23	-20	-20	-15	-19	-27	-27	-28	-29	-32	-32	-3	-16	-19	1	-9	0	10	-14.1
Sharon	Maximum	27	19	-1	28	36	13	15	5	22	15	6	7	4	-6	0	13	-4	-15	-19	-18	-10	-10	-13	18	15	-4	17	16	18	31	32	8.3
	Minimum	-16	-1	-22	-3	1	-7	-2	-1	3	-8	-10	-9	-14	-25	-22	-8	-15	-20	-27	-26	-31	-29	-35	-17	-4	-13	-19	6	-6	17	11	-11.4
Steele	Maximum	33	40	36	36	38	22	23	19	26	26	22	22	6	-4	10	10	3	2	-15	-17	-4	-4	-11	30	20	1	26	20	23	32	37	16.4
	Minimum	-10	15	-14	8	14	2	14	5	9	-2	15	4	-14	-18	-18	3	-10	-15	-27	-25	-29	-21	-36	-18	1	-4	-2	10	13	20	6	-4.0
Towner	Maximum	32	27	22	36	36	18	17	12	21	13	10	10	6	-7	-6	6	-2	-10	-13	-19	1	-12	-16	24	25	3	24	24	24	28	30	11.7
	Minimum	-20	-3	-26	5	-4	-2	-3	0	4	-12	-1	5	-18	-32	-36	-8	-18	-28	-35	-33	-31	-28	-37	-21	0	-11	9	9	10	11	5	-11.3
Valley City	Maximum	31	34	8	28	40	26	20	10	27	25	19	12	13	-2	0	16	7	-4	-11	-16	-10	-16	-10	22	21	2	20	22	20	32	36	13.6
	Minimum	-11	8	-17	-5	16	-4	-4	2	24	-4	-4	-4	-10	-20	-17	-5	-11	-11	-23	-24	-25	-23	-31	-18	1	-10	-11	15	4	18	6	-6.4
Wahpeton	Maximum	32	36	35	32	42	40	28	22	28	31	21	20	21	1	4	20	20	0	-9	-10	-5	-2	-25	19	19	8	20	20	20	28	30	17.6
	Minimum	-12	8	-15	-3	24	-1	15	11	20	0	-5	6	-5	-21	-19	3	-10	-16	-20	-24	-28	-25	-32	-18	2	-5	-17	10	-2	18	23	-4.4
Westhope	Maximum	21	12	10	32	30	12	12	10	15	10	9	4	5	-1	-2	5	-9	-10	-23	-15	-19	-24	-24	23	5	16	23	19	25	28	23	7.1
	Minimum	-6	-16	-25	2	-1	-6	-4	-5	-3	-10	-4	-9	-10	-31	-34	-15	-22	-31	-35	-33	-37	-30	-38	-15	1	-11	-5	9	11	6	1	-13.1
Williston	Maximum	38	33	19	34	33	23	25	15	24	26	27	24	-10	-6	9	9	-5	-10	-20	-17	-3	-15	6	35	10	7	30	28	27	33	37	15.0
	Minimum	6	-11	-16	16	2	3	9	10	6	-1	8	-10	-21	-21	-25	-9	-13	-29	-29	-25	-27	-27	-40	4	1	1	4	10	13	6	7	-6.4
Moorhead, Minn	Maximum	29	17	4	30	40	23	23	26	26	12	8	17	9	-6	9	16	-4	-9	-18	-15	-9	-8	-11	15	8	-3	20	17	19	26	26	10.9
	Minimum	-12	-7	-17	4	-1	-2	8	8	12	-3	-8	8	-16	-21	-16	-5	-15	-18	-24	-23	-25	-29	-31	-15	-6	-11	-14	1	-4	19	18	-7.9

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 3-4-35—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIV BISMARCK, N. D., FEBRUARY 1935 No. 2

GENERAL SUMMARY

The month was characterized by warm, dry weather. It was the second warmest February in the climatological history of the State. The only period of sub-zero temperatures at most stations occurred from the 24th to the 26th. A moderate snowstorm occurred on the 14–15th, and light precipitation was reported on the 6th and 23d, but the rest of the month was dry. Moderate dust storms were reported in some sections near the middle and again near the close of the month, wind and sunshine averaged about normal. Very little snow remained on the ground at the end of the month, but feed was scarce for livestock and much yard feeding, consisting partly of thistles, was necessary.

TEMPERATURE

The mean temperature for the State was 24.0°, or 13.8° above the 44 year average, and 4.5° higher than the mean for February 1934. The highest mean reported was 30.2° at New Salem, Morton County; the lowest was 15.6° at Westhope and Willow City, Bottineau County. The highest temperature reported was 63° at Hettinger, Adams County on the 1st; the lowest was -25° at Eckman, Bottineau County on the 24th, and Willow City, Bottineau County on the 26th. The greatest monthly range of temperature was 73° at Hettinger, Adams County; the least was 50° at Grand Forks, Grand Forks County, and Howard, Williams County. The greatest daily range of temperature was 57° at McClusky, Sheridan County on the 28th.

PRECIPITATION

The average precipitation for the State was 0.21 inch, or 0.25 inch below the 44 year average, and 0.15 inch more than the average for February 1934. The greatest monthly amount reported was 0.95 inch at Carson, Grant County; the least was a trace at eight scattered stations. The greatest amount recorded in any 24 consecutive hours was 0.60 inch at Langdon, Cavalier County on the 14th. The average number of days with 0.01 inch or more of precipitation was 2. The average snowfall was 1.9 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Arnegard, Eckman, 25th; Carson, Moorhead, 3d; Devils Lake, 1st, 11th, 24th, 25th; Dogden Butte, 2d, 3d; Foxholm, 1st, 2d, 3d, 12th, 24th, 25th; Grand Forks, Howard, McLeod, New Salem, Oakes, Sharon, Willow City, 1st; Steele, 1st, 2d; Tuttle, 1st, 24th, 26th; Williston, 1st, 2d, 24th, 25th, 26th.

FOG: Arnegard, Trotters, 15th; Ashley, 6th, 7th, 8th; Bismarck, 7th, 8th, 14th, 15th; Bowman, 5th, 6th, 7th, 8th, 14th, 15th; Carson, 7th, 8th; Corinth, 9th, 15th; Devils Lake, 7th, 8th, 9th, 13th, 14th; Dogden Butte, Fessenden, Gackle, Granville, Hansboro, Towner, Westhope, 14th; Eckman, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 26th; Fryburg, 4th, 5th, 6th, 7th, 8th, 15th; Grand Forks, 11th, 12th, 14th; Hannah, 6th, 7th; Linton, 10th; McLeod, 8th; Moorhead, 8th, 11th, 12th; New England, 5th, 6th, 7th, 8th, 15th; New Salem, Steele, 7th; Rugby, 9th, 13th, 14th, 26th; Ryder, 9th; Sharon, 11th, 14th; Tuttle, 7th, 8th, 9th, 14th; Velva, 7th, 14th; Williston, 3d, 12th, 13th; Willow City, 14th, 26th.

HALOS, lunar: Bismarck, 10th; Bowman, 14th, 18th; Foxholm, Linton, Moorhead, 13th; Grand Forks, 21st; Marmarth, 14th, 15th; Sharon, 10th, 17th.

HALOS, solar: Bismarck, Dogden Butte, 16th, 27th; Bowman, 25th; Devils Lake, 10th, 13th; Ellendale, Sharon, 10th; Fessenden, 16th; Grand Forks, 24th; Moorhead, 10th, 24th; Williston, 27th.

SLEET: Howard, 6th; Linton, McClusky, Tuttle, 14th; New England, 28th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck........	30.14	30.58	25	29.57	14	8.4	32	nw.	19	86	63	68	59
Devils Lake.....	30.14	30.61	24	29.64	14	9.1	29	nw.	18	93	78	85	57
Grand Forks....	30.11	30.54	24	29.66	14	......	34	nw.	18	90	....	83	....
Williston........	30.17	30.61	24	29.68	13	7.2	26	nw.	18	89	74	77	60
Moorhead, Minn	30.14	30.56	1	29.65	14	9.6	27	n.	18	88	73	80	53
Averages & ext's	30.14	30.61	24	29.57	14	8.6	34	nw.	18	89	72	79	57

† And other dates.

COMPARATIVE DATA FOR FEBRUARY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	10.0	−0.2	62	−45	0.58	+0.12	1.15	0.07	4.9	4	14	7	8
1893.	−0.3	−10.5	52	−41	0.59	+0.13	1.70	T.	5.7	4	12	7	9
1894.	8.0	−2.2	55	−54	0.22	−0.24	0.80	T.	2.3	2	14	9	5
1895.	5.9	−4.3	65	−40	0.36	−0.10	1.20	T.	3.6	4	13	7	8
1896.	14.3	+4.1	64	−50	0.44	−0.02	1.86	T.	4.3	3	12	9	8
1897.	6.1	−4.1	52	−29	1.15	+0.69	2.87	0.30	11.5	7	12	7	9
1898.	13.3	+3.1	65	−40	0.46	0.00	1.05	0.05	4.5	3	13	8	7
1899.	0.4	−9.8	60	−34	0.20	−0.26	0.52	T.	1.9	3	14	8	6
1900.	1.3	−8.9	46	−48	0.47	+0.01	1.10	0.08	4.5	4	12	9	7
1901.	7.1	−3.1	60	−48	0.31	−0.15	0.88	T	2.9	3	15	7	6
1902.	12.1	+1.9	51	−31	0.98	+0.52	3.60	0.21	6.7	6	10	6	12
1903.	3.1	−7.1	46	−33	0.38	−0.08	1.38	T.	3.7	3	19	4	5
1904.	−2.1	−12.3	52	−49	0.54	+0.08	2.00	T.	7.6	5	13	6	10
1905.	8.2	−2.0	64	−42	0.30	−0.16	0.81	T.	2.9	2	19	4	5
1906.	9.8	−0.4	57	−46	0.13	−0.33	0.80	0.00	1.4	2	13	8	7
1907.	10.7	+0.5	58	−38	0.27	−0.19	1.42	0.00	2.8	3	15	7	6
1908.	13.8	+3.6	62	−49	1.07	+0.61	4.85	T.	10.1	5	12	7	10
1909.	9.6	−0.6	56	−34	0.34	−0.12	1.08	0.00	3.7	4	11	7	10
1910.	3.4	−6.8	56	−34	0.50	+0.04	1.61	0.00	5.6	4	14	7	7
1911.	7.3	−2.9	55	−50	0.73	+0.27	2.85	T.	8.0	3	15	8	5
1912.	11.8	+1.6	48	−38	0.15	−0.31	0.66	0.00	1.7	2	10	9	10
1913.	8.5	−1.7	64	−33	0.10	−0.36	0.70	0.00	1.0	2	12	9	7
1914.	1.0	−9.2	57	−44	0.34	−0.12	1.80	0.00	3.8	3	12	8	8
1915.	17.4	+7.2	50	−47	0.62	+0.16	4.20	0.00	6.1	3	9	5	14
1916.	6.4	−3.8	55	−20	0.46	0.00	2.30	0.00	4.8	4	14	8	7
1917.	−0.7	−10.9	61	−39	0.66	+0.20	1.59	T.	7.1	5	10	8	10
1918.	10.8	+0.6	60	−48	0.19	−0.27	0.65	0.00	2.3	3	13	9	6
1919.	7.7	−2.5	58	−41	0.66	+0.20	1.90	0.00	6.5	5	10	8	10
1920.	12.5	+2.3	53	−40	0.30	−0.16	1.70	T.	3.2	3	11	9	9
1921.	19.9	+9.7	64	−36	0.39	−0.07	1.30	T.	3.8	3	11	10	7
1922.	0.7	−9.5	45	−33	1.21	+0.75	3.34	T.	12.8	5	13	6	9
1923.	4.1	−6.1	48	−39	0.65	+0.19	2.10	T.	7.2	4	13	7	8
1924.	20.3	+10.1	67	−40	0.41	−0.05	1.01	T.	4.2	3	14	6	9
1925.	16.5	+6.3	62	−27	0.31	−0.15	1.80	0.00	3.6	3	10	9	9
1926.	22.3	+12.1	58	−39	0.41	−0.05	1.44	T.	3.7	4	9	9	10
1927.	13.3	+3.1	50	−19	0.36	−0.10	1.51	0.00	3.1	4	12	7	9
1928.	18.8	+8.6	59	−31	0.10	−0.36	0.51	0.00	1.2	2	14	8	7
1929.	2.8	−7.4	44	−19	0.29	−0.17	0.80	T.	3.3	4	12	8	8
1930.	21.7	+11.5	63	−44	1.18	+0.72	2.50	0.11	11.7	6	11	8	9
1931.	28.0	+17.8	62	−30	0.28	−0.18	1.62	0.00	2.9	2	14	6	8
1932.	13.6	+3.4	69	−31	0.35	−0.11	1.06	0.00	4.3	3	12	9	8
1933.	7.9	−2.3	58	−45	0.28	−0.18	1.00	T.	3.3	3	13	8	7
1934.	19.5	+9.3	61	−30	0.06	−0.40	0.53	0.00	0.7	1	13	8	7
1935.	24.0	+13.8	63	−25	0.21	−0.25	0.95	T.	1.9	2	13	7	8
Per..	10.2	....	69	−54	0.46	....	4.85	0.00	4.7	4	13	7	8

Climatological Data for February 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	9	...	...	...	...	...	...	...	0.05	...	0.05	T.	1	17	5	6	...	H. A. Bury.
Amenia	Cass	954	39	22.6	+13.8	44	1	−10	24	32	T.	−0.54	T.	T.	0	0	15	13	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	24.0	+10.1	50	22	−8	24†	38	0.05	−0.40	0.05	0.5	1	17	2	9	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	26.7	+15.6	51	1†	−9	26	36	0.28	−0.24	0.10	6.5	3	18	4	6	nw.	H. D. Piper.
Beach	Golden Valley	2,759	29	29.2	+13.0	53	17	−8	25	36	0.04	−0.36	0.04	T.	1	10	8	10	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	26.6	+14.4	52	22	−4	26	50	0.10	−0.37	0.10	1.0	1	16	4	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	60	27.6	+17.3	58	1	−5	26	39	0.29	−0.15	0.25	3.9	4	13	5	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	17.8	+13.6	42	2	−22	25	40	0.02	−0.33	0.02	T.	1	20	1	7	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	29.2	+10.7	59	1	−6	24	35	0.11	−0.18	0.07	1.0	2	18	4	6	nw.	George Larsen.
Cando	Towner	1,488	34	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. J. Swanson.
Carrington	Foster	1,579	37	23.8	+15.1	51	11	−9	23†	37	0.15	−0.24	0.15	1.0	1	14	3	11	w.	L. A. Swanson.
Carson	Grant	2,500	23	27.6	+12.2	58	1	−7	25	38	0.95	+0.64	0.50	9.5	3	17	4	7	nw.	J. W. Evens.
Cavalier	Pembina	894	25	21.8	...	48	2	−12	24	37	0.06	...	0.03	0.6	3	15	8	5	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	22.5	...	45	23	−14	26	39	T.	−0.41	T.	T.	0	21	4	3	nw.	Theo. Marquardt.
Corinth	Williams	2,180	7	...	...	...	...	...	...	...	0.34	...	0.20	2.0	4	3	20	5	sw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	...	...	...	...	...	...	...	0.35	...	0.15	2.5	3	14	10	4	nw.	Geo. E. Berg.
Crosby	Divide	1,954	28	18.9	+9.5	39	18	−12	24	30	0.07	−0.21	0.07	1.0	1	9	6	13	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	21.3	+16.2	43	12	−11	24	38	0.14	−0.36	0.10	1.0	4	8	6	14	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	26.4	+13.3	56	1	−11	25	42	0.19	−0.24	0.09	1.9	6	9	11	8	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	21.4	...	47	2	−17	24	39	0.30	−0.05	0.20	3.5	2	14	8	6	nw.	R. L. Williams.
Drake	McHenry	1,634	6	22.6	...	46	12†	−8	24†	35	0.16	...	0.14	1.6	2	7	9	12	nw.	Peter Anton.
Dunn Center	Dunn	2,191	36	26.7	+12.1	52	17†	−10	24	40	0.08	−0.46	0.06	1.2	2	10	7	11	nw.	W. F. Moede.
Dunseith	Rolette	1,682	39	19.2	+12.8	50	2	−16	24	31	T.	−0.42	T.	0.0	0	11	13	4	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	16.4	+8.8	40	22	−25	24	46	0.07	−0.29	0.05	1.5	2	5	16	7	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	28.0	+15.3	48	22	−8	26	26	0.15	−0.19	0.15	0.8	1	8	15	5	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	18.8	...	39	22	−14	24	36	0.03	−0.42	0.02	0.3	2	10	9	9	w.	E. D. Warner.
Ellendale	Dickey	1,457	40	27.0	+16.3	51	1	−5	25	32	0.28	−0.30	0.15	1.8	3	13	4	11	nw.	J. E. Demmer.
Energy‡‡	McLean	1,750	23	26.8	...	52	22	−7	26	41	0.25	−0.08	0.20	4.0	2	15	10	3	s.	H. S. Solenberger.
Fairfield	Billings	...	6	...	...	...	...	...	...	...	0.10	...	0.10	1.0	1	18	4	6	nw.	F. R. Hecker.
Fessenden	Wells	1,610	23	24.8	+14.7	51	12	−9	26	40	0.25	−0.30	0.23	2.5	2	12	6	10	nw.	T. D. Monsen.
Forman	Sargent	1,249	42	...	...	...	...	...	...	...	0.35	−0.30	0.18	1.0	3	18	6	4	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	35	29.0	+17.2	60	2†	−4	25†	39	0.80	+0.18	0.50	3.5	3	16	8	4	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	21.1	...	43	2	−16	24	32	0.27	−0.30	0.15	2.2	3	10	9	9	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	...	...	...	...	...	...	...	0.24	−0.30	0.16	3.2	2	19	3	6	nw.	Verne King.
Fullerton	Dickey	1,439	37	27.7	+15.7	50	2	−5	25	28	0.73	−0.19	0.35	5.8	3	8	10	10	nw.	F. O. Alin.
Gackle	Logan	1,951	5	25.9	...	47	12	−6	24	33	0.09	...	0.09	T.	1	7	14	7	nw.	A. H. Haut.
Garrison	McLean	1,901	58	24.9	+14.0	50	22	−7	24	41	0.55	+0.05	0.40	5.5	2	17	5	6	nw.	W. F. Robinson.
Grafton	Walsh	827	43	23.0	+16.3	43	2†	−12	25	36	T.	−0.59	T.	T.	0	8	14	6	s.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	44	21.6	+14.0	41	22	−9	24†	36	0.01	−0.57	0.01	0.1	1	10	4	14	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	20.6	+10.5	41	11	−16	24	41	0.10	−0.35	0.10	1.0	1	12	6	10	nw.	W. A. Christianson.
Hankinson	Richland	1,068	6	26.8	...	48	2†	−5	24	48	0.54	...	0.27	3.0	3	15	2	11	nw.	R. G. Stock.
Hannah	Cavalier	1,568	43	18.0	...	38	2†	−20	24	38	0.23	−0.35	0.12	2.3	3	4	19	5	sw.	James Muir.
Hansboro	Towner	1,597	27	21.1	+15.3	48	2	−13	24	38	0.10	−0.48	0.10	1.0	1	16	5	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	28	28.6	+12.1	63	1	−10	25	44	0.17	−0.17	0.07	1.7	4	20	2	6	nw.	C. H. Plath.
Hillsboro	Traill	901	29	23.4	+13.1	45	2	−10	25	33	T.	−0.63	T.	T.	0	9	12	7	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	28	17.9	+8.9	40	3	−10	24†	36	0.11	−0.49	0.11	1.1	1	16	6	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	43	26.1	+16.5	48	22	−8	24	40	0.35	−0.27	0.30	0.5	2	10	10	8	...	S. Calvelage.
Kenmare	Ward	1,799	4	22.6	...	43	2	−17	24	34	0.25	...	0.13	2.5	2	15	5	8	w.	R. Costello.
Langdon	Cavalier	1,615	39	18.4	+13.6	44	2	−20	24	50	0.80	+0.18	0.60	8.0	2	14	12	2	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	22.0	+14.7	41	2	−11	25	33	T.	−0.58	T.	T.	0	10	6	12	nw.	Mabel Walsh.
Linton	Emmons	1,711	18	28.0	+13.5	57	1	−7	25†	45	0.26	−0.29	0.21	1.3	2	13	9	6	se.	Rev. F. J. Olberding.
Lisbon	Ransom	1,091	31	27.0	+15.8	50	13	−7	25	29	0.49	−0.18	0.36	1.0	3	8	11	9	sw.	J. O. Halverson.
McClusky	Sheridan	1,943	17	24.3	...	59	28	−10	24	57	0.42	−0.26	0.32	4.2	2	16	5	7	nw.	Edw. Tapley.
McLeod	Ransom	1,075	24	26.8	+13.5	50	2	−8	25	34	0.29	−0.41	0.22	2.3	3	21	1	6	se.	J. G. Carlson.
Maddock	Benson	1,604	20	22.5	+11.4	49	12	−14	24†	39	0.16	−0.21	0.07	1.5	3	10	9	9	nw.	A. T. Felland.
Mandan	Morton	1,750	21	26.7	+13.8	57	1	−7	26	43	0.36	0.00	0.27	3.5	3	12	2	14	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	...	...	...	...	...	...	...	0.26	−0.25	0.15	2.0	3	11	9	8	...	P. B. Anderson.
Marmarth	Slope	2,714	26	29.9	+12.2	57	17	−9	25	41	0.09	−0.31	0.08	1.8	2	12	7	9	nw.	S. P. Grane.
Mary	McKenzie	...	6	...	...	...	...	...	...	...	0.01	...	0.01	T.	1	16	4	8	nw.	Fred Hartman.
Max	McLean	2,093	6	19.6	...	45	23	−11	24	43	0.30	...	0.30	3.0	1	12	3	13	nw.	A. W. Rice.
Mayville	Traill	975	39	24.6	+15.1	45	13	−8	24	35	0.05	−0.40	0.04	0.1	2	8	5	15	n.	H. B. Addicott.
Minot	Ward	1,557	39	23.6	+13.9	58	2	−12	26	40	0.30	−0.17	0.20	3.0	3	11	11	6	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	41	20.4	+13.3	44	2	−18	26	47	0.14	−0.18	0.14	0.5	1	12	7	9	nw.	John Behan.
Mott	Hettinger	2,424	28	29.0	+15.5	62	1	−9	25	45	0.54	−0.04	0.51	3.0	2	17	5	6	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	43	26.1	+17.8	52	12	−11	26	39	0.48	+0.05	0.30	4.0	4	14	5	9	nw.	C. J. Hoof.
New England	Hettinger	2,400	41	29.4	+15.3	60	2	−8	24	53	0.18	−0.32	0.09	4.0	4	16	4	8	nw.	F. S. Sleight.
New Salem	Morton	2,163	31	30.2	+17.1	60	1	−8	24	45	0.15	−0.29	0.07	1.5	4	17	3	8	nw.	J. Christiansen.
Oakes	Dickey	1,318	6	27.3	...	49	13	−5	25	31	0.27	...	0.11	2.0	3	5	14	9	nw.	Eugene Naylor.
Park River	Walsh	998	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. B. Wright.
Parshall	Mountrail	1,929	20	20.6	...	46	22	−12	24†	42	0.10	−0.26	0.10	1.5	1	10	10	8	sw.	C. E. Shubert.
Pembina	Pembina	789	61	...	...	...	...	...	...	...	0.04	−0.69	0.02	0.4	3	...	...	...	...	E. H. Kruse.
Petersburg	Nelson	1,520	5	...	...	...	...	...	...	...	0.07	...	0.04	0.7	2	9	8	11	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	23.8	+15.0	48	12	−10	24†	39	T.	−0.43	T.	T.	0	15	6	7	sw.	H. H. McCumber.
Portal	Burke	1,954	30	16.7	+11.3	41	1	−23	23	34	0.09	−0.34	0.09	1.0	1	14	3	11	w.	R. G. Wegener.
Powers Lake	Burke	2,205	30	24.4	...	45	17†	−7	10	23	0.38	−0.10	0.21	5.0	2	22	4	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	19	28.8	+13.6	55	1	−7	24	38	0.21	−0.16	0.19	1.5	2	9	7	12	nw.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	...	...	...	...	...	...	...	0.11	...	0.10	1.0	2	11	7	10	s.	W. B. Paterson.
Ryder	Ward	2,108	6	...	...	...	...	...	...	...	0.39	...	0.35	4.0	3	17	8	3	nw.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	22.0	...	45	22	−8	26	41	0.20	...	0.20	2.0	1	...	...	...	...	H. J. Bugge.
Sharon	Steele	1,516	11	21.9	...	42	22	−10	24	34	0.14	−0.24	0.08	0.6	4	7	12	9	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	...	...	...	...	...	...	...	0.14	−0.12	0.14	3.0	1	15	6	7	se.	H. J. Giffey.
Steele	Kidder	1,857	41	25.8	+16.4	51	12	−8	25	37	0.12	−0.35	0.12	T.	1	14	7	7	sw.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	G. N. Pilgard.
Tioga	Williams	2,279	6	...	...	...	...	...	...	...	0.05	...	0.05	0.5	1	11	0	17	nw.	Anton Carlson.
Towner	McHenry	1,482	33	19.7	+12.0	42	4†	−22	24†	46	0.25	−0.19	0.15	2.0	2	16	2	10	nw.	J. A. Gilje.
Trotters	Golden Valley	...	9	...	...	...	...	...	...	...	T.	...	T.	T.	0	12	7	9	...	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	...	...	...	...	...	...	...	0.15	−0.26	0.15	2.5	1	...	...	...	...	M. A. Slettum.
Tuttle	Kidder	1,936	27	...	...	...	...	...	...	...	0.11	−0.32	0.07	1.1	2	14	7	7	sw.	Adam Leno.
Valley City	Barnes	1,245	29	26.3	+14.8	48	2†	−7	24†	33	0.10	−0.39	0.06	0.4	2	14	3	11	nw.	I. C. Robertson.
Velva	McHenry	1,511	8	23.8	...	47	1†	−14	26	41	0.28	...	0.21	4.5	3	6	12	10	nw.	Oscar Anderson.
Wahpeton	Richland	962	43	27.6	+15.6	47	12†	−7	25	33	0.42	−0.09	0.20	0.5	5	13	0	15	nw.	C. G. Lnick.
Washburn	McLean	1,731	34	25.8	+16.3	52	22	−4	24	41	0.18	−0.23	0.18	2.0	1	16	3	9	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	15.6	+8.6	40	1†	−23	24†	44	0.07	−0.13	0.04	1.0	2	11	11	6	nw.	D. W. Drake.
Williston	Williams	1,878	56	22.0	+13.9	47	22	−8	24	39	0.02	−0.39	0.02	0.3	1	12	8	8	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	15.6	+10.7	40	22	−25	26	47	0.40	−0.12	0.20	4.0	2	7	14	7	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	6	27.2	+18.2	56	12	−8	24†	41	0.24	−0.35	0.12	2.4	3	9	0	19	nw.	E. W. Davis.
Zap	Mercer	1,838	20	...	...	...	...	...	...	...	0.10	−0.17	0.05	1.0	2	20	0	8	...	R. A. Norton.
Moorhead, Minn.	Clay	935	54	23.9	+15.8	46	13	−6	25	32	0.25	−0.44	0.16	3.0	5	4	8	16	s.	U. S. Weather Bureau.
Averages	...	...	...	24.0	+13.8	63	1	−25	24†	57	0.21	−0.25	0.60	1.9	2	13	7	8	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for February 1935

Stations	Drainage Basin	Day of Month 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missour.					T.	.05	T.	T.																								0.05
Amenia	Red					T.	T.									T.					T.												T.
Arnegard (near)	Missouri				T.				.05															T.									0.05
Ashley	Missouri						.10								.10	.08																	0.28
Beach	Lit. Missouri					T.	.04																	T.									0.04
Berthold Agency	Missouri															.10																	0.10
Bismarck ***	Missouri						.01		.01	T.					.19	.08	T.						T.	T.		T.							0.29
Bottineau	Mouse						T.	T.								.02				T.													0.02
Bowman	Grand					T.	.07	T.	T.						T.							.04		T.	T.								0.11
Cando	Devils Lake																																.....
Carrington‖	James														.15	T.				T.				T.				T.					0.15
Carson	Heart						.05								.50	.40																	0.95
Cavalier	Red				T.				T.						.03	.01							T.	.02				T.					0.06
Cooperstown	Sheyenne							T.				T.			T.		T.																T.
Corinth	Missouri												.02			.10							.02	.20									0.34
Courtenay	James														.15	.10				T.	T.			.10									0.35
Crosby	Mouse																							.07									0.07
Devils Lake ***	Devils Lake				T	T.	T.	T.	T.	T.					.09	.02	T.			.01	T.		T.	.02				T.	T.				0.14
Dickinson‖	Heart					T.	.09	.01	.01	.01						.06								T.	.01	T.	T.						0.19
Dogden Butte	Mouse						T.								T.	.20					T.			.10									0.30
Drake‖	Mouse							T.								.14						T.			.02								0.16
Dunn Center	Knife						.02									.06																	0.08
Dunseith	Mouse															T.																	T.
Eckman	Mouse															.05								.02									0.07
Edgeley	James													.15																			0.15
Edmore	Devils Lake				T.	.01		T.							T	T.	T.			.02													0.03
Ellendale	James					T.	.06								.15	.07																	0.28
Energy	Missouri														.20	.05																	0.25
Fairfield	Knife															.10																	0.10
Fessenden‖	James															.23					T.			T.	.02								0.25
Forman	Sheyenne					T.	.10								.18	.07					T.				T.								0.35
Fort Yates	Missouri						.05								.50	.25																	0.80
Foxholm (near)	Mouse						T.								.15	.02								.10									0.27
Fryburg	Heart					T.	.08	T.	T.						.16																		0.24
Fullerton	James					T.	.32		T.						.35	.06								T.									0.73
Gaekle	James						T.								.09									T.									0.09
Garrison	Missouri														.15	.40																	0.55
Grafton	Red				T.			T.							T.	T.								T.									T.
Grand Forks ***	Red				T.	T.	T.								T.	T.				T.				.01				T.					0.01
Granville	Mouse						T.								T.	.10				T.				T.									0.10
Hankinson	Red						.27								.20	.07																	0.54
Hannah	Pembina				T.										.12	.07				T.				.04									0.23
Hansboro	Devils Lake				T.										T.	.10				T.				T.									0.10
Hettinger	Grand						.07	T.	.01						.06	T.						.03											0.17
Hillsboro	Red																			T.													T.
Howard (near)	Missouri					T.	T.																	.11	T.								0.11
Jamestown	James					T.									.30	.05				T.						T.							0.35
Kenmare	Mouse				T.	T.	T									.12								.13									0.25
Langdon	Pembina														.60									.20									0.80
Larimore	Red														T.	T				T.				T.									T.
Linton	Missouri						.02								.24	T.																	0.26
Lisbon	Sheyenne						.10								.36	.03																	0.49
McClusky	Missouri														.10	.32								T.									0.42
McLeod	Sheyenne					T.	.01								.06					.22													0.29
Maddock	Sheyenne							T.							.05	.07					T.			.04				T.					0.16
Mandan‖	Missouri					.02	T.	T.	T.					.07	.27	T.																	0.36
Manfred	James														.15	.10								.01									0.26
Marmarth	Lit. Missouri					T.	.08	.01														T.											0.09
Mary	Lit. Missouri						T.								.01									T.									0.01
Max‖	Missouri															.30							T.	T.									0.30
Mayville	Red					T.		.01							.04	T.				T.				T.				T.					0.05
Minot	Mouse						T.								.03	.07								.20									0.30
Mohall	Mouse				T.		T.								.14	T.	T.			T.			T.										0.14
Mott	Cannon Ball						.03								.51																		0.54
Napoleon‖	Missouri						.08	.10							*	.30									T.								0.48
New England	Cannon Ball					.04	.03								.09														.02				0.18
New Salem	Heart						.02	T.	.03						.03	.07	T.							T.	T.								0.15
Oakes	James					T.	.09								.11	.07								T.									0.27
Park River	Red																																.....
Parshall	Missouri								T.							.10								T.									0.10
Pembina	Red				.01		T.	T.					T.		.02	T.			T.	T.			T.	.01	T.			T.	T.				0.04
Petersburg	Red					T.									.03	T.				T.				.04									0.07
Pettibone	James														T.	T.				T.													T.
Portal‖	Mouse																						.09						T.				0.09
Powers Lake	Missouri											.21						.17															0.38
Richardton	Heart						.02	T.	T.						.19																		0.21
Rugby [near]	Mouse						.01								.10	T.				T.				T.									0.11
Ryder	Missouri					T.			.01						.35									.03									0.39
Sanish‖	Missouri															.20																	0.20
Sharon	Red				T.	T.	T.			T.		T.			.08	.04				.01				.01		T.		T.					0.14
Stanton	Missouri						T.								.14									T.									0.14
Steele	Missouri						T.			T.					.12	T.								T.									0.12
Tagus	Mouse																																.....
Tioga	Missouri																						.05										0.05
Towner	Mouse						T.								T.	.15								.10									0.25
Trotters	Lit. Missouri					T.	T.	T.																T.									T.
Turtle Lake	Missouri															.15																	0.15
Tuttle															.07	.04																	0.11
Valley City	Sheyenne					T.	.04								.06	T.					T.			T				T.					0.10
Velva	Mouse														.04	.21								.03									0.28
Wahpeton	Red						.05								.20	.10	.05				.02												0.42
Washburn	Missouri						T									.18																	0.18
Westhope	Mouse															.03								.04									0.07
Williston ***	Missouri						.02		T.	T														T									0.02
Willow City	Mouse						T.									.20				T.	T.			.20									0.40
Wishek‖	Missouri						.10									.12	.02								T.								0.24
Zap	Knife						T	T.								.05	.05							T.									0.10
Moorhead, Minn ***	Red				T.	.01	.02	T.	T.	T.					.03	.03	T.		T.	.16				T.			T.	T.					0.25

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for February 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	44	42	34	38	22	28	30	32	29	36	32	41	38	40	40	36	38	40	36	34	34	40	10	12	14	24	26	32	....	....	....	32.2
	Minimum	12	15	20	22	10	10	12	15	14	14	12	21	27	26	28	28	24	26	28	5	8	10	-3	-10	-5	-5	0	3	....	....	....	13.1
Arnegard (near)	Maximum	42	42	40	40	27	26	27	30	30	28	40	38	36	33	27	35	48	37	35	38	31	50	22	15	18	30	30	35	....	....	....	33.2
	Minimum	23	21	27	27	11	19	21	18	11	10	20	22	8	22	15	10	22	25	22	13	14	22	15	-8	2	-8	6	4	....	....	....	14.8
Ashley	Maximum	51	50	45	47	34	24	28	32	31	37	44	51	42	41	33	31	44	44	36	35	31	45	44	19	15	25	33	42	....	....	....	36.9
	Minimum	26	33	24	26	5	12	21	23	25	10	8	19	25	30	20	20	24	31	25	11	20	13	17	-5	-7	-9	9	6	....	....	....	16.5
Beach	Maximum	50	48	52	46	32	29	24	32	33	39	50	41	43	37	30	38	53	48	35	51	40	50	45	15	22	34	29	46	....	....	....	39.0
	Minimum	34	34	26	32	23	21	21	24	16	17	21	19	20	27	16	15	28	29	22	20	23	29	15	0	-8	0	8	10	....	....	....	19.4
Berthold Agency	Maximum	50	45	48	48	29	30	30	34	34	40	51	45	45	39	38	50	48	43	39	41	37	52	48	15	18	34	29	45	....	....	....	39.5
	Minimum	6	26	18	25	10	20	22	24	23	5	1	14	11	26	10	20	14	30	24	14	18	13	9	-3	3	-4	2	-1	....	....	....	13.6
Bismarck	Maximum	58	53	45	46	21	27	28	33	34	43	48	51	50	37	27	39	51	43	39	37	30	53	41	12	17	30	30	49	....	....	....	38.3
	Minimum	23	33	25	17	9	18	24	25	19	12	12	16	20	27	22	20	25	32	20	16	21	21	8	-3	-3	-5	12	10	....	....	....	17.0
Bottineau	Maximum	39	42	38	35	18	24	25	28	25	16	30	37	38	35	33	28	35	36	29	28	30	36	37	10	4	19	18	32	....	....	....	28.8
	Minimum	15	25	12	15	5	7	15	19	10	-1	-2	17	10	14	17	18	12	17	12	7	3	6	8	-18	-22	-21	0	-7	....	....	....	6.9
Bowman	Maximum	59	56	50	51	28	26	26	31	34	40	48	45	48	35	28	38	56	48	37	50	40	48	41	18	23	33	34	51	....	....	....	40.1
	Minimum	29	34	25	28	22	18	23	24	15	14	15	16	19	26	16	12	22	28	21	19	28	21	18	-6	-3	-2	8	22	....	....	....	18.3
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carrington §§	Maximum	48	50	37	20	28	28	34	27	36	45	51	45	34	23	33	42	38	32	28	25	46	34	7	12	26	22	41	41	....	....	....	33.3
	Minimum	27	28	27	8	7	16	23	23	14	14	18	18	25	23	19	19	24	23	13	15	14	21	-9	-9	-6	-6	4	9	....	....	....	14.4
Carson	Maximum	58	55	46	54	30	26	26	30	36	44	48	50	48	40	28	36	47	40	36	36	30	50	40	16	20	30	32	48	....	....	....	38.6
	Minimum	27	32	24	28	11	13	22	22	24	12	14	20	23	22	18	8	20	29	24	12	20	18	15	-5	-7	0	8	10	....	....	....	16.6
Crosby	Maximum	34	38	35	35	25	27	22	27	22	27	30	27	31	30	25	34	38	39	30	30	26	36	34	6	14	23	15	33	....	....	....	28.3
	Minimum	17	24	12	21	8	16	17	20	8	0	6	5	6	14	12	9	18	25	5	5	4	10	6	-12	-3	4	6	3	....	....	....	9.5
Devils Lake	Maximum	39	39	33	32	12	26	28	31	24	29	42	43	42	36	29	32	36	37	30	25	22	43	38	6	10	23	19	37	....	....	....	30.1
	Minimum	23	30	19	10	6	11	22	23	15	10	11	21	27	29	14	14	16	26	10	8	13	12	0	-11	-11	-7	5	4	....	....	....	12.5
Dickinson §§	Maximum	56	53	52	48	26	26	25	33	33	40	50	46	50	33	22	41	54	41	38	44	29	52	38	12	20	34	30	48	....	....	....	38.4
	Minimum	20	31	22	24	15	16	17	20	20	12	10	12	14	18	18	13	18	27	22	15	20	15	20	-5	-11	-8	-1	8	....	....	....	14.4
Drake§§	Maximum	44	44	40	35	18	28	28	33	27	31	45	46	45	29	23	34	41	37	31	31	25	46	30	5	11	27	20	38	....	....	....	31.9
	Minimum	14	26	22	25	4	5	17	23	19	12	13	15	19	22	19	18	18	27	16	10	12	14	21	-8	-7	-8	-1	4	....	....	....	13.2
Dunn Center	Maximum	51	51	50	45	27	29	30	35	29	41	50	46	46	36	30	41	52	40	36	43	31	52	38	10	20	32	28	45	....	....	....	38.0
	Minimum	34	33	23	27	11	16	22	24	23	13	11	13	12	26	18	13	30	32	20	16	18	18	10	-10	-6	-8	-5	6	....	....	....	15.4
Dunseith	Maximum	38	50	42	36	13	23	24	26	25	20	34	35	41	36	27	36	44	38	29	20	23	34	36	7	10	18	18	27	....	....	....	28.9
	Minimum	18	25	20	10	-1	5	17	17	9	6	6	14	14	25	15	15	20	23	16	6	12	8	5	-16	-12	-12	7	-3	....	....	....	9.6
Edgeley	Maximum	43	43	44	40	38	28	34	32	35	34	40	35	40	34	37	35	45	46	37	33	35	48	45	45	19	18	25	42	....	....	....	36.8
	Minimum	34	31	31	16	23	20	20	21	21	20	15	30	30	15	25	20	22	20	25	26	21	13	19	18	-5	-8	8	6	....	....	....	19.2
Ellendale	Maximum	51	49	37	45	28	25	28	32	32	38	39	43	46	33	31	35	42	41	36	34	31	42	34	21	16	25	30	38	....	....	....	35.1
	Minimum	19	35	29	28	8	16	22	25	27	12	14	22	30	31	23	22	28	31	28	16	15	18	21	-3	-5	-3	10	12	....	....	....	19.0
Fessenden §§	Maximum	45	45	42	36	22	28	29	34	24	35	46	51	50	35	23	35	43	38	36	30	39	47	30	6	30	25	22	42	....	....	....	34.6
	Minimum	10	24	21	22	5	8	18	23	20	10	11	18	24	30	21	20	22	27	23	14	14	23	28	-8	-8	-9	8	2	....	....	....	15.0
Foxholm (near)	Maximum	41	43	37	39	19	26	27	32	28	31	38	38	35	27	26	32	41	38	32	30	26	41	39	10	9	22	20	28	....	....	....	30.5
	Minimum	29	32	20	18	3	9	18	20	17	8	11	19	14	16	16	14	22	25	20	5	4	12	7	-16	-11	-9	4	1	....	....	....	11.7
Fullerton	Maximum	46	50	40	43	32	28	31	34	32	37	38	43	45	40	33	36	48	42	37	34	42	41	43	20	15	24	31	38	....	....	....	36.5
	Minimum	18	35	29	28	10	18	22	25	27	9	15	22	31	32	23	21	25	31	30	16	16	15	20	-3	-5	-3	10	11	....	....	....	18.9
Garrison	Maximum	46	40	39	38	30	31	29	33	30	33	48	48	40	40	28	40	42	39	33	36	32	50	46	17	14	33	30	41	....	....	....	35.9
	Minimum	20	30	17	26	2	12	15	23	17	6	7	14	13	24	18	14	15	28	22	11	14	28	15	-7	-4	-6	9	5	....	....	....	13.9
Grafton	Maximum	39	43	42	39	20	24	29	32	32	32	31	34	39	39	36	34	36	39	36	26	27	43	43	15	17	22	22	31	....	....	....	32.2
	Minimum	15	31	16	18	3	10	15	25	19	10	8	24	27	32	20	14	21	29	21	4	16	7	12	-10	-12	-1	13	1	....	....	....	13.9
Grand Forks	Maximum	38	40	34	33	19	23	28	32	32	30	28	38	40	34	34	33	35	39	34	25	25	41	38	6	15	21	21	31	....	....	....	30.2
	Minimum	15	26	15	17	5	17	17	24	19	9	12	26	32	32	17	15	18	29	11	6	12	9	2	-9	-9	-1	-2	3	....	....	....	13.1
Granville	Maximum	40	40	41	35	22	29	28	32	29	29	44	43	32	26	27	32	40	37	34	31	29	43	40	12	5	10	26	33	....	....	....	31.0
	Minimum	17	30	13	20	6	11	21	23	19	2	5	7	9	19	17	15	22	27	22	7	9	12	10	-16	-12	-13	-15	1	....	....	....	10.3
Hansboro	Maximum	41	48	38	30	20	24	32	32	34	34	33	39	40	35	28	38	42	40	32	24	26	38	36	13	10	20	20	34	....	....	....	31.5
	Minimum	20	27	20	10	0	8	20	19	9	10	10	13	16	25	16	9	28	14	16	12	12	10	8	-13	-9	-12	5	-4	....	....	....	10.7
Hettinger	Maximum	63	55	52	55	35	26	27	32	35	43	50	55	53	39	31	40	45	41	37	40	40	49	38	20	23	34	40	53	....	....	....	41.1
	Minimum	26	32	22	25	19	18	23	24	19	10	8	11	13	28	21	5	24	31	22	21	24	20	10	-3	-10	-9	10	11	....	....	....	16.2
Hillsboro	Maximum	39	45	39	30	25	21	26	33	32	30	28	41	39	38	37	33	32	38	35	29	26	42	40	10	20	20	20	33	....	....	....	31.5
	Minimum	14	30	18	23	8	15	17	24	23	9	10	25	30	33	23	16	20	20	25	4	15	9	20	-7	-10	0	10	3	....	....	....	15.2
Howard (near)	Maximum	32	35	40	33	20	25	25	26	21	24	36	28	30	29	20	30	37	38	29	30	23	37	34	5	9	23	15	33	....	....	....	27.4
	Minimum	20	23	13	18	13	15	13	13	10	1	4	13	6	14	13	6	6	12	13	13	8	13	0	-10	-1	-10	-1	-3	....	....	....	8.4
Jamestown	Maximum	45	47	41	39	29	24	28	34	33	38	44	45	45	39	34	34	46	41	36	31	29	48	39	14	15	27	26	42	....	....	....	35.5
	Minimum	25	35	25	24	5	19	20	23	22	11	13	22	29	31	20	19	22	31	24	14	16	14	12	-8	-6	-6	10	2	....	....	....	16.7
Kenmare	Maximum	42	43	40	32	20	25	26	28	27	30	40	39	42	30	29	34	42	39	35	32	30	41	39	11	6	21	12	30	....	....	....	30.9
	Minimum	29	36	25	20	15	14	20	22	19	12	17	18	14	17	15	18	24	28	22	10	8	16	10	-17	-11	-13	6	3	....	....	....	14.2
Langdon§§	Maximum	39	44	33	30	16	26	30	30	30	33	35	39	41	40	30	30	40	40	32	26	20	39	20	15	20	18	35	35	....	....	....	30.9
	Minimum	12	14	11	15	0	0	8	15	17	0	3	14	23	16	6	10	23	14	20	13	-5	0	13	-20	-15	-18	-15	-6	....	....	....	6.0
Larimore	Maximum	38	41	39	35	16	25	32	34	32	30	33	37	38	38	34	32	38	36	34	29	25	40	36	9	13	19	21	33	....	....	....	31.0
	Minimum	26	34	17	16	4	12	15	23	17	9	9	21	25	32	18	15	20	27	17	3	12	7	9	-10	-11	-9	10	0	....	....	....	13.1
Linton	Maximum	57	53	46	48	34	26	30	36	36	41	49	54	51	40	34	36	50	43	40	36	33	50	45	29	18	29	32	44	....	....	....	40.0
	Minimum	12	27	20	23	8	16	22	24	23	6	9	22	21	31	22	20	25	31	26	12	22	17	17	-4	-7	-7	5	9	....	....	....	16.1
Lisbon §§	Maximum	42	49	42	42	30	25	28	33	32	36	31	46	50	45	32	36	41	42	39	33	31	42	39	20	18	24	29	39	....	....	....	35.6
	Minimum	19	32	25	28	12	18	20	20	27	16	15	23	35	32	26	20	24	30	27	9	19	15	20	-4	-7	-4	11	10	....	....	....	18.5
McClusky	Maximum	44	44	42	38	21	27	28	34	30	33	44	49	48	39	27	36	40	38	32	33	27	49	41	15	13	28	23	59	....	....	....	35.1
	Minimum	21	27	12	18	3	11	22	22	18	8	11	18	18	25	17	21	25	28	20	8	15	16	11	-10	-8	-8	7	2	....	....	....	13.5
Maddock	Maximum	40	41	39	37	37	27	28	32	30	27	44	49	46	41	32	33	39	37	32	30	28	45	43	12	8	25	23	36	....	....	....	33.6
	Minimum	17	29	14	19	3	9	21	22	17	7	6	15	22	30	17	15	17	16	19	10	11	12	10	-14	-13	-14	3	0	....	....	....	11.4
Marmarth	Maximum	46	54	50	49	36	31	31	36	37	43	49	45	45	38	34	43	57	49	40	55	43	51	43	18	26	37	36	52	....	....	....	41.9
	Minimum	20	31	21	23	28	21	24	23	15	10	14	12	13	29	18	13	25	32	25	20	27	31	18	2	-9	-4	2	13	....	....	....	17.9
Minot	Maximum	56	58	42	39	22	29	29	33	29	33	44	41	39	31	26	33	43	42	32	32	31	45	40	15	14	28	28	33	....	....	....	34.5
	Minimum	24	36	21	20	6	15	21	21	19	10	9	19	13	21	19	4	8	21	23	8	8	16	10	-10	-10	-12	8	4	....	....	....	12.6
Mohall	Maximum	43	44	40	38	19	24	25	29	27	25	39	39	33	27	35	32	40	36	31	27	23	41	21	11	13	29	23	30	....	....	....	30.2
	Minimum	24	33	16	17	3	10	20	22	18	4	4	9	9	14	18	18	22	26	19	3	1	9	10	-16	-10	-18	6	2	....	....	....	10.5
Mott	Maximum	62	59	53	53	32	28	28	35	38	44	52	54	53	40	33	42	55	46	39	40	37	54	43	19	22	37	32	54	....	....	....	42.3
	Minimum	23	32	21	23	15	18	23	24	24	9	9	11	11	22	21	9	23	32	22	17	22	18	17	-4	-9	-7	5	9	....	....	....	15.7
Napoleon §§	Maximum	51	48	45	42	21	26	28	34	33	39	45	52	48	35	25	35	47	42	37	36	27	48	41	11	15	28	30	43	....	....	....	36.1
	Minimum	25	31	20	27	5	10	20	23	23	9	12	20	25	30	23	19	22	31	24	10	20	12	31	-8	-10	-11	5	4	....	....	....	16.1
New England§§	Maximum	56	60	51	50	28	28	30	35	43	41	49	51	50	35	30	42	48	55	48	43	50	52	46	45	35	36	40	50	....	....	....	43.8
	Minimum	26	24	27	16	17	21	22	20	10	9	9	13	20	20	9	16	20	21	20	19	15	21	16	-8	-6	4	5	17	....	....	....	15.1
New Salem	Maximum	60	55	51	50	37	27	30	31	30	43	49	55	50	49	30	40	51	40	45	39	35	54	48	35	19	31	31	50	....	....	....	41.6
	Minimum	30	34	25	31	19	15	23	24	23	13	23	23	25	27	19	17	25	31	25	13	23	18	18	-8	-5	-4	11	5	....	....	....	18.7
Oakes	Maximum	44	47	39	43	30	27	30	32	32	39	42	46	49	40	34	36	47	42	40	32	30	41	41	21	17	25	31	40	....	....	....	36.3
	Minimum	18	29	27	27	11	17	21	25	27	9	11	23	34	32	24	20	24	31	28	14	21	15	20	-4	-5	-4	9	9	....	....	....	18.3
Park River	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Sharon	Maximum	38	40	34	36	17	22	26	31	30	31	34	39	41	35	32	34	39	36	33	27	24	42	36	9	13	22	23	31	....	....	....	30.6
	Minimum	19	31	18	17	3	10	16	22	17	8	12	17	28	31	17	13	18	27	20	3	14	8	9	-10	-8	-6	12	3	....	....	....	13.2
Steele	Maximum	48	49	40	40	29	27	27	33	32	38	45	51	50	44	33	35	46	40	34	36	30	47	35	13	15	25	27	41	....	....	....	36.1
	Minimum	18	31	21	25	6	12	21	23	22	7	12	18	21	33	20	20	23	30	25	10	19	15	13	-6	-8	-5	6	4	....	....	....	15.6
Towner	Maximum	37	39	36	42	21	25	26	28	31	27	40	41	33	32	32	29	36	37	32	27	28	41	42	16	7	24	27	32	....	....	....	31.0
	Minimum	15	28	10	19	3	7	21	21	27	-4	3	11	4	18	11	18	14	24	18	5	7	9	11	-22	-20	-22	0	-2	....	....	....	8.4
Valley City	Maximum	43	48	43	38	36	26	28	34	34	37	40	45	48	44	35	34	42	38	37	30	30	45	45	20	17	23	26	36	....	....	....	35.8
	Minimum	18	32	32	25	7	13	18	23	24	13	12	20	29	31	21	17	32	28	24	8	15	12	18	-7	-7	-6	10	7	....	....	....	16.8
Wahpeton	Maximum	43	46	46	42	37	27	27	31	32	35	36	47	47	47	42	32	42	45	44	38	32	40	44	29	19	23	31	34	....	....	....	37.1
	Minimum	14	31	21	23	14	16	18	23	28	21	18	27	33	33	27	18	20	30	27	7	20	13	24	-4	-7	-3	10	5	....	....	....	18.1
Westhope	Maximum	40	40	30	28	15	25	24	29	21	23	26	34	25	25	26	32	39	33	28	20	28	38	32	7	11	21	18	30	....	....	....	26.8
	Minimum	9	22	9	10	2	8	18	20	10	0	-5	5	-2	15	11	11	14	18	14	-2	3	6	-5	-23	-19	-23	-1	-5	....	....	....	4.4
Williston	Maximum	41	41	40	37	23	26	28	29	24	25	43	30	25	34	24	30	42	37	33	41	29	47	37	7	17	29	20	34	....	....	....	31.2
	Minimum	18	25	14	21	12	22	22	22	11	7	4	7	5	19	18	12	23	27	16	15	17	13	5	-8	3	-4	7	8	....	....	....	12.9
Moorhead, Minn	Maximum	42	46	36	39	20	22	26	32	32	33	29	43	46	37	34	32	37	42	36	24	28	39	37	6	14	21	24	32	....	....	....	31.8
	Minimum	16	33	19	19	12	17	18	23	25	17	18	27	33	33	17	16	21	31	12	6	11	10	5	-6	-6	3	9	5	....	....	....	15.9

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing. ᵇ 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

UNIVERSITY OF ILLINOIS

Vol. XLIV Bismarck, N. D., March 1935 No. 3

GENERAL SUMMARY

The weather during March was changeable, the severely cold period of the 5th to 7th being followed by unusually high temperature on the 14th. During the first decade dust storms occurred. There was more than the usual cloudiness and the precipitation averaged above the normal, making March the first month since December 1933, with precipitation in excess of the normal. Much yard feeding of livestock was necessary, due to shortage of feed on ranges and pastures. Practically no spring work on farms was accomplished.

TEMPERATURE

The mean temperature for the State was 26.3°, or 2.9° above the 44 year average, and was the same as March 1934. The highest mean reported was 32.0° at Wahpeton, Richland County; the lowest was 18.2° at Portal, Burke County. The highest temperature reported was 75° at Mott, Hettinger County on the 14th; the lowest was -37° at Dunn Center, Dunn County on the 7th. The greatest monthly range of temperature was 103° at Dunn Center, Dunn County; the least was 51° at Grafton, Walsh County. The greatest daily range of temperature was 57° at McClusky, Sheridan County on the 1st.

PRECIPITATION

The average precipitation for the State was 1.02 inches, or 0.26 inch above the 44 year average, and 0.53 inch more than the average for March 1934. The greatest monthly amount reported was 2.49 inches at Richardton, Starck County; the least was 0.20 inch at Howard, Williams County. The greatest amount recorded in any 24 consecutive hours was 1.38 inches at Richardton, Stark County on the 4th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 7.0 inches.

MISCELLANEOUS PHENOMENA

Auroras: Bismarck, 15th; Dogden Butte, 15th, 24th; Carson, Edmore, 31st; Corinth, 23d, 26th; Devils Lake, Petersburg, 14th; Eckman, 24th, 31st; Edmore, Rugby, 30th; Foxholm, 1st, 7th, 23d, 24th, 30th; Howard, 17th; Pettibone, 16th; Tuttle, 14th, 15th, 30th.

Fog: Alpha, 8th; Arnegard, 9th; Bismarck, 20th, 23d, 25th; Carson, 4th, 5th. 8th. 13th; Cavalier, Courtenay, 25th; Devils Lake, 24th, 25th, 26th; Dogden Butte, 17th, 26th; Eckman, Westhope, 1st; Edmore, 24th, 25th, 26th; Ellendale, 18th, 25th; Fullerton, Grand Forks, Linton, New Salem, Oakes, Rugby, Steele, Tuttle, 25th; Garrison, Valley City, Moorhead, 24th; Granville, 3d; Hannah, Petersburg, 24th, 25th; Hansboro, 4th, 24th, 25th; Howard, 13th; Kenmare, 17th; New England, 4th, 23d; Pettibone, 23d, 24th; Richardton, 3d, 4th, 13th, 15th; Sharon, 24th, 25th, 26th.

Hail: Dogden Butte, 26th.

Halos, lunar: Foxholm, Sharon, Moorhead, 17th; Steele, 18th; Tuttle, 5th, 6th.

Halos, solar: Bismarck, 29th; Devils Lake, Tagus, 6th; Dogden Butte, 8th, 12th, 17th, 18th; Eckman, 10th, 23d; Ellendale, Linton, Marmarth, Napoleon, New Salem, 5th; Grand Forks, 13th; Moorhead, 6th, 18th, 31st; Oakes, 5th, 6th, 11th; Sharon, 11th; Trotters, 6th, 7th, 10th; Tuttle, 21st, 29th; Williston, 6th, 10th.

Sleet: Bismarck, 4th, 12th; Carrington, Courtenay, Devils Lake, Dunseith, Fort Yates, Linton, Napoleon, Petersburg, Portal, Steele, Tagus, Tuttle, Valley City, 4th; Cooperstown, Ellendale, 5th; McLeod, Forman, 3d, 5th; Larimore, Ryder, 3d, 4th; Mandan, 19th; New England, 14th; Pettibone, 2d; Richardton, 22d; Rugby, 20th; Towner, 1st, 3d; Westhope, Willow City, 3d.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.90	30.38	7	29.21	15	11.2	38	sw.	26	82	62	64	52
Devils Lake	29.90	30.48	7	29.24	26	11.4	32	nw.	26	92	76	82	52
Grand Forks	29.88	30.42	7	29.26	15	......	34	nw.	27	86	....	75	....
Williston	29.90	30.44	6	29.30	15	10.0	39	nw.	26	85	69	68	53
Moorhead, Minn	29.91	30.46	7	29.18	15	11.0	29	n.	15	82	68	72	55
Averages & ext's	29.90	30.48	7	29.18	15	10.9	39	nw.	26	85	69	72	53

† And other dates.

COMPARATIVE DATA FOR MARCH

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	24.2	+0.8	66	−35	0.83	+0.07	2.41	0.38	1.9	4	12	8	11
1893.	13.9	−9.5	68	−35	0.99	+0.23	3.14	0.12	10.0	5	13	7	11
1894.	24.8	+1.4	69	−22	1.45	+0.69	3.52	0.45	10.1	5	12	9	10
1895.	23.2	−0.2	75	−35	0.16	−0.60	1.06	0.00	1.0	2	16	10	5
1896.	15.7	−7.7	70	−35	1.18	+0.42	3.27	T.	8.0	8	12	10	9
1897.	11.9	−11.5	58	−48	1.27	+0.51	3.37	0.03	8.0	7	15	7	9
1898.	21.3	−2.1	79	−24	0.79	+0.03	2.16	0.16	6.7	5	13	8	10
1899.	7.5	−15.9	72	−30	1.00	+0.26	2.99	0.11	10.0	5	12	10	9
1900.	20.3	−3.1	77	−24	1.01	+0.25	2.65	0.15	8.5	5	14	7	10
1901.	25.3	+1.9	85	−32	0.86	+0.10	2.56	0.06	5.2	5	15	8	8
1902.	27.4	+4.0	65	−25	2.73	+1.97	6.26	0.51	11.7	8	10	6	15
1903.	22.1	−1.3	80	−24	0.55	−0.21	1.58	0.00	5.1	3	12	6	13
1904.	18.2	−5.2	64	−26	1.33	+0.57	2.24	0.30	11.5	5	11	6	14
1905.	32.5	+9.1	81	−25	0.87	+0.11	2.50	0.00	2.3	4	11	8	12
1906.	18.5	−4.9	67	−34	0.38	−0.38	2.00	T.	3.1	3	15	6	10
1907.	23.1	−0.3	83	−20	0.70	−0.06	3.25	T.	5.1	4	14	9	8
1908.	21.1	−2.3	68	−31	1.16	+0.40	2.90	0.08	12.1	8	10	9	12
1909.	24.0	+0.6	61	−24	0.32	−0.44	2.57	0.00	2.7	4	10	9	12
1910.	41.3	+17.9	90	− 7	0.97	+0.21	2.37	0.00	0.3	3	18	8	5
1911.	30.6	+7.2	78	−18	0.24	−0.52	1.21	0.00	1.6	2	16	10	5
1912.	15.4	−8.0	65	−28	0.33	−0.43	1.20	0.00	3.6	3	17	8	6
1913.	17.2	−6.2	70	−31	0.81	+0.05	2.75	T.	8.2	6	12	9	10
1914.	25.5	+2.1	76	−20	0.90	+0.14	1.82	0.24	9.2	5	10	9	12
1915.	22.9	−0.1	63	−23	0.22	−0.54	1.37	0.00	2.0	2	16	6	9
1916.	20.3	−3.1	69	−45	1.48	+0.72	4.12	0.30	13.5	6	11	9	11
1917.	22.2	−1.2	67	−39	0.39	−0.37	1.50	0.00	3.9	3	13	10	8
1918.	35.0	+11.6	82	−15	0.39	−0.37	1.20	0.00	2.9	2	16	8	7
1919.	17.8	−5.6	67	−35	0.82	+0.06	2.63	0.08	6.2	4	12	9	10
1920.	22.4	−1.0	67	−32	0.79	+0.03	2.18	T.	7.1	4	15	8	8
1921.	25.2	+1.8	75	−22	1.00	+0.24	2.69	0.04	9.1	6	9	12	10
1922.	25.8	+2.4	60	−30	0.72	−0.04	2.05	0.04	6.4	4	12	7	12
1923.	18.3	−5.1	65	−35	0.41	−0.35	1.68	T.	4.8	4	10	10	11
1924.	25.5	+2.1	58	−20	0.45	−0.31	1.45	T	4.4	4	10	9	12
1925.	27.4	+4.0	75	−26	0.67	−0.09	2.00	0.05	6.0	4	14	9	8
1926.	25.8	+2.4	83	−23	0.24	−0.52	1.27	0.00	1.8	3	13	10	8
1927.	30.4	+7.0	77	−10	0.74	−0.02	2.26	0.00	6.5	5	13	8	10
1928.	28.1	+4.7	85	−17	0.54	−0.22	2.60	0.00	4.8	3	15	8	8
1929.	30.5	+7.1	77	−15	0.78	+0.02	3.00	0.00	5.3	5	12	8	11
1930.	26.1	+2.7	62	−17	0.09	−0.67	0.80	0.00	0.9	1	17	8	6
1931.	25.7	+2.3	63	−24	0.94	+0.18	2.33	0.07	4.8	5	11	8	12
1932.	18.9	−4.5	64	−30	0.63	−0.13	2.40	T.	6.0	6	10	11	10
1933.	28.5	+5.1	70	−14	0.45	−0.31	1.85	T.	3.7	3	14	10	7
1934.	26.3	+2.9	74	−12	0.49	−0.27	1.70	0.02	3.6	4	11	11	9
1935.	26.3	+2.9	75	−37	1.02	+0.26	2.49	0.20	7.0	5	9	11	11
Per..	23.4	....	90	− 48	0.76	....	6.26	0.00	5.8	4	13	8	10

Climatological Data for March 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	9	......	......	...	...	...	...	......	0.94	......	0.33	5.0	8	16	10	5	nw.	H. A. Bury.
Amenia	Cass	954	39	26.8	+2.2	64	14	−4	6	53	1.08	+0.56	0.75	10.8	2	0	14	17	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	27.5	+2.2	64	14	−22	7	37	0.47	−0.25	0.30	3.5	4	19	5	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	30.4	+6.1	65	14	−10	7	35	0.95	−0.07	0.35	5.0	3	12	9	10	nw.	H. D. Piper.
Beach	Golden Valley	2,759	29	28.9	+1.7	69	14	−17	6	46	0.94	+0.31	0.34	4.0	5	11	12	8	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	28.0	+2.0	71	14	−27	7	43	0.27	−0.42	0.21	2.6	3	13	9	9	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	60	27.6	+3.4	72	14	−17	7	36	0.99	+0.10	0.35	9.0	8	7	12	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	27.1	+7.0	68	24	−19	7	40	1.15	+0.46	0.46	6.9	10	13	5	13	se.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	30.2	+2.5	72	14	−11	6	39	0.91	+0.45	0.46	4.9	8	16	9	6	nw.	George Larsen.
Cando	Towner	1,488	34	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	A. J. Swanson.
Carrington	Foster	1,579	37	23.4	0.0	63	14	−15	6	33	0.81	+0.14	0.52	9.0	5	15	4	12	nw.	L. A. Swanson.
Carson	Grant	2,500	23	28.4	+2.1	70	14	−17	6	37	1.11	+0.52	0.80	11.0	4	15	12	4	nw.	J. W. Evens.
Cavalier	Pembina	894	25	23.1	......	49	14	−5	8	34	1.41	+0.73	0.55	9.0	6	9	5	17	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	23.4	......	58	14	−10	7	48	1.55	+0.97	0.81	10.0	7	17	3	11	nw.	Theo. Marquardt.
Corinth	Williams	2,180	7	......	......	...	...	...	...	......	0.57	......	0.25	1.2	4	0	20	11	nw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	......	......	...	...	...	...	......	1.18	......	0.72	2.0	5	8	15	8	nw.	Geo. E. Berg.
Crosby	Divide	1,954	28	22.2	−1.3	57	24†	−23	7	42	0.40	−0.11	0.20	4.0	2	8	10	13	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	22.7	+2.9	56	14	−11	7	27	0.87	+0.09	0.62	5.1	8	3	10	18	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	26.2	+0.9	71	14	−18	6	42	1.16	+0.37	0.31	10.3	15	4	21	6	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	25.6	......	62	25	−20	6	40	1.06	+0.53	0.60	9.8	5	8	10	13	nw.	R. L. Williams.
Drake	McHenry	1,634	6	25.1	......	63	25	−17	7	44	0.90	......	0.45	5.5	8	9	6	16	nw.	Peter Anton.
Dunn Center	Dunn	2,191	36	29.3	+3.8	66	14	−37	7	54	0.75	−0.17	0.29	10.0	4	7	13	11	nw.	W. F. Moede.
Dunseith	Rolette	1,682	39	20.2	0.0	54	14†	−17	7	32	0.48	−0.18	0.20	4.0	4	5	12	14	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	21.6	−1.3	63	25	−28	7	37	0.75	+0.27	0.23	4.0	7	3	17	11	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	26.2	−1.1	67	14	−11	7	37	1.07	+0.41	0.53	10.7	3	5	19	7	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	21.6	......	48	14	−15	7	32	0.94	+0.51	0.45	8.0	12	8	9	14	se.	E. D. Warner.
Ellendale	Dickey	1,457	40	30.0	+4.4	62	25	−6	7	30	1.81	+0.98	0.67	4.6	4	10	10	11	nw.	J. E. Demmer.
Energy ‡‡	McLean	1,750	23	27.0	......	70	14	−26	6	46	1.18	+0.68	0.40	12.0	6	7	19	5	nw.	H. S. Solenberger.
Fairfield	Billings	......	6	......	......	...	...	...	...	......	1.35	......	0.30	13.5	7	14	5	12	nw.	F. R. Hecker.
Fessenden	Wells	1,610	23	24.4	+1.0	61	14	−18	7	46	1.11	+0.41	0.60	10.0	10	13	3	15	nw.	T. D. Monsen.
Forman	Sargent	1,249	42	......	......	...	...	...	...	......	2.41	+1.61	1.03	10.0	3	11	9	11	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	35	31.8	+5.5	70	14†	−9	6†	54	1.50	+0.56	0.60	3.5	3	11	9	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	22.6	......	62	25	−17	7	35	0.95	+0.28	0.37	5.2	5	6	7	18	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	......	......	...	...	...	...	......	2.19	+1.47	0.80	18.0	8	12	11	8	nw.	Verne King.
Fullerton	Dickey	1,439	37	30.4	+3.6	63	14	−6	7	31	2.26	+1.08	0.97	12.7	7	10	9	12	nw.	F. O. Alin.
Gackle	Logan	1,951	5	28.1	......	63	14	−11	6	32	0.61	......	0.31	2.2	3	7	15	9	nw.	A. H. Haut.
Garrison	McLean	1,901	58	26.5	+2.7	70	14†	−20	6	50	0.95	+0.02	0.70	7.5	3	12	9	10	nw.	W. F. Robinson.
Grafton	Walsh	827	43	25.2	+4.0	51	14†	0	8	31	0.90	+0.24	0.40	8.9	4	5	15	11	se.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	44	25.4	+3.0	57	14	3	6	31	0.99	+0.26	0.63	4.6	8	2	17	12	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	25.0	+0.9	64	25	−25	7	38	0.83	+0.35	0.39	6.0	5	8	7	16	nw.	W. A. Christianson.
Hankinson	Richland	1,068	6	30.8	......	61	14	−1	5	36	1.74	......	0.65	7.0	6	13	8	10	nw.	R. G. Stock.
Hannah	Cavalier	1,568	43	20.3	......	42	14†	−16	7	31	1.39	+0.73	0.88	13.9	6	4	14	13	nw.	James Muir.
Hansboro	Towner	1,597	27	21.2	+0.6	50	19†	−20	7	35	1.55	+0.83	0.75	12.0	4	10	13	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	28	30.2	+1.6	73	14	−18	6	45	0.41	−0.27	0.22	3.9	6	19	11	1	nw.	C. H. Plath.
Hillsboro	Traill	901	29	28.6	+3.0	61	14	−1	6	36	1.14	+0.47	0.65	4.4	4	4	16	11	nw.	H. F. Lund.
Howard ‡‡ (near)	Williams	2,275	28	22.8	+0.9	63	25	−20	6	36	0.20	−0.82	0.20	2.0	1	9	15	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	43	27.4	+3.4	61	14	−11	6†	32	1.50	+0.59	0.86	8.8	5	9	13	9	nw.	S. Calvelage.
Kenmare	Ward	1,799	4	24.0	......	60	25	−23	7	38	0.78	......	0.31	7.0	6	6	14	11	nw.	R. Costello.
Langdon	Cavalier	1,615	39	20.0	+0.4	50	19	−15	7†	45	1.10	+0.29	0.90	7.0	3	18	11	2	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	25.4	+3.1	52	14	−2	6†	29	0.89	+0.13	0.67	3.5	2	8	9	14	nw.	Mabel Walsh.
Linton	Emmons	1,711	18	30.0	+2.3	70	14	−11	6†	38	0.83	+0.35	0.39	2.6	4	6	20	5	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	30.6	+3.5	65	14	−4	6	35	2.35	+1.83	0.87	10.0	6	8	10	13	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	17	26.0	......	65	14	−19	6	57	1.01	+0.27	0.50	5.9	3	15	5	11	nw.	Edw. Tapley.
McLeod	Ransom	1,075	24	30.4	+2.7	60	14	−3	6	31	1.77	+1.23	0.90	13.0	3	16	5	10	nw.	J. G. Carlson.
Maddock	Benson	1,604	20	24.6	0.0	60	14†	−20	7	35	0.41	+0.02	0.31	1.0	3	5	14	12	nw.	A. T. Felland.
Mandan	Morton	1,750	21	27.2	+0.5	71	14	−18	6	46	1.14	+0.42	0.32	10.0	7	12	1	18	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	......	......	...	...	...	...	......	0.86	+0.11	0.34	6.0	8	8	13	10	......	P B. Anderson.
Marmarth	Slope	2,714	26	31.1	+3.4	71	14	−14	7	41	1.08	+0.50	0.30	12.0	6	8	10	13	nw.	S. P. Grane.
Mary	McKenzie	......	6	......	......	...	...	...	...	......	0.48	......	0.35	4.0	5	13	7	11	nw.	Fred Hartman.
Max	McLean	2,093	6	22.8	......	64	14†	−23	6	44	0.41	......	0.20	4.0	4	......	......	......	nw.	A. W. Rice.
Mayville	Traill	975	39	27.7	+3.2	60	14†	−1	6	35	0.71	−0.01	0.45	1.5	7	4	11	16	nw.	H. B. Addicott.
Minot	Ward	1,557	39	25.9	+3.1	64	25	−17	7	41	0.37	−0.32	0.25	2.5	4	6	15	10	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	41	23.2	+2.3	60	25†	−7	5	31	0.89	+0.21	0.34	2.5	6	7	14	10	nw.	John Behan.
Mott	Hettinger	2,424	28	30.1	+3.2	75	14	−16	6	42	0.59	−0.33	0.23	7.5	6	11	7	13	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	43	28.4	+5.7	66	14	−15	6†	36	1.02	+0.19	0.40	7.1	10	12	2	17	nw.	C. J. Hoof.
New England	Hettinger	2,400	41	28.6	+3.4	71	15	−15	5	41	1.05	+0.26	0.57	13.0	7	8	10	13	nw.	F. S. Sleight.
New Salem	Morton	2,163	31	30.0	+4.1	73	14	−17	6	45	0.80	−0.03	0.50	6.7	7	12	11	8	nw.	J. Christiansen.
Oakes	Dickey	1,318	6	31.2	......	64	14	−5	6†	33	2.08	......	0.73	3.0	4	11	13	7	nw.	Eugene Naylor.
Park River	Walsh	998	31	22.3	−0.8	49	14	−4	8	44	1.07	+0.54	0.60	9.5	2	9	9	13	nw.	C. B. Wright.
Parshall	Mountrail	1,929	20	25.2	......	66	14	−31	6	46	0.48	+0.26	0.44	6.0	3	4	20	7	nw.	C. E. Shubert.
Pembina	Pembina	789	61	......	......	...	...	...	...	......	0.86	−0.01	0.25	6.8	11	......	......	......	......	E. H. Kruse.
Petersburg	Nelson	1,520	5	......	......	...	...	...	...	......	0.89	......	0.45	5.0	5	11	8	12	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	25.2	+0.9	64	14	−16	6	37	0.93	+0.38	0.60	8.3	3	10	9	12	nw.	H. H. McCumber.
Portal	Burke	1,954	30	18.2	+0.5	60	25	−21	6†	47	0.99	+0.35	0.42	10.0	4	7	4	20	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	30	25.6	......	65	24	−15	4	31	0.74	−0.08	0.31	9.0	3	23	3	5	e.	Geo. B. Gee.
Richardton	Stark	2,467	19	28.5	+1.4	70	14	−16	6	46	2.49	+1.96	1.38	11.3	5	6	12	13	w.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	......	......	...	...	...	...	......	0.54	......	0.34	2.0	2	6	8	17	s.	W. B. Paterson.
Ryder	Ward	2,108	6	......	......	...	...	...	...	......	0.55	......	0.25	5.0	6	13	4	14	se.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	24.8	......	68	14	−28	7	48	0.44	......	0.30	5.0	3	12	2	17	nw.	H. J. Bugge.
Sharon	Steele	1,516	11	24.2	......	56	14	−7	6†	31	1.31	+0.71	0.66	8.6	9	4	13	14	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	......	......	...	...	...	...	......	0.72	+0.27	0.24	14.0	5	10	14	7	se.	H. J. Giffey.
Steele	Kidder	1,857	41	27.0	+2.9	67	14	−15	6	37	0.57	−0.24	0.20	2.6	6	10	13	8	sw.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	......	......	...	...	...	...	......	1.48	......	1.02	12.5	7	18	6	7	w.	G. N. Pilgard.
Tioga	Williams	2,279	6	......	......	...	...	...	...	......	0.83	......	0.30	8.3	9	4	14	13	nw	Anton Carlson.
Towner	McHenry	1,482	33	23.6	+1.5	62	26	−27	7	34	1.10	+0.37	0.40	6.0	3	7	10	14	nw.	J. A. Gilje.
Trotters	Golden Valley	......	9	......	......	...	...	...	...	......	0.49	......	0.30	7.5	4	7	10	14	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	......	......	...	...	...	...	......	1.16	+0.42	0.54	10.0	5	......	......	......	......	M. A. Slettum.
Tuttle	Kidder	1,936	27	......	......	...	...	...	...	......	0.87	+0.16	0.40	13.5	6	5	19	7	nw.	Adam Leno.
Valley City	Barnes	1,245	29	28.6	+2.6	64	14	−8	6	47	0.81	+0.24	0.49	7.0	4	13	10	8	w.	I. C. Robertson.
Velva	McHenry	1,511	8	25.9	......	64	25	−25	7	42	0.75	......	0.41	7.0	4	5	12	14	nw.	Oscar Anderson.
Wahpeton	Richland	962	43	32.0	+4.5	62	15	−1	6	32	1.80	+1.02	0.92	5.0	5	15	0	16	nw.	C. G. Luick.
Washburn	McLean	1,731	34	26.6	+2.2	68	14	−18	6	46	1.16	+0.58	0.45	6.0	7	8	8	15	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	19.8	−2.2	55	25	−25	7	56	0.98	+0.52	0.41	7.6	5	8	16	7	se.	D. W. Drake.
Williston	Williams	1,878	56	25.7	+2.8	65	14	−26	7	43	0.54	−0.15	0.33	5.8	3	10	12	9	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	20.0	+0.3	61	25	−31	7	43	1.25	+0.52	0.50	5.0	3	6	20	5	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	6	30.8^f	+4.5	67^f	14	−10^f	6†	43^f	0.72	0.00	0.20	5.0	6	7	2	22	nw.	E. W. Davis.
Zap	Mercer	1,838	20	......	......	...	...	...	...	......	1.02	+0.39	0.40	8.0	4	20	3	8	......	R. A. Norton.
Moorhead, Minn.	Clay	935	54	28.2	+5.5	64	14	0	6	30	1.00	−0.01	0.44	4.8	6	3	16	12	s.	U. S. Weather Bureau.
Averages	......	......	......	26.3	+2.2	75	14	−37	7	57	1.02	+0.32	1.38	7.0	5	9	11	11	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

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Daily Precipitation for March 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	T.			.07	.14	T.	T.		.01	T.	T.	.08			.14					.14		.33	.03				T.	T.		T.		0.94
Amenia	Red				T.	.33	T.				T.						T.					.75		T.			T.						1.08
Arnegard (near)	Missouri	T.		.02	.05	.30				T.	.10		T.																T.		T.		0.47
Ashley	Missouri			T.	.25	.35													T.		.35			T.								T.	0.95
Beach	Lit. Missouri	T.			.34	T.	T.			.03	T.	T.	.06			.20							.31				T.	T		T.	T.		0.94
Berthold Agency	Missouri			T.	.21	.04										.02																	0.27
Bismarck ***	Missouri	T.		T.	.30	.13			T.	T.	T.		.01			.10		T.			.32		.09	.03			T.	.01	T.	T.	T.	T.	0.99
Bottineau	Mouse	.02		.18	.27	.11	T.		.02	.01	.06										.46							T.	.01	T.	.01		1.15
Bowman	Grand				.46	.15				.01		T.	.02			.16					.02		.08					.01		T.			0.91
Cando	Devils Lake																																
Carrington||	James			T.	.24	T.					T.					.02	.01			T.	.52		.02				T.		T.				0.81
Carson	Heart				.80											.10					.01		.20										1.11
Cavalier	Red		.02		.44	.11	T.			T.			T.								.55	.28				.01			T.	T.	T.		1.41
Cooperstown	Sheyenne					.55	.02		.01		T.						T.					.81	T.	.09		.02	.05	T.	T.		T.		1.55
Corinth	Missouri					.25				.03	.25																	.04					0.57
Courtenay	James				.34	.05					T.			.01		T.					.72		.06	T.	T.	T.					T.		1.18
Crosby	Mouse					.20					.20																						0.40
Devils Lake ***	Devils Lake	.01			.18	.01	T.			T.	.02	.01		T.		T.	T.	T			.62						T.	.01	.01	T.	T.	T.	0.87
Dickinson||	Heart	.04	T.	T.	.02	.31	.04	T.	.01		.03	.01		.01			.14				.05		.26	.18			.01	T.	.01		.01	T.	1.16
Dogden Butte	Mouse			.04	.34	.03					T.	T.				.05					.60		T.				T.	T.	T.		T.		1.06
Drake||	Mouse					.45						.03					.03	T.			.10	.24	.01					T.	.03		.01		0.90
Dunn Center	Knife	T.		T.	.18	.10										.18							.29										0.75
Dunseith	Mouse			.10	.20	.15															.03												0.48
Eckman	Mouse	.05		.20	.10	.10					.02										.23						.05	T.	T.				0.75
Edgeley	James				.42	.12															.53												1.07
Edmore	Devils Lake	.10		.01	.02	.23	.01				.02	T.		T.		T.	.01				.45		T.				.03	.01	.03	T.	.02	T.	0.94
Ellendale	James			T.	.50	.63										T.					.67			.01		T.	T.	T.					1.81
Energy	Missouri	.05			.40	.08					T.					.20					.15		.30										1.18
Fairfield	Knife				.20	.20				.30			.05			.20							.20	.20									1.35
Fessenden||	James				T.	.60	.02				.03						.07	.01			.10	.16		.01				.07	.04				1.11
Forman	Sheyenne			T.	1.03	.68							T.				T.	T.			.70			T.				T.	T.			T.	2.41
Fort Yates	Missouri				.45	.45					T.					T					.60			T.				T.			T.		1.50
Foxholm (near)	Mouse			T.	.37	.30	T.		.02		T.						T.				.25						.01		T.	T.	T.		0.95
Fryburg	Heart	.08			.30	.40					.06	T.	.10			.25					.20		.80				T.	T.	T.	T.	T.		2.19
Fullerton	James			.04	.65	.52										T.					.97		T.	.03				T.	.02			.03	2.26
Gackle	James				.02	.31					T.					T.					.28							T.	T.				0.61
Garrison	Missouri			T.	.70	.05					T					T.					.20		T.					T.	T.				0.95
Grafton	Red	.13			.27	.10															.40						T.	T.					0.90
Grand Forks ***	Red	T.		.01	.22	.04	T.		T.	T.	T.	T.	T.			T.					.63		.02			T.	.02	T.	.01	.01	T.		0.99
Granville	Mouse	.01		T.	.02	.39			T.	T	T.					T.	T.				.33					.08			T.	T			0.83
Hankinson	Red			.65	.55	.07				.04											.23		T.					T.	T.			.20	1.74
Hannah	Pembina	T.	.08		.88	.07	T.		T.	T.	T.						T.				.25	.07				T.	T.	.04	T.	T.	T.		1.39
Hansboro	Devils Lake	.20			.50	.10															.75												1.55
Hettinger	Grand				.22	.04				T.			.02			.08								.01								.04	0.41
Hillsboro	Red				.35	.12				.02											.65							T.					1.14
Howard (near)	Missouri				T.	.20					T.					T.												T.		T.	T.	T.	0.20
Jamestown	James	T			.37	.15									T.	.07					.86			.05									1.50
Kenmare	Mouse	T.			.11	.31			T.		.26	.01				T.					T.					.03	.06		T.				0.78
Langdon	Pembina										.10	.10										.90											1.10
Larimore	Red				.22																.67		T.					T.	T.		T.		0.89
Linton	Missouri	T.			.30	.10					T.		T.			T.			T.		.39			.04			T.	T.	T.		T.		0.83
Lisbon	Sheyenne			.10	.87	.58				T.			T.						T.		.76			.03				.01					2.35
McClusky	Missouri	T.			.50																.42		.09					T.					1.01
McLeod	Sheyenne				.90	.41															.46			T.				T.					1.77
Maddock	Sheyenne					.05					T.	T.				.02		T.			.34	T.						T.	T.		T.		0.41
Mandan||	Missouri			.27	.22	.03		T.		T.	T.		T.			.09				.32	.04		.16			T.		T.		T.			1.13
Manfred	James	T.			.25	.12					.06					.02		.03			.34		.02				.02	T.	T.				0.86
Marmarth	Lit. Missouri					.30				.08			T.			.30							.20	.10				.10					1.08
Mary	Lit. Missouri	T.			.35				.06				.04			.02							.01					T.					0.48
Max||	Missouri			T.	T.	.06	.05				T.						.10				T.	.20						T.		T.			0.41
Mayville	Red				.14	.01		T.	T.	.01		T.					.01				.45	.08	T.	.01				T.	T.				0.71
Minot	Mouse			T.	.25						.01					T.					.07						.04	T.	T.				0.37
Mohall	Mouse	.10		.08		.15						.16									.34						.06	T.	T.	T.	T.	T.	0.89
Mott	Cannon Ball	.02		T.	.15					.04			.01			.23					T.		.14										0.59
Napoleon ||	Missouri					.40	.10					T.					.10				.09	.16		.10				.01	.02	.03	.01		1.02
New England	Cannon Ball				.06	.02					.02		.01		.36					.01			.57										1.05
New Salem	Heart			T.	.50	.01			T.		T.	T.	.01								.03		.10	.14				T.	T		.01		0.80
Oakes	James			.12	.60	.73							T.							T.	.63			T.				T.	T.				2.08
Park River	Red		.22		.25	T.														T.	.60												1.07
Parshall	Missouri			T.	T.	.44	T.			T.	.01					.03											T.	T.					0.48
Pembina	Red		.01		.22	.05	T.			.02	.01	T.									.25	.05	T.				.21	.02	.01	.01	T.	T.	0.86
Petersburg	Red	T.			.32	.10					T.	T.						T.			.45		T.					.01	T.		.01		0.89
Pettibone	James	T.		T.	T.	T.										.03					.60		.30				T.	T.	T.		T.		0.93
Portal||	Mouse			T.	.42	.23					.30																	T.	.04				0.99
Powers Lake	Missouri													.27			.31			.16													0.74
Richardton	Heart	T.		T.	1.38	T.				.02	T.		T.			.20					.06		.83					T.		T.			2.49
Rugby [near]	Mouse	T.	T.	T.	.20						T.					T.					.34						T.	T.	T.				0.54
Ryder	Missouri			T.		.25				.07	.02					.02					.17					T.		T.		.02	T.		0.55
Sanish||	Missouri			.12		.30				T.											.02						T.	T.					0.44
Sharon	Red	T.		T.	.46	.04	T.	T.		.01	T.	T.				.02	T.	.02			.66		.08	T		T.	.01	T.	.01	T.	T.		1.31
Stanton	Missouri	.04			.23	.04					T.					.17							.24										0.72
Steele	Missouri	.02			.20	.06					T.					.04		T.			.20		T.	.05			T.	T.	T.				0.57
Tagus	Mouse			.05	.19	1.02			.15		.04										.02						T.	T.	T.	T.		.01	1.48
Tioga	Missouri				.10	30		T.		.10	.25										.02					.02	.01	T.		.02		.01	0.83
Towner	Mouse	T.		.30	.40	T.	T.										T.				.40						T.						1.10
Trotters	Lit. Missouri					.30					.03					.07							.09				T.						0.49
Turtle Lake	Missouri				.38	.02										.07					.54		.15										1.16
Tuttle	Missouri				.28	.08					T.					.04					.40		.06					.01					0.87
Valley City	Sheyenne			T.	.23	.05										T.					.49		.04					T.					0.81
Velva	Mouse			T.	.41	.07	T				T.	T.	T.			.04		T.			.23						T.	T.	T.		T.		0.75
Wahpeton	Red				.92	.45				.06											.35			.02									1.80
Washburn	Missouri			T.		.45	.02					T.					.05				.10	.29	.20	.05					T.				1.16
Westhope	Mouse			.05	.41	.30															.20					.02	T.			T.	T.	T.	0.98
Williston ***	Missouri			T.	.33	.13		T		.08	T.		T.			T.										T.	T.	T.	T.	T.		T.	0.54
Willow City	Mouse			.25		.50					T.										.50							T.		T.			1.25
Wishek||	Missouri				.06	.20	.02														.20	.18		.06									0.72
Zap	Knife					.40				T.			T.			.05					.22		.35					T.		T.			1.02
Moorhead, Minn ***	Red	T.	T.	.04	.29	.10	T.	T.	T.	.11	T.	T.	T.	T		T.					.44		T.	.02			T.	T.	T.	T.		T.	1.00

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for March 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	32	34	34	34	21	24	26	28	30	32	28	38	44	64	44	40	52	54	58	42	38	34	42	44	49	48	33	30	32	33	42	38.2
	Minimum	10	12	16	22	14	-4	0	6	2	6	4	9	10	11	24	17	17	26	25	30	21	20	18	28	30	33	21	15	11	14	12	15.5
Arnegard (near)	Maximum	35	45	50	37	18	7	15	37	30	15	32	35	56	64	48	38	54	38	42	50	44	38	36	52	53	58	45	30	24	24	29	38.0
	Minimum	22	26	27	18	0	-19	-22	7	15	4	4	16	30	42	18	10	30	26	26	27	32	27	24	23	30	40	16	12	7	2	7	17.0
Ashley	Maximum	50	47	38	32	30	10	15	31	41	33	23	37	35	65	61	33	49	48	52	49	49	47	35	62	64	61	35	30	31	30	35	40.6
	Minimum	22	20	21	28	0	-9	-10	5	28	13	5	28	22	31	27	15	26	33	29	32	39	25	20	27	33	33	19	17	15	15	15	20.1
Beach	Maximum	50	48	58	50	5	3	17	36	35	16	34	42	57	69	63	40	48	45	50	47	47	45	37	56	63	59	30	34	30	23	29	40.8
	Minimum	28	15	30	4	-3	-17	-15	12	11	4	16	22	27	38	18	10	26	29	25	32	24	25	18	28	35	23	14	16	15	6	11	17.0
Berthold Agency	Maximum	54	41	46	37	9	7	15	35	34	23	32	38	47	71	59	51	55	44	55	53	41	39	42	59	68	57	29	30	30	26	35	40.7
	Minimum	15	15	23	7	-3	-26	-27	5	23	7	-2	13	21	32	22	8	36	31	27	32	21	21	25	25	39	27	18	9	8	7	14	15.2
Bismarck	Maximum	54	38	39	31	4	6	17	35	36	20	29	39	39	72	48	39	50	42	54	52	46	36	36	59	66	49	29	30	32	27	33	38.3
	Minimum	20	17	28	3	-11	-17	-17	7	18	10	3	16	20	36	19	11	26	30	29	33	27	26	24	27	35	29	14	18	15	13	14	16.9
Bottineau	Maximum	30	32	34	36	7	8	6	27	36	32	20	36	33	46	50	33	36	37	43	44	35	30	35	68	54	57	38	21	23	22	27	43.9
	Minimum	-4	-4	15	5	-10	-17	-19	0	21	14	-5	8	5	33	21	5	15	25	18	33	12	18	11	28	31	32	7	9	3	2	7	10.3
Bowman	Maximum	55	46	51	30	18	4	18	39	36	20	36	45	57	72	55	40	48	39	53	51	54	36	48	62	61	58	26	38	31	22	30	41.3
	Minimum	16	22	28	18	-1	-11	-4	18	20	12	5	20	36	42	20	8	26	28	28	29	26	26	24	26	33	25	18	19	18	8	10	19.2
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carrington §§	Maximum	41	32	38	30	6	6	14	29	49	21	25	36	40	63	38	33	46	43	53	38	32	29	34	50	58	44	20	23	28	23	34	34.1
	Minimum	12	13	19	6	-12	-15	-12	12	16	3	3	12	12	35	12	12	20	26	31	17	18	11	12	25	32	17	10	10	12	12	15	12.6
Carson	Maximum	54	39	37	31	15	12	15	35	35	20	32	40	47	70	50	40	50	40	52	52	51	45	62	67	65	40	30	35	33	31	34	40.6
	Minimum	27	17	22	8	-2	-17	-10	10	16	9	-2	10	20	35	18	10	20	28	25	34	25	20	25	30	30	22	18	18	14	8	10	16.1
Crosby	Maximum	33	37	38	35	2	2	12	31	27	22	30	32	36	43	43	38	46	36	50	46	25	30	46	57	57	36	20	21	20	27	27	32.4
	Minimum	6	15	22	2	-4	-7	-23	5	20	3	6	14	16	35	1	14	21	29	25	15	12	20	19	26	32	10	3	8	4	10	10	11.9
Devils Lake	Maximum	36	27	36	29	15	8	12	27	39	25	19	32	31	56	38	29	42	40	50	40	28	28	31	35	46	43	20	21	25	22	31	31.0
	Minimum	9	11	18	15	-3	-7	-11	3	24	9	3	15	7	30	19	13	26	28	28	26	17	19	15	23	32	20	10	11	9	12	14	14.4
Dickinson §§	Maximum	53	43	47	32	0	3	22	37	27	17	34	42	55	71	36	40	50	37	53	51	42	27	38	57	66	41	27	34	28	23	31	37.5
	Minimum	17	14	18	30	-1	-18	-17	-3	21	8	-3	2	26	29	35	6	11	27	25	29	21	24	20	18	24	31	16	16	16	9	9	14.8
Drake §§	Maximum	47	33	40	28	-1	3	15	31	38	18	26	32	42	62	33	38	45	26	54	42	33	30	34	56	63	42	18	23	27	22	31	33.5
	Minimum	10	12	12	27	-2	-9	-17	-13	15	17	0	0	16	18	32	13	19	28	28	33	19	20	19	22	32	36	10	10	10	10	13	16.7
Dunn Center	Maximum	53	40	48	31	8	6	17	39	32	19	34	40	52	66	53	42	39	41	54	51	43	34	39	54	63	52	30	31	28	25	31	38.5
	Minimum	20	12	25	7	-3	-24	-37	10	18	11	2	19	24	36	20	9	21	21	27	37	21	25	23	19	32	29	20	21	12	13	25	20.1
Dunseith	Maximum	28	26	32	32	5	7	6	25	34	32	16	35	28	54	50	27	36	35	42	42	34	27	33	51	54	53	30	18	22	20	26	31.0
	Minimum	2	3	12	2	-9	-8	-17	-3	19	10	-4	8	4	25	18	5	15	25	19	30	9	15	4	22	28	28	5	7	5	6	5	9.4
Edgeley	Maximum	42	42	31	31	35	6	10	12	38	38	35	26	30	67	64	31	46	53	50	39	30	25	40	35	50	60	34	30	33	30	32	36.3
	Minimum	15	19	15	25	0	-8	-11	-5	9	15	5	16	10	30	29	15	21	34	15	20	24	16	29	25	29	29	16	25	13	15	11	16.2
Ellendale	Maximum	41	37	39	32	30	10	12	34	38	31	26	40	38	52	46	32	46	51	52	41	49	39	40	57	62	48	36	30	32	31	35	38.3
	Minimum	22	20	25	30	4	-5	-6	7	31	17	8	21	22	30	30	18	25	35	29	37	29	27	22	31	32	36	20	20	17	19	18	21.6
Fessenden §§	Maximum	44	32	42	36	1	0	18	32	40	20	25	35	45	61	32	35	47	41	54	36	31	29	34	59	60	44	29	29	28	23	33	34.7
	Minimum	12	12	15	26	-1	-16	-18	-6	18	14	2	7	5	15	17	12	29	29	26	34	22	21	26	21	31	34	12	10	9	11	11	14.2
Foxholm (near)	Maximum	38	30	35	35	0	3	8	28	35	30	21	31	34	55	52	36	41	41	49	48	29	30	35	57	62	55	20	22	24	19	29	33.3
	Minimum	6	8	21	0	-9	-11	-17	-7	19	7	-2	16	15	30	19	11	22	27	26	29	13	20	13	27	36	20	6	8	5	4	9	12.0
Fullerton	Maximum	42	39	42	33	32	8	13	35	40	37	25	43	35	68	55	32	47	51	54	45	48	40	42	55	61	48	36	28	32	29	36	39.5
	Minimum	21	19	20	32	2	-5	-6	10	31	17	8	20	20	32	30	18	23	35	29	32	28	28	21	32	34	36	19	18	16	19	17	21.2
Garrison	Maximum	53	45	37	37	4	8	12	32	34	26	31	25	34	70	70	40	47	47	55	49	50	33	36	58	64	42	34	28	28	24	32	38.2
	Minimum	15	15	26	3	-4	-20	-18	0	24	9	0	13	16	30	20	10	23	31	27	32	24	24	20	24	34	29	12	8	10	9	11	14.8
Grafton	Maximum	34	34	35	34	28	14	18	28	33	34	23	35	25	51	51	31	38	42	49	45	41	30	32	37	45	45	44	24	28	27	33	34.5
	Minimum	8	7	8	26	3	2	1	0	24	18	5	5	3	20	26	14	20	31	25	31	20	19	13	24	32	39	15	13	14	16	14	16.0
Grand Forks	Maximum	34	29	36	32	27	16	19	30	34	29	19	35	26	57	38	29	39	47	50	41	34	29	32	39	47	47	27	25	28	26	35	33.4
	Minimum	9	14	16	27	5	3	4	8	25	14	6	9	5	26	21	16	25	27	27	33	22	21	14	28	33	27	16	14	14	15	18	17.5
Granville	Maximum	41	32	37	38	6	5	9	30	40	35	24	32	33	61	51	38	43	44	54	43	31	32	36	62	64	62	32	22	26	25	32	36.1
	Minimum	3	8	21	5	-4	-10	-25	-2	24	10	0	16	11	32	22	14	20	28	28	31	17	22	17	25	28	32	10	10	9	9	14	13.8
Hansboro	Maximum	34	32	32	32	10	12	15	26	34	34	25	28	27	45	42	30	40	38	50	40	37	29	32	40	50	42	32	22	22	25	27	31.7
	Minimum	4	4	10	5	-7	-8	-20	-3	20	20	-1	6	-4	22	22	10	11	20	25	32	15	15	6	20	30	32	9	8	8	9	8	10.6
Hettinger	Maximum	64	44	43	36	12	7	20	40	36	18	38	44	54	73	55	43	50	46	54	53	58	52	53	65	69	59	32	39	33	27	29	43.4
	Minimum	28	13	30	12	-3	-18	-10	14	16	8	-1	22	29	35	19	6	18	27	23	36	20	27	18	23	24	30	20	21	19	8	11	16.9
Hillsboro	Maximum	35	37	35	35	31	22	30	34	35	34	26	38	32	61	59	28	43	52	55	50	33	32	36	42	48	46	44	23	30	35	37	38.0
	Minimum	10	20	15	29	8	-1	5	10	25	23	10	10	9	25	28	17	25	33	22	32	23	26	17	30	30	41	17	15	15	15	10	19.2
Howard (near)	Maximum	30	36	39	25	10	-7	13	30	29	19	28	35	40	54	45	38	53	41	53	45	34	28	42	57	63	45	22	25	22	37	22	33.6
	Minimum	10	13	18	10	-7	-20	-15	-8	18	1	-8	18	18	35	18	14	18	27	25	28	18	11	20	27	35	18	5	8	1	8	6	11.9
Jamestown	Maximum	39	41	40	32	27	7	14	32	43	33	24	38	34	61	51	32	49	49	55	47	35	29	36	53	57	47	34	26	30	28	37	37.4
	Minimum	12	15	19	25	-3	-11	-11	9	26	16	4	18	14	29	25	14	23	32	28	31	21	23	20	30	32	32	14	14	12	14	13	17.4
Kenmare	Maximum	37	32	38	32	5	4	10	29	35	33	24	35	35	55	49	37	42	43	50	49	31	27	39	58	60	58	21	21	22	20	30	34.2
	Minimum	5	12	24	5	-6	-8	-23	-2	22	7	-1	17	19	34	20	15	22	29	30	31	14	19	17	30	38	20	7	9	8	7	11	13.9
Langdon §§	Maximum	35	30	35	30	20	15	18	30	37	23	25	23	30	48	31	35	35	38	50	40	36	31	35	37	40	45	20	24	20	24	30	31.3
	Minimum	-2	0	5	20	-2	-14	-15	-15	0	17	0	0	-5	20	25	7	8	30	30	28	10	10	8	10	25	30	10	8	7	8	9	8.8
Larimore	Maximum	37	33	34	33	27	17	20	29	34	32	19	34	27	52	49	29	41	45	49	39	36	28	34	40	42	45	33	25	28	27	35	34.0
	Minimum	8	12	15	25	1	-2	-2	4	25	19	7	6	6	24	26	15	24	31	27	30	20	19	13	26	32	33	17	14	13	14	11	16.7
Linton	Maximum	55	50	39	33	25	7	20	35	39	29	28	39	41	70	60	37	52	47	55	51	50	35	39	62	67	62	35	34	32	30	35	41.7
	Minimum	21	17	17	24	0	-11	-11	8	27	13	4	14	17	32	24	13	25	31	28	34	26	26	22	28	37	26	20	15	16	14	14	18.4
Lisbon §§	Maximum	39	40	37	33	33	12	19	31	43	42	26	40	37	65	59	32	48	53	58	54	45	43	42	50	47	51	41	27	33	31	32	40.1
	Minimum	14	17	16	31	9	-4	-2	11	27	20	9	19	15	30	32	20	25	35	28	33	28	28	20	32	33	40	20	18	14	18	16	21.0
McClusky	Maximum	59	43	47	35	16	5	15	31	37	23	22	36	33	65	51	37	46	54	44	41	40	28	34	58	63	45	40	25	28	25	33	37.4
	Minimum	2	11	10	14	-6	-19	-15	3	20	8	-2	12	20	31	23	12	22	28	30	32	22	22	20	24	32	22	13	10	17	13	19	14.5
Maddock	Maximum	40	38	38	36	12	6	11	28	40	31	20	35	36	60	58	33	43	41	53	51	33	31	32	53	60	58	33	22	29	26	32	35.8
	Minimum	5	9	18	10	-5	-13	-20	-2	23	13	0	11	7	29	24	11	25	31	25	31	18	19	14	22	31	31	9	9	6	9	11	13.3
Marmarth	Maximum	56	49	54	47	16	8	20	40	38	23	40	48	61	73	59	40	48	41	52	53	55	47	51	62	68	60	32	40	33	24	31	44.2
	Minimum	32	15	32	16	-1	-12	-14	14	14	9	2	22	28	37	18	5	25	27	14	33	23	36	21	25	29	30	21	21	20	8	8	18.0
Minot	Maximum	46	33	38	35	13	6	12	32	39	31	25	34	35	63	58	38	45	42	55	52	32	32	38	61	64	62	25	23	26	23	31	37.1
	Minimum	5	14	25	4	-5	-15	-17	-3	22	11	1	13	18	33	20	14	22	31	28	32	18	24	18	31	38	25	10	11	8	8	11	14.7
Mohall	Maximum	27	26	35	24	4	9	9	27	36	33	25	36	36	51	51	34	39	39	49	44	31	28	38	58	60	60	35	21	27	22	29	33.6
	Minimum	1	-4	12	2	-7	-6	-2	5	21	8	-3	15	9	30	21	11	19	28	27	30	12	19	16	27	32	33	8	10	9	8	10	12.9
Mott	Maximum	59	42	43	34	14	10	19	40	35	20	37	45	59	75	56	45	51	41	54	54	56	44	53	65	69	58	30	38	32	30	36	43.4
	Minimum	27	15	28	12	0	-16	-12	13	15	9	-2	18	26	36	19	4	22	25	22	37	20	26	19	24	27	29	20	20	17	10	10	16.8
Napoleon §§	Maximum	50	41	38	32	31	7	18	32	39	22	26	39	40	66	45	35	50	47	55	45	47	33	38	63	65	46	27	29	33	29	39	38.9
	Minimum	15	19	22	29	1	-15	-15	1	18	11	0	15	17	33	35	11	25	31	27	33	24	33	19	27	33	33	22	15	10	12	11	17.8
New England §§	Maximum	56	45	48	32	9	8	24	40	22	20	37	48	60	37	71	47	51	41	52	50	57	38	46	64	67	43	37	46	36	38	33	42.0
	Minimum	15	22	28	-1	-15	-14	2	6	-5	-2	5	22	28	7	18	24	29	25	33	20	25	18	21	31	32	19	18	22	10	14	15	15.3
New Salem	Maximum	55	45	45	35	16	12	14	35	35	27	31	40	42	73	61	41	50	45	54	51	50	47	35	71	68	61	48	37	38	33	35	42.9
	Minimum	21	14	24	15	-3	-17	-13	5	20	10	0	18	22	37	20	14	26	31	28	32	22	29	21	26	31	28	22	17	12	8	11	17.1
Oakes	Maximum	43	38	42	33	32	12	18	36	44	36	27	41	36	64	53	36	49	54	57	47	49	43	45	56	63	52	38	29	34	32	37	41.2
	Minimum	19	18	19	31	5	-5	-5	11	31	18	9	21	18	31	29	19	24	36	28	32	28	28	21	31	33	38	19	19	15	19	16	21.2
Park River	Maximum	33	25	31	30	26	18	18	40	31	27	23	31	23	49	30	28	38	39	46	36	36	20	33	34	41	42	41	20	25	27	31	31.5
	Minimum	7	6	5	18	5	0	-1	-4	9	7	4	6	2	6	27	13	16	28	28	30	18	16	12	19	30	32	14	13	12	17	12	13.1
Sharon	Maximum	36	31	33	30	25	18	17	26	34	32	20	35	27	56	42	31	41	46	52	41	32	27	33	37	40	45	32	23	27	25	34	33.2
	Minimum	8	12	15	25	1	-7	-7	1	23	13	3	5	5	25	25	15	22	30	27	31	17	19	12	27	31	32	13	12	11	13	11	15.2
Steele	Maximum	49	40	37	33	11	5	20	32	36	26	23	36	35	67	55	33	47	45	54	47	42	30	36	60	62	51	32	23	30	33	32	37.6
	Minimum	12	18	23	14	-2	-15	-14	2	26	13	1	16	20	32	21	10	23	31	27	32	24	20	21	27	33	32	12	13	12	13	11	16.4
Towner	Maximum	36	34	35	38	12	5	7	27	35	30	23	30	32	50	52	34	38	38	45	46	38	30	33	56	60	62	37	22	26	21	30	34.1
	Minimum	31	0	34	8	-4	-6	-27	-4	23	10	-3	9	4	31	22	7	18	29	24	31	15	19	15	25	26	30	9	10	6	7	10	13.2
Valley City	Maximum	38	40	36	36	31	10	43	40	30	42	32	38	34	64	62	32	48	50	55	50	37	40	38	45	46	48	37	25	32	30	37	39.5
	Minimum	12	15	17	28	6	-8	8	-7	7	17	6	12	11	28	26	16	22	33	35	30	19	25	27	30	31	35	16	14	12	15	12	17.7
Wahpeton	Maximum	40	41	40	43	42	19	25	30	36	41	33	40	41	58	62	36	43	52	56	50	50	43	50	50	53	53	31	33	34	21	38	42.5
	Minimum	14	22	20	30	13	-1	3	11	11	21	11	16	15	26	31	20	22	25	29	37	28	37	23	32	32	43	22	18	16	21	18	21.5
Westhope	Maximum	26	27	35	25	2	13	6	26	35	22	23	32	32	50	42	35	36	34	45	39	36	38	36	52	55	40	21	8	22	26	24	31.0
	Minimum	-6	-3	12	-8	-10	-7	-25	-3	-21	11	-5	13	5	26	20	6	15	26	26	30	12	14	16	26	31	21	8	10	6	9	11	8.6
Williston	Maximum	44	41	52	33	3	-1	17	35	30	16	30	37	49	65	48	43	50	36	52	49	38	35	47	60	63	40	22	27	22	23	29	36.6
	Minimum	15	18	30	2	-4	-20	-26	13	13	2	-2	18	21	39	20	16	22	28	28	25	18	25	27	27	37	21	10	13	10	7	9	14.8
Moorhead, Minn	Maximum	38	34	38	36	35	14	21	30	36	30	22	40	38	64	47	28	41	51	56	41	40	40	40	46	46	50	29	25	28	28	37	36.7
	Minimum	15	18	18	31	5	0	4	10	27	17	9	12	11	27	24	18	25	29	29	32	27	27	20	31	33	28	18	16	15	19	17	19.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 4-29-35—1050.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIV   BISMARCK, N. D., APRIL 1935   No. 4

GENERAL SUMMARY

April was a cool month, with temperatures near zero in the northern counties during the first few days. The precipitation averaged above normal, March and April 1935 being the only months with precipitation above the average since December 1933. Moisture was well distributed throughout the State, except in the northwest portion where it is still dry. The precipitation was also well distributed throughout the month, but with the greatest amount during the third decade. A severe dust storm occurred at most stations on the 22d, and light to moderate dust storms were reported on a few other dates. At the close of the month farm work and crops were backward due to the cold weather, but grass was becoming green and soil was in good condition for planting in all but the northwest section.

TEMPERATURE

The mean temperature for the State was 38.4°, or 3.2° below the 44 year average, and was 5.3° lower than the mean for April 1934. The highest mean reported was 43.4° at Towner, McHenry County; the lowest was 35.8° at Park River, Walsh County. The highest temperature reported was 83° at Towner, McHenry County on the 22d; the lowest was zero at Howard, Williams County on the 1st, and at Bottineau, Bottineau County on the 2d. The greatest monthly range of temperature was 78° at Howard, Williams County; the least was 51° at Cooperstown, Griggs County. The greatest daily range of temperature was 55° at Towner, McHenry County on the 14th.

PRECIPITATION

The average precipitation for the State was 1.94 inches, or 0.48 inch above the 44 year average, and 1.50 inches more than the average for April 1934. The greatest monthly amount reported was 4.77 inches at Fullerton, Dickey County; the least reported was 0.35 inch at Eckman, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 2.07 inches at Jamestown, Stutsman County on the 25th. The average number of days with 0.01 inch or more of precipitation was 8. The average snowfall was 3.6 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Corinth, 7th, 24th; Devils Lake, 8th, 11th, 15th, 26th; Eckman, 13th; Foxholm, 4th, 8th, 10th; New England, 11th; Oakes, 8th, 11th; Petersburg, 8th, 9th; Sharon, 8th; Tagus, 11th, 12th; Napoleon, Tuttle, 9th; Willow City, 10th.

FOG: Bismarck, 5th, 9th, 10th; Carson, Mott, New Salem, 7th; Crosby, Foxholm, Max, 4th; Devils Lake, 3d, 5th, 17th; Ellendale, 8th; Grand Forks, 24th, 25th, 26th, 27th; Linton, 5th; Moorhead, 24th, 25th, 27th; New England, 3d, 5th, 9th, 10th; Oakes, 26th; Petersburg, 5th, 26th; Richardton, 10th; Rugby, 4th, 5th, 24th, 26th; Sharon, 7th, 24th; Steele, 5th, 25th; Tagus, 4th, 7th, 10th; Tuttle, 20th, 24th.

HAIL: Beech, 13th; McClusky, 16th; Bismarck, Dogden Butte, Pettibone, Richardton, Westhope, 28th.

HALOS, lunar: Devils Lake, Petersburg, 10th; Williston, 16th.

HALOS, solar: Devils Lake, 9th, 18th; Dogden Butte, 4th, 18th; Grand Forks, Sharon, 9th; Marmarth, 25th; Moorhead, 9th, 10th, 11th, 28th; Petersburg, 9th, 19th, 27th; Rugby, 18th; Tagus, 18th, 26th; Trotters, 24th; Tuttle, 10th; Williston, 24th, 29th.

SLEET: Bismarck, 16th, 17th; Dogden Butte, 14th; New England, 9th; Devils Lake, Pettibone, Rugby, Westhope, 16th; Richarton, 9th, 11th, 27th; Steele, 28th; Velva, 29th.

THUNDERSTORMS: Beech, Devils Lake, Dogden Butte, Edmore, Foxholm, Mandan, Napoleon, New Salem, Oakes, Rugby, Steele, Tuttle, 13th; Bismarck, Pettibone, 13th, 28th; Fullerton, 24th; McLeod, 23d, 25th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.03	30.53	11	29.47	22	11.4	35	w.	13	83	54	59	47
Devils Lake	30.07	30.49	11	29.59	13	10.2	32	nw.	14	88	64	69	49
Grand Forks	30.04	30.41	11	29.56	13	......	35	nw.	15	83	....	62	....
Williston	30.01	30.66	11	29.40	22	10.5	35	nw.	13	82	52	52	61
Moorhead, Minn	30.05	30.43	12	29.58	14	9.6	27	nw.	14	85	68	70	46
Averages & ext's	30.04	30.66	11	29.40	22	10.4	35	w.	13†	84	60	62	51

† And other dates.

COMPARATIVE DATA FOR APRIL

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	37.6	−4.0	75	− 2	2.65	+1.19	5.50	1.00	6.3	7	10	6	14
1893.	34.3	−7.3	77	− 8	1.73	+0.27	3.98	0.10	7.8	6	7	9	14
1894.	42.8	+1.2	92	12	3.06	+1.60	7.48	2.00	4.4	9	8	10	12
1895.	49.6	+8.0	87	10	2.23	+0.77	5.16	0.64	0.0	5	13	8	9
1896.	40.1	−1.5	92	2	4.37	+2.91	8.61	0.63	5.1	9	9	8	13
1897.	40.8	−0.8	93	7	1.01	−0.45	3.25	T.	1.1	5	12	8	10
1898.	41.9	+0.3	87	− 4	1.38	−0.08	4.16	0.15	0.5	5	14	9	7
1899.	38.0	−3.6	86	−22	1.36	−0.10	4.20	0.40	6.3	6	12	10	8
1900.	49.3	+7.7	93	11	0.85	−0.61	2.28	T.	T.	3	20	6	4
1901.	44.5	+2.9	92	10	0.98	−0.48	2.89	T.	0.3	4	12	9	9
1902.	40.2	−1.4	87	− 2	1.06	−0.40	3.84	T.	2.9	3	12	8	10
1903.	42.5	+0.9	83	8	1.23	−0.23	3.65	T.	2.7	5	16	6	8
1904.	37.4	−4.2	91	2	1.70	+0.24	4.62	0.13	8.1	5	13	5	12
1905.	40.2	−1.4	83	3	0.63	−0.83	1.97	0.00	3.7	3	15	8	7
1906.	46.7	+5.1	88	8	1.50	+0.04	3.51	0.42	1.3	5	14	7	9
1907.	31.9	−9.7	80	− 6	0.57	−0.89	2.08	T.	4.2	4	10	9	11
1908.	43.9	+2.3	91	−19	1.47	+0.01	3.76	0.12	5.9	5	16	6	8
1909.	34.2	−7.4	80	3	0.81	−0.65	2.27	0.00	5.1	6	10	9	11
1910.	48.0	+6.4	96	4	1.30	−0.16	3.45	0.07	2.9	4	16	8	6
1911.	41.5	−0.1	90	− 5	1.30	−0.16	3.14	T.	6.3	5	15	6	9
1912.	44.4	+2.8	88	2	2.34	+0.88	4.79	0.90	1.7	7	14	8	8
1913.	46.8	+5.2	94	11	0.71	−0.75	2.00	T.	2.4	4	16	6	8
1914.	40.9	−0.7	84	2	1.66	+0.20	4.10	0.20	2.8	6	9	10	11
1915.	50.3	+8.7	99	5	1.08	−0.38	2.41	0.29	T.	5	15	8	7
1916.	39.2	−2.4	79	− 6	1.40	−0.06	3.35	T.	2.9	5	10	10	10
1917.	37.2	−4.4	73	5	1.68	+0.22	4.22	0.24	5.6	7	9	9	12
1918.	41.4	−0.2	81	0	2.15	+0.69	3.69	0.75	3.0	7	12	8	10
1919.	42.3	−0.7	79	6	1.50	+0.04	4.23	0.55	6.2	6	11	9	10
1920.	32.1	−9.5	63	−11	0.83	−0.63	2.39	0.10	2.1	5	13	8	9
1921	41.1	−0.5	91	1	1.81	+0.35	4.72	0.27	3.8	7	14	7	9
1922.	42.3	+0.7	89	− 2	0.92	−0.54	3.15	T.	2.3	6	10	9	11
1923.	38.7	−2.9	89	−15	1.45	−0.01	3.82	T.	7.2	5	13	8	9
1924.	39.3	−2.3	84	6	2.55	+1.09	5.91	0.50	7.5	9	8	9	13
1925.	47.8	+6.2	85	10	1.64	+0.18	4.24	0.36	T.	6	11	10	9
1926.	42.8	+1.2	98	− 4	0.28	−1.18	1.56	0.00	0.9	3	17	8	5
1927.	41.4	−0.2	95	7	1.70	+0.24	2.95	0.41	2.3	7	10	8	12
1928.	35.9	−5.7	84	− 6	0.88	−0.58	2.30	0.08	5.0	5	12	10	8
1929.	41.5	−0.1	85	− 9	1.31	−0.15	3.03	0.04	3.4	6	12	9	9
1930.	47.3	+5.7	86	8	1.25	−0.21	3.67	0.10	0.5	6	14	7	9
1931.	44.1	+2.5	87	3	0.43	−1.03	2.38	0.00	0.7	2	18	8	4
1932.	44.1	+2.5	79	0	2.16	+0.70	6.00	0.38	0.7	8	9	9	12
1933.	40.0	−1.6	84	2	1.33	−0.13	2.90	0.13	7.3	5	11	9	10
1931.	43.7	+2.1	95	7	0.44	−1.02	1.28	0.00	1.9	3	15	8	7
1935.	38.4	−3.2	83	0	1.94	+0.48	4.77	0.35	3.6	8	9	9	12
Per..	41.6	....	99	−22	1.46	....	8.61	0.00	3.4	5	12	8	10

Climatological Data for April 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	9	......	......	....	....	.....	....	.....	1.30	....	0.99	7.0	5	20	9	1	se.	H. A. Bury.
Amenia	Cass	954	39	38.8	−3.2	68	22	10	8	37	3.51	+1.71	1.45	8.0	8	0	17	13	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	37.0	−4.1	78	21	3	2	39	1.50	+0.03	1.00	6.8	7	20	5	5	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	38.4	−4.2	70	22	11	3	40	3.35	+1.43	1.30	10.0	12	10	6	14	se.	H. D. Piper.
Beach	Golden Valley	2,759	29	39.2	−2.8	77	21	6	2	41	1.31	+0.09	0.85	8.1	6	......	......	......	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	39.6	−3.9	76	21	5	2†	40	1.32	+0.23	0.75	T.	6	17	1	12	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	60	40.2	−1.9	72	21	13	2	36	3.03	+1.51	1.12	5.4	16	6	11	13	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	38.4	−0.7	72	27	0	2	50	1.09	+0.20	0.46	2.0	11	13	11	6	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	38.1	−4.5	77	21	1	2	41	1.16	+0.03	0.27	3.0	8	12	9	9	se.	George Larsen.
Cando	Towner	1,488	34	......	......	....	....	.....	....	.....	......	....	......	......	......	......	......	......	......	A. J. Swanson.
Carrington	Foster	1,579	37	37.2	−2.4	68	21	12	1	38	3.27	+2.04	1.90	5.0	11	12	8	10	se.	L. A. Swanson.
Carson	Grant	2,500	23	38.2	−4.5	75	18	9	2	45	3.06	+1.58	0.60	5.0	12	13	5	12	se.	J. W. Evens.
Cavalier	Pembina	891	25	38.3	......	69	21†	12	1†	40	2.08	+0.86	0.95	T.	8	8	11	11	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	36.8	......	65	23	14	2	33	2.57	+1.01	1.32	2.0	8	15	4	11	ne.	Theo. Marquardt.
Corinth	Williams	2,180	7	......	......	....	....	.....	....	.....	0.52	....	0.15	1.0	6	0	22	8	se.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	......	......	....	....	.....	....	.....	3.18	....	1.81	2.0	8	8	13	9	nw.	Geo. E. Berg.
Crosby	Divide	1,954	28	36.5	−3.7	74	21	5	2†	38	0.74	−0.38	0.31	0.2	5	3	9	18	nw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	37.6	−1.2	67	22	10	2	32	1.67	+0.15	0.95	1.1	9	6	6	18	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	37.7	−4.4	75	21	10	2	41	2.29	+1.06	1.37	10.2	11	5	15	10	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	38.0	......	70	21	10	2	47	1.62	+0.42	0.37	5.5	10	10	7	13	se.	R. L. Williams.
Drake	McHenry	1,634	6	36.8	......	70	21	10	2†	36	1.21	....	0.45	0.6	10	8	5	17	nw.	Peter Anton.
Dunn Center	Dunn	2,191	36	37.8	−4.0	75	21	5	2	39	1.79	+0.41	1.11	4.0	6	8	10	12	se.	W. F. Moede.
Dunseith	Rolette	1,682	39	37.0	−2.9	68	13†	5	2	47	1.17	+0.36	0.72	T.	4	8	9	13	ne.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	38.8	−1.8	73	21	6	2	42	0.35	−0.61	0.09	1.5	8	5	20	5	se.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	39.4	−3.3	72	22	14	2	34	3.17	+1.40	1.58	3.8	8	4	13	13	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	36.2	......	66	21†	9	2	35	2.10	+1.09	1.14	1.1	7	8	4	18	se.	E. D. Warner.
Ellendale	Dickey	1,457	40	39.0	−4.6	70	22	17	2†	30	3.69	+1.59	1.11	5.9	10	7	9	14	nw	J. E. Denmer.
Energy‡‡	McLean	1,750	23	40.2	......	74	21	12	2	49	2.15	+1.02	0.92	3.0	8	5	18	7	se.	H. S. Solenberger.
Fairfield	Billings	......	6	......	......	....	....	.....	....	.....	1.55	....	0.75	8.0	5	15	8	7	se.	F. R. Hecker.
Fessenden	Wells	1,610	23	37.5	−3.2	70	21	11	2	38	2.27	+0.76	0.95	2.1	12	7	6	17	nw.	T. D. Monsen.
Forman	Sargent	1,249	42	......	......	....	....	.....	....	.....	3.85	+1.70	1.45	7.0	12	11	5	14	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	35	40.6	−4.3	72	20	9	3	43	4.00	+2.41	0.93	3.5	9	11	7	12	e.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	36.8	......	72	21	6	2	46	0.44	−0.91	0.18	0.8	7	5	12	13	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	......	......	....	....	.....	....	.....	2.08	+0.75	1.45	6.5	8	8	11	11	nw.	Verne King.
Fullerton	Dickey	1,439	37	39.2	−3.6	71	22	17	15	34	4.77	+2.68	1.18	16.7	9	9	7	14	se.	F. O. Alin.
Gackle	Logan	1,951	5	38.2	......	68	22	14	2†	42	2.62	....	1.15	1.5	8	7	13	10	se.	A. H. Haut.
Garrison	McLean	1,901	58	37.2	−5.1	72	21	8	2	51	1.25	+0.03	0.34	3.0	8	11	5	14	se.	W. F. Robinson.
Grafton	Walsh	827	43	38.9	−1.7	70	22	12	3	37	1.87	+0.47	1.23	T.	4	10	13	7	n.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	44	38.4	−3.3	69	22	15	15	32	2.00	+0.16	0.87	3.8	7	5	16	9	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	37.9	−2.9	73	21	9	2	40	1.11	+0.06	0.28	2.5	7	9	7	14	se.	W. A. Christianson.
Hankinson	Richland	1,068	6	40.4	......	72	22	15	7	44	3.00	....	1.04	12.0	12	6	10	14	se.	R. G. Stock.
Hannah	Cavalier	1,568	43	37.2	......	66	21	10	2	41	1.39	+0.12	0.91	1.4	7	2	20	8	se.	James Muir.
Hansboro	Towner	1,597	27	37.6	−1.3	69	13†	10	2	43	1.41	−0.08	0.75	2.0	6	10	10	10	se.	C. E. Blackorby.
Hettinger	Adams	2,675	28	38.8	−4.0	74	21	5	2	41	1.58	+0.58	0.34	4.6	11	16	7	7	se.	C. H. Plath.
Hillsboro	Traill	901	29	38.2	−4.6	67	22	15	15	35	2.48	+0.63	1.12	5.0	7	8	9	13	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	28	36.2	−2.9	78	21	0	1	36	0.58	−0.72	0.23	0.2	4	5	9	16	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	43	37.4	−4.7	70	21	14	2†	38	4.07	+2.34	2.07	2.5	12	6	6	18	se.	S. Calvelage.
Kenmare	Ward	1,799	4	38.8	......	71	21	9	2	35	0.47	....	0.25	T.	7	10	14	6	se.	R. Costello.
Langdon	Cavalier	1,615	39	36.4	−1.4	68	13†	10	2†	38	1.44	+0.10	0.65	0.5	5	13	13	4	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	38.0	−2.4	66	22	14	15	34	1.62	−0.06	1.26	1.5	6	13	2	15	nw.	Mabel Walsh.
Linton	Emmons	1,711	18	39.4	−3.3	72	22	11	2	41	1.84	+0.32	0.45	3.8	13	4	16	10	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	39.2	−3.2	70	22	17	8	33	3.75	+1.91	1.69	5.0	14	7	6	17	n.	J. O. Halverson.
McClusky	Sheridan	1,943	17	38.2	......	70	13†	7	2	45	1.95	+0.53	0.59	6.0	10	15	3	12	se.	Edw. Tapley.
McLeod	Ransom	1,075	24	40.2	−4.0	69	22	15	3†	30	3.13	+0.96	1.10	6.5	8	12	2	16	se.	J. G. Carlson.
Maddock	Benson	1,604	20	38.0	−3.0	71	13	9	2	44	1.62	+0.27	0.68	1.0	10	4	5	21	ne.	A. T. Felland.
Mandan	Morton	1,750	21	39.6	−3.1	72	21	13	2	38	3.09	+1.67	1.05	4.0	10	3	3	24	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	......	......	....	....	.....	....	.....	1.64	+0.29	0.48	2.0	11	7	11	12	......	P. B. Anderson.
Marmarth	Slope	2,714	26	41.0	−2.0	80	21	7	2	51	1.13	+0.09	0.52	9.2	6	4	10	16	nw.	S. P. Grane.
Mary	McKenzie	......	6	......	......	....	....	.....	....	.....	1.00	....	0.75	2.0	7	17	5	8	se.	Fred Hartman.
Max	McLean	2,093	6	36.2	......	75	13	6	2	41	1.21	....	0.30	2.5	7	......	......	......	......	A. W. Rice.
Mayville	Traill	975	39	39.3	−3.7	70	22†	16	8†	32	1.90	+0.24	0.85	3.0	7	14	7	9	s.	H. B. Addicott.
Minot	Ward	1,557	39	37.4	−3.4	73	21	8	2	41	0.80	−0.43	0.32	1.0	6	4	17	9	e.	Mark M. Chatfield.
Mohall	Renville	1,646	41	39.0	−1.5	72	21†	9	2	39	0.39	−0.55	0.11	1.0	6	6	14	10	se.	John Behan.
Mott	Hettinger	2,424	28	39.3	−2.5	74	21	6	2	46	2.01	+0.61	0.48	2.5	11	8	6	16	se.	W. M. Hendricks.
Napoleon	Logan	1,955	43	37.8	−3.6	71	13†	10	15	38	3.91	+2.30	1.05	11.0	13	6	2	22	n.	C. J. Hoof.
New England	Hettinger	2,400	41	38.4	−3.9	80	20	9	1	39	3.59	+2.56	1.49	10.0	8	8	9	13	se.	F. S. Sleight.
New Salem	Morton	2,163	31	41.0	−1.4	71	20†	10	2	38	2.11	+0.89	0.51	2.4	15	13	7	10	se.	J. Christiansen.
Oakes	Dickey	1,318	6	40.0	......	70	22	16	15	35	3.30	....	1.05	6.9	11	7	7	16	ne.	Eugene Naylor.
Park River	Walsh	998	31	35.8	−5.5	66	22	14	15	35	1.51	+0.19	1.15	1.5	5	11	9	10	se.	C. B. Wright.
Parshall	Mountrail	1,929	20	36.6	......	74	22	4	2†	52	1.08	−0.06	0.55	0.3	6	5	18	7	se.	C. E. Shubert.
Pembina	Pembina	789	61	......	......	....	....	.....	....	.....	1.35	−0.09	0.95	1.2	6	......	......	......	......	E. H. Kruse.
Petersburg	Nelson	1,520	5	......	......	....	....	.....	....	.....	1.36	....	0.78	1.0	6	9	6	15	se.	T. M. Rykken.
Pettibone	Kidder	1,856	26	36.2	−4.7	64	22†	9	1†	42	2.30	+0.97	0.85	4.3	9	10	5	15	ne.	H. H. McCumber.
Portal	Burke	1,954	30	37.2	−4.2	73	21	4	2	37	0.56	−0.56	0.28	1.0	6	7	3	20	se.	R. G. Wegener.
Powers Lake	Burke	2,205	30	37.8	......	78	22	8	1	41	1.07	−0.51	0.52	10.0	4	18	5	7	e.	Geo. B. Gee.
Richardton	Stark	2,467	19	38.4	−2.7	72	20	12	2	47	3.80	+1.82	1.60	5.6	10	7	12	11	se.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	......	......	....	....	.....	....	.....	1.53	....	0.50	2.0	10	6	11	13	se.	W. B. Paterson.
Ryder	Ward	2,108	6	......	......	....	....	.....	....	.....	1.19	....	0.40	2.0	9	13	5	12	se.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	39.1	......	76	21	3	2	40	1.25	....	0.68	1.0	7	13	4	13	e.	H. J. Bugge.
Sharon	Steele	1,516	11	36.9	......	67	22	13	2†	34	2.02	+0.50	1.29	2.8	10	7	5	18	se.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	......	......	....	....	.....	....	.....	2.00	+1.03	1.11	4.5	6	12	7	11	se.	H. J. Giffey.
Steele	Kidder	1,857	41	38.6	−4.6	72	13	12	2	38	1.38	+0.19	0.35	2.5	9	9	9	12	se.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	......	......	....	....	.....	....	.....	0.51	....	0.20	1.0	7	10	10	10	se.	G. N. Pilgard.
Tioga	Williams	2,279	6	......	......	....	....	.....	....	.....	1.06	....	0.48	2.0	5	15	7	8	se.	Anton Carlson.
Towner	McHenry	1,482	33	43.4	+1.5	83	22	8	2	55	1.20	+0.10	0.37	0.9	7	10	7	13	ne.	J. A. Gilje.
Trotters	Golden Valley	......	9	......	......	....	....	.....	....	.....	1.07	....	0.57	4.0	4	2	10	18	nw.	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	......	......	....	....	.....	....	.....	1.17	−0.02	0.30	2.8	6	14	2	14	......	M. A. Slettum.
Tuttle	Kidder	1,936	27	......	......	....	....	.....	....	.....	1.82	+0.80	0.53	3.5	12	6	11	13	se.	Adam Leno.
Valley City	Barnes	1,245	29	38.8	−3.8	69	22	15	2†	34	2.94	+1.42	1.42	T.	9	9	6	15	e.	I. C. Robertson.
Velva	McHenry	1,511	8	39.4	......	73	21	9	2	46	0.99	....	0.29	1.6	9	6	11	13	se.	Oscar Anderson.
Wahpeton	Richland	962	43	42.3	−2.1	74	23	16	15	34	3.81	+1.66	0.90	0.5	11	10	0	20	ne.	C. G. Luick.
Washburn	McLean	1,731	34	39.6	−4.2	72	21	11	2	41	2.05	+0.92	0.89	3.0	9	5	7	18	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	38.6	−1.3	72	21	5	2	42	0.65	−0.26	0.15	1.0	11	7	13	10	se.	D. W. Drake.
Williston	Williams	1,878	56	40.0	−2.0	76	21	8	2	36	1.02	−0.18	0.48	2.4	6	11	12	7	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	37.3	−2.3	71	13	5	2	39	1.47	+0.47	0.55	1.5	5	5	21	4	se.	O. M. Sanderson.
Wishek	McIntosh	2 010	6	38.8^{e}	−3.1	72^{e}	14†	10^{e}	2	37^{e}	3.16	+2.12	1.22	3.1	9	8	1	21	se.	E W. Davis.
Zap	Mercer	1,838	20	......	......	....	....	.....	....	.....	2.05	+1.00	1.03	2.0	4	18	5	7	......	R. A. Norton.
Moorhead, Minn.	Clay	935	54	39.3	−1.3	67	22	15	15	30	2.46	+0.28	0.71	10.8	12	6	4	20	se.	U. S. Weather Bureau.
Averages	......	......	.....	38.4	−3.2	83	22	0	1†	55	1.94	+0.55	2.07	8.6	8	9	9	12	se.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for April 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri						.04			.07	.17				.03		T.											.99	T.				1.30
Amenia	Red	T.			.08	T.	T.	.80							.08	.20	.03							T.	T.	1.45	.45	.42					3.51
Arnegard (near)	Missouri					.05	.07			.10	.20				.05								.03					1.00					1.50
Ashley	Missouri	.07		.08	.10		.31								.07									.12	.42	1.30	.32	.12	.42		.02		3.35
Beach	Lit. Missouri			T.			.06			.12	.15			T.	.07													.85	.06				1.31
Berthold Agency	Missouri						T.			.05	.18				T.		.14						.05					.75	.15				1.32
Bismarck ***	Missouri			.06			.25			.20	.09			.03	.20		.16	.04		T.			.04	.02	.28	.37		1.12	.02	.01	.14		3.03
Bottineau	Mouse	.01	.02	.01	T.	T.	.03							.04	.01	T.	.05	.09						.46		.20			.17				1.09
Bowman	Grand			.01			.08			.27	.20				.07		.24											.21	.08				1.16
Cando	Devils Lake																																
Carrington‖‖	James			T.		.16	.04							.01			.01						.08	.14	1.90	.24	T.	.04	.25		.40		3.27
Carson	Heart			.10			.30			.37	.45				.10		.20	.20					.01		.17	.16		.60	.40				3.06
Cavalier	Red		T.	T.			.09	.06							.17	T.		.03						.09	.67	.95	.02						2.08
Cooperstown	Sheyenne				T.	T.	.18	.02				T.	T	T.	.10	T.		T.	T.	T.				.19	.12	1.32	.17	T.		.47	T.		2.57
Corinth	Missouri					.05	.05			.09	.09			T.									.15					.09					0.52
Courtenay	James					.50											.15						.40	.02	1.81	.12				.08	.10		3.18
Crosby	Mouse						.01				.27	.03												.12					.31				0.74
Devils Lake ***	Devils Lake	.01		T.	T.	T.	.08	T.						.04	.08		T.	T.		.01				.35	.43	.54	T.	T.	.13				1.67
Dickinson‖‖	Heart			.01	.01		.10	T.	T.		.31	.04			.08	.03		.12			T.			.18		T.			1.37	.04			2.29
Dogden Butte	Mouse	T.		T.	T	T.	.16								.08		.04	.27		T.				.24	.18	.37		.11	.11	.06			1.62
Drake‖‖	Mouse				.01		.07	T.							.03			.21		.01				.25	.04	.45	.08		.06	T.			1.21
Dunn Center	Knife						.06				.30				.05		.03							.24				1.11					1.79
Dunseith	Mouse				T.													T.		.03				.72		.27			.15				1.17
Eckman	Mouse	T.		.05			.07				T.			T.	.03		.04							.09		.02		.02	.03				0.35
Edgeley	James				.11		.27								.09										.73	1.58	.15		.10	.14			3.17
Edmore	Devils Lake	T.	T.	.01	T.	T.	.05	T.						.04	.05		T.	T.	T.	T.				.38	.43	1.14			T.				2.10
Ellendale	James	.03		.02	.18		.47								.14										1.11	1.06	.24	.09	.35		T.		3.69
Energy	Missouri						.25			.10	.15			T.			T.	.17						.10	T	.35		.92	.11				2.15
Fairfield	Knife						.20			.20	.30				.10													.75					1.55
Fessenden‖‖	James				.01		.21								.09	.01		.03		.02				.25	.27	.95	.06		.05	.32			2.27
Forman	Sheyenne	.11	T.	.04	.25		.55	.09						T.	.17			.03						T.	1.45	.95	.07		.03	.11			3.85
Fort Yates	Missouri			T.			.37		.50						.03		T.								.75	.11	.93	.85	.10		.36		4.00
Foxholm (near)	Mouse			T.	T.	T.	.18			.03	.06				T.		.06							.06				.04	T.	.01			0.44
Fryburg	Heart				T.		.08			.14	.14	.07		T.	.15		.02								T.			1.45	.03				2.08
Fullerton	James	.07		T.	.22		1.14								.52		T.								1.18	1.02	.21	.23	.18				4.77
Gackle	James			T.			.19								.21									.05	.53	1.15	.30	.07	.12	T.			2.62
Garrison	Missouri				T.		.30								.05		.30		T.				.07		.11	.04		.34	.04				1.25
Grafton	Red		T.	T.			T.	.28							T.	T.		.04						T.	.32	1.23	T.						1.87
Grand Forks ***	Red	T	T.	T.	T.		.30	.05						.02	.03			.16						T.	.57	.87	T.			T.			2.00
Granville	Mouse		T.		T.	T.				T.					.05		.18	.14	T.					.22		.28		.21	T.	.03			1.11
Hankinson	Red	.05		.03	.16		1.04							T.	.17		T.							.14	.40	.25	.03	.40	.13		.15		3.00
Hannah	Pembina	T.	T.	T.	.04	.03	.07								T.	T.	T.	T.						.17	.07	.91		.10					1.39
Hansboro	Devils Lake	T.		T.	T.	T.	.05								T.		T.	.13		T.				.33	.10	.75			.05				1.41
Hettinger	Grand	T.		.03			.19			.25	.26				T		.10	.03					.06		.01	.08		.23	.34		T.		1.58
Hillsboro	Red				T.	T.	.30	.20							.22			.09						T.	.28	1.12	.27						2.48
Howard (near)	Missouri	T.				.11				.02						T.	T.						.22						.23				0.58
Jamestown	James	T		.05			.05	.70						.12	.30			.05	T.					.20	T.	2.07	.21	.01	.09		.22		4.07
Kenmare	Mouse						.02			.02	.25				T.									.07				.05	.01	.05			0.47
Langdon	Pembina													.25											.30	.65	.18	.06					1.44
Larimore	Red						.18	T.							.02			.02						.04	.10	1.26							1.62
Linton	Missouri	.02		.01			.11			.03	.06				.07		T.	.03						.02	.25	.43	.45	.23	.13	T.			1.84
Lisbon	Sheyenne	.11	.05		.08	.33	.01	.61								.22								.07	.14	1.69	.14	.20	.02	.08			3.75
McClusky	Missouri			.05			.40							T.			.05	.28					.12	.11	.59			.11	.13	.11			1.95
McLeod	Sheyenne	.11			.24			.30								.65								.25		1.10	.35			.13			3.13
Maddock	Sheyenne			T.	.01		.07								T.		.10			.03				.29	.03	.68		.07	.15	.19			1.62
Mandan‖‖	Missouri		T.	.05		.39				.19	T.			.09	T.		.21		T.				.06		.54	.02	T.	1.05	T.		.49		3.09
Manfred	James			T.	.01		.15								.12		.04			.01				.30	.20	.48		.04	.14	.15			1.64
Marmarth	Lit. Missouri			T.			.15			.13	.20			T.	.11													.52	.02		T.		1.13
Mary	Lit. Missouri					T.	.02			.05	.08			T.	.05		T.						.02					.75	.03				1.00
Max‖‖	Missouri			T.		T.	.12				.26				.05			.27						.10		.11			.30				1.21
Mayville	Red						.14	.21							.15			.21							.24	.85	.10						1.90
Minot	Mouse				.01		.08	T.			.15				T.	T.	T.	.15						.09		T			.32	T.			0.80
Mohall	Mouse	T.	.02			T.	.05	T.		T.	.11			T.	T.		.03		T.					.08	T.			.10	T.				0.39
Mott	Cannon Ball			T.		.10	.25			.07	.20				.16		.26						.10		.04	.06		.29	.48		T.		2.01
Napoleon‖‖	Missouri	.15			.10			.35						T.		.57		.02						.19	.01	1.05	.51	.14	.65	.16	.01		3.91
New England	Cannon Ball					.37				.64				.15			.22						.25		T.		.30	1.49			.17		3.59
New Salem	Heart			.01			.20			.15	.21			.03	.03		.18	.08						.02	.07	.24	.01	.51	.36	.01			2.11
Oakes	James	.06		T.	.20		.70	.01							.10			.01							.90	1.05	.14		.10	.03			3.30
Park River	Red							.11								.08								.08		1.15	.09						1.51
Parshall	Missouri			.01			.02				.35						.10						.05					.55					1.08
Pembina	Red	T.	T.	T.	T.	T.	.05	T.						T.	.06			.03						.01	.25	.95							1.35
Petersburg	Red				T.		.12							.01	T.			.03	T.	T.				.17	.25	.78							1.36
Pettibone	James			.03	T.		.40				T.			T.	.06		T.	.03						.15	.38	.85		T.	.38	.02			2.30
Portal‖‖	Mouse			T.		.04					.28			.07	.04									.06				.07					0.56
Powers Lake	Missouri							.15	.52				.31										.09										1.07
Richardton	Heart					T.	.19				.44	.14		.09	T.		.29						.10		T.	.06		1.60	.19		.20		3.30
Rugby [near]	Mouse	T.	T	.02	T.	.02								T.	T.		.05	.05		T.				.50	.06	.35		.05	.34	.09			1.53
Ryder	Missouri			.01	T.	.04				.22					.04		.13						.05					.40	.04		.26		1.19
Sanish‖‖	Missouri			T.		T.	.10				.31	.02			.05			.04						.05					.68				1.25
Sharon	Red	T.	T.	T.	.01	T.	.20	.03						T.	.03	T.		.02		.01				.01	.40	1.29	.02			T.			2.02
Stanton	Missouri					.15				.21					.15			.15								.23		1.11					2.00
Steele	Missouri			.04			.11							.06	.15		T.							.06	.35	.11		.14	.33				1.88
Tagus	Mouse					T.	.02			.01	.16				T.		.06							.01				.20	T.	.02			0.51
Tioga	Missouri			T.	T.	.04				.24	.02												.28					.48					1.06
Towner	Mouse			T.	T.		.09								T.		T.	.16						.30	T.	.37	T.	.05	.10	.13			1.20
Trotters	Lit. Missouri					T.				.32	.08				.10													.57					1.07
Turtle Lake	Missouri			T.		T.	.15			T.	.08				T.		.16							.28		.30		.20		T.			1.17
Tuttle	Missouri			.01			.18								.05		.01	.03						.05	.34	.53		.09	.47	.01	.05		1.82
Valley City	Sheyenne	T.		T.	.05		.30	.02							.16									.27	.42	1.42	.25			.05			2.94
Velva	Mouse			T.	T.	T.	.09			T.	T.				.08		.02	.13						.19	T.	.29		.10	.01	.08			0.99
Wahpeton	Red	.20			.30		.40	.35							.35			.10						.02	.32	.46	.41		.90				3.81
Washburn	Missouri				T.		.23				.10				.08			.25						.24		.21	.02	T.	.89	.03			2.05
Westhope	Mouse	.02	T.	.10	T.	.04	.08								.02		.02	.02						.15		.01		.05	.14				0.65
Williston ***	Missouri	T.		T.		.16	.05			.21	.07			T.	T.					T.			.05					.48					1.02
Willow City	Mouse			T.			.25							T.	T.		.10							.55		.25		T.	.32	T.			1.47
Wishek‖‖	Missouri	.06					.15		.05							.10								.33	.05	1.22	.60			.60			3.16
Zap	Knife						.20			.55							.27											1.03					2.05
Moorhead, Minn ***	Red	.14	T.	.03	.13	T.	.50	.05						.02	.22			.02		T.				.02	.53	.48	.32	T.	T.				2.46

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	34	34	32	36	34	38	38	42	41	46	46	58	59	40	42	50	54	56	54	60	67	68	59	58	59	50	60	54	47	54	....	49.1
	Minimum	21	17	15	17	24	26	26	10	14	16	28	28	28	36	16	26	32	33	33	32	30	40	44	45	45	42	37	36	30	27	....	28.5
Arnegard (near)	Maximum	24	30	34	30	35	33	35	42	41	36	42	62	65	37	46	47	52	63	68	70	78	70	61	53	55	60	53	49	47	42	....	48.7
	Minimum	7	3	7	14	21	24	20	22	30	30	25	25	26	11	10	30	33	32	30	33	45	40	30	34	31	34	34	28	24	29	....	25.4
Ashley	Maximum	31	31	29	32	34	35	40	37	40	45	46	50	63	59	35	45	47	61	65	65	69	70	65	55	51	53	52	49	45	45	....	48.1
	Minimum	22	13	11	24	18	26	25	24	29	32	29	25	31	19	13	23	27	29	37	31	34	42	42	36	43	41	35	34	31	28	....	28.6
Beach	Maximum	27	31	36	38	35	33	40	45	41	36	46	65	62	45	48	56	56	66	65	73	77	73	58	57	63	64	59	41	45	50	....	51.0
	Minimum	9	6	20	17	21	23	23	23	33	31	29	26	37	10	13	32	32	32	44	32	47	38	33	37	35	29	32	24	23	30	....	27.4
Berthold Agency	Maximum	30	33	32	48	37	35	37	35	40	48	50	63	60	53	44	44	55	68	68	71	76	69	64	58	59	69	57	48	48	52	....	51.8
	Minimum	13	5	5	16	24	25	14	23	23	32	25	28	40	15	12	29	30	28	40	37	45	43	33	32	41	30	35	36	26	32	....	27.3
Bismarck	Maximum	30	32	27	38	33	33	36	44	40	51	49	56	71	47	38	38	49	62	66	69	72	70	63	53	50	66	48	50	47	48	....	49.2
	Minimum	19	13	21	25	20	28	30	28	34	35	29	27	35	18	16	28	34	31	42	36	44	44	42	40	44	37	38	35	32	31	....	31.2
Bottineau	Maximum	28	27	33	32	36	35	38	46	48	49	47	49	69	64	44	39	41	55	56	62	70	67	66	58	55	65	72	54	46	52	....	50.1
	Minimum	9	0	16	15	17	25	25	24	29	33	28	30	34	14	12	21	30	25	35	34	38	40	40	34	40	32	40	34	25	26	....	26.8
Bowman	Maximum	26	30	35	38	33	33	37	44	34	35	45	58	67	46	37	46	54	69	64	72	77	60	57	54	52	64	47	42	49	51	....	48.5
	Minimum	15	1	20	26	20	23	24	23	32	31	30	25	32	10	13	30	33	29	46	31	44	39	33	36	36	33	32	27	25	33	....	27.7
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Carrington §§	Maximum	30	30	34	35	33	36	40	46	51	47	62	67	56	33	36	40	56	50	60	65	68	49	47	45	59	52	49	40	46	42	....	46.8
	Minimum	12	13	19	18	22	27	26	26	29	28	27	29	32	14	18	25	27	29	27	32	10	36	41	42	34	35	34	28	27	34	....	27.7
Carson	Maximum	30	35	25	42	30	32	32	39	36	42	42	55	69	48	36	40	51	75	66	70	73	66	66	55	51	69	55	50	50	49	....	49.3
	Minimum	10	9	19	19	18	20	25	20	29	30	28	28	39	20	10	33	18	30	39	34	38	41	33	35	40	35	36	30	25	22	....	27.1
Crosby	Maximum	23	30	36	33	34	37	43	44	43	34	47	62	61	22	44	52	52	65	66	72	74	67	52	55	63	59	45	44	50	50	....	48.6
	Minimum	10	5	5	16	16	21	24	27	20	32	26	27	31	13	9	16	30	29	32	36	36	48	14	34	33	33	31	31	23	24	....	24.4
Devils Lake	Maximum	27	29	31	34	35	34	34	41	48	51	45	56	66	48	31	36	41	54	43	58	65	67	53	49	47	62	55	48	42	50	....	46.0
	Minimum	18	10	18	24	23	27	28	27	30	31	28	30	34	17	15	21	34	28	34	30	35	41	44	43	39	34	41	33	30	28	....	29.2
Dickinson §§	Maximum	31	33	36	38	31	31	36	44	37	41	47	61	68	25	47	47	55	67	66	74	75	69	60	57	62	65	44	42	45	49	....	49.4
	Minimum	12	10	11	15	19	22	19	21	25	31	30	25	29	15	13	19	32	28	33	33	36	47	32	35	38	28	33	30	29	29	....	26.0
Drake§§	Maximum	28	31	21	38	35	32	37	43	47	50	48	58	68	24	37	35	42	57	54	65	70	68	53	54	52	65	50	50	46	47	....	47.2
	Minimum	16	10	10	13	15	24	25	28	29	30	25	26	32	18	13	15	26	28	32	30	34	41	42	34	36	33	38	36	30	27	....	26.5
Dunn Center	Maximum	26	34	34	39	34	32	33	42	34	42	45	61	68	31	44	45	50	67	66	73	75	71	60	56	62	64	45	39	40	46	....	48.6
	Minimum	10	5	8	16	16	23	22	25	32	32	29	27	31	15	13	21	31	28	34	34	41	48	34	34	41	31	39	32	27	30	....	27.0
Dunseith	Maximum	25	28	30	32	34	31	36	44	46	48	45	57	68	62	34	34	38	55	53	58	68	66	64	52	53	63	61	49	45	49	....	47.6
	Minimum	8	5	15	17	14	23	25	28	28	32	25	27	30	15	9	23	28	25	32	31	36	43	38	35	35	36	39	32	24	33	....	26.4
Edgeley	Maximum	34	30	29	30	31	30	31	44	45	40	51	60	59	53	40	44	50	58	53	61	65	72	64	65	58	47	50	46	41	44	....	47.6
	Minimum	24	14	18	17	21	27	24	29	23	29	24	31	32	23	33	35	39	26	33	27	45	59	45	47	46	34	33	35	30	30	....	31.1
Ellendale	Maximum	34	32	29	30	35	32	38	37	42	42	47	52	62	33	34	45	54	57	61	62	66	70	56	52	52	51	54	51	44	46	....	46.7
	Minimum	26	17	19	26	25	26	27	22	28	31	31	27	33	24	17	27	35	30	35	32	37	43	49	42	48	43	38	40	33	27	....	31.3
Fessenden §§	Maximum	29	31	32	37	38	35	38	46	50	52	47	57	68	27	35	86	41	58	56	64	70	68	56	50	48	62	53	50	41	46	....	47.4
	Minimum	19	11	14	22	19	22	27	26	29	30	27	26	32	26	14	16	31	27	32	27	32	40	42	38	41	34	38	34	26	27	....	27.6
Foxholm (near)	Maximum	26	29	31	30	35	33	37	45	46	44	46	58	66	60	37	42	43	60	51	66	72	67	56	53	60	62	60	43	45	46	....	48.3
	Minimum	9	6	9	14	15	23	16	21	27	30	22	28	35	14	9	22	31	25	38	27	34	39	35	37	40	31	35	31	25	24	....	25.2
Fullerton	Maximum	34	32	30	32	36	31	36	42	47	43	48	53	61	52	35	45	52	58	58	62	67	71	58	50	58	49	53	55	44	47	....	48.0
	Minimum	26	18	19	25	26	30	24	21	29	31	32	27	32	18	17	23	37	29	36	31	35	43	43	43	46	42	40	34	32	27	....	30.5
Garrison	Maximum	32	27	32	29	37	35	32	34	45	37	49	60	68	25	40	38	42	61	63	68	72	71	65	56	57	67	47	48	48	49	....	47.8
	Minimum	15	8	12	13	16	24	17	24	29	21	27	32	17	12	16	29	29	33	34	37	44	38	36	40	34	40	35	31	29	30	....	26.7
Grafton	Maximum	33	30	33	36	40	38	39	45	50	53	50	53	61	59	32	40	41	53	51	57	65	70	67	52	52	56	58	57	49	54	....	49.1
	Minimum	21	16	12	18	21	30	27	25	30	31	22	27	33	22	15	22	33	32	29	29	30	36	42	45	44	40	36	35	31	28	....	28.7
Grand Forks	Maximum	33	30	33	33	39	33	35	40	50	52	47	52	59	44	31	42	40	49	46	56	65	69	60	51	51	50	58	51	46	55	....	46.7
	Minimum	24	17	20	22	23	30	27	22	32	31	31	27	34	19	15	22	34	32	33	29	33	40	46	46	45	41	35	35	31	27	....	30.1
Granville	Maximum	29	32	30	35	37	33	40	43	45	50	48	60	68	41	37	37	43	58	55	68	73	70	56	57	57	66	50	49	49	50	...	48.9
	Minimum	12	9	11	14	15	25	28	29	30	30	24	29	35	17	10	24	30	25	34	28	38	42	41	33	42	30	34	34	28	27	....	26.9
Hansboro	Maximum	28	30	31	33	35	32	37	45	46	47	45	58	69	59	35	35	45	51	49	60	67	69	66	52	48	66	56	48	46	52	....	48.1
	Minimum	12	10	14	18	20	24	26	29	29	28	26	28	31	16	12	20	30	29	32	27	32	45	42	38	40	32	38	32	27	22	....	27.0
Hettinger	Maximum	29	30	31	38	33	32	28	40	36	38	46	60	68	55	40	48	56	68	62	71	74	69	71	54	55	67	55	45	49	50	....	·49.9
	Minimum	15	5	19	22	19	22	12	24	32	31	31	27	34	14	13	30	32	29	40	32	45	40	31	38	40	35	34	30	26	29	....	27.7
Hillsboro	Maximum	35	31	28	31	39	37	35	38	51	48	46	53	59	57	30	30	42	49	48	58	55	67	65	53	56	47	54	57	49	55	....	46.8
	Minimum	28	18	17	23	25	31	27	16	26	31	31	28	34	26	15	20	20	32	33	32	32	32	44	46	46	42	40	33	32	28	....	29.6
Howard (near)	Maximum	24	26	34	32	40	36	42	45	32	32	46	63	45	30	40	58	54	65	65	70	78	67	50	53	64	70	40	38	34	48	....	47.4
	Minimum	0	2	7	12	20	22	20	24	25	30	20	28	30	10	24	28	32	34	40	47	47	35	32	34	28	22	20	18	28	28	....	24.9
Jamestown	Maximum	28	31	31	34	31	35	41	46	48	47	56	64	36	33	40	43	56	54	60	67	70	51	51	52	55	54	52	41	49	43	....	46.6
	Minimum	25	14	15	19	20	23	25	24	24	31	29	26	30	24	14	16	24	29	32	31	34	38	45	42	45	40	37	35	29	27	....	28.2
Kenmare	Maximum	28	30	31	34	34	34	39	44	44	38	50	58	64	38	40	42	47	62	59	66	71	69	61	60	66	65	62	47	47	49	....	49.2
	Minimum	12	9	14	16	17	24	16	28	30	33	26	29	38	15	13	26	34	29	40	31	43	42	36	41	40	40	36	32	29	30	....	28.3
Langdon§§	Maximum	32	33	33	38	40	35	34	40	50	53	46	58	68	31	32	36	40	52	58	61	68	65	50	50	40	68	60	57	45	55	....	47.6
	Minimum	12	10	10	15	18	21	24	26	28	30	26	26	31	20	10	12	21	26	30	28	34	36	40	40	40	30	32	30	25	25	....	25.2
Larimore	Maximum	34	30	36	35	41	36	40	38	48	50	46	54	61	55	30	39	41	51	48	55	65	66	61	50	49	53	57	51	46	53	....	47.3
	Minimum	22	15	17	22	17	29	27	21	27	29	30	25	32	22	14	20	33	31	32	28	31	38	43	44	44	38	38	34	29	25	....	28.6
Linton	Maximum	33	35	31	36	34	34	39	40	40	46	50	56	69	66	39	40	48	65	69	70	71	72	64	55	47	54	55	50	47	49	....	50.1
	Minimum	12	11	19	23	16	27	26	25	32	33	28	21	34	25	12	20	29	24	43	33	42	43	39	35	42	40	33	35	29	30	....	28.7
Lisbon §§	Maximum	35	31	32	35	37	33	37	38	45	45	47	54	60	34	35	42	53	56	56	62	65	70	64	56	59	54	59	51	43	51	....	48.0
	Minimum	26	20	20	24	26	27	28	17	19	29	32	26	31	34	18	19	26	31	34	32	32	39	45	48	48	43	40	39	33	27	....	30.4
McClusky	Maximum	32	32	31	40	35	34	44	46	59	49	48	57	70	62	39	37	42	63	62	67	70	70	57	49	48	65	61	48	45	47	....	50.3
	Minimum	15	7	12	11	15	25	23	26	28	23	25	25	31	17	9	22	30	25	38	29	37	39	41	40	35	31	35	32	29	26	....	26.0
Maddock	Maximum	30	30	32	36	35	34	36	44	48	52	49	58	71	65	35	37	43	57	53	63	69	68	67	52	48	65	63	49	42	48	....	49.3
	Minimum	15	9	12	14	11	25	27	27	29	29	25	23	30	21	12	20	32	25	42	27	32	40	41	36	40	30	38	33	28	26	....	26.6
Marmarth	Maximum	28	30	37	41	31	40	43	47	37	37	58	61	68	62	59	56	60	73	69	75	80	70	58	58	54	68	58	45	53	53	....	53.6
	Minimum	14	7	20	23	21	25	24	21	34	32	30	25	42	11	14	23	30	34	45	30	47	41	33	40	40	28	33	28	24	33	....	28.4
Minot	Maximum	27	31	32	35	36	32	37	45	46	50	49	62	67	40	39	42	44	61	58	64	73	70	61	59	61	67	42	48	49	48	....	49.2
	Minimum	12	8	10	15	14	20	19	22	29	31	25	28	33	20	12	12	28	24	31	30	32	37	39	33	42	30	38	34	29	30	....	25.6
Mohall	Maximum	29	32	33	33	35	31	38	49	48	42	49	61	70	29	37	41	45	59	56	66	72	72	67	59	69	65	63	43	47	48	....	49.4
	Minimum	11	9	13	17	18	25	23	30	29	34	22	30	38	16	13	24	32	28	54	30	33	42	58	30	43	35	37	33	26	31	....	28.5
Mott	Maximum	31	35	29	40	30	33	35	41	38	42	47	60	71	60	45	45	55	68	67	72	74	70	62	57	54	67	59	45	49	50	....	51.0
	Minimum	16	6	18	20	19	23	13	25	32	32	30	24	32	14	12	29	33	29	40	34	44	41	32	36	42	32	32	32	26	30	....	27.6
Napoleon §§	Maximum	33	33	29	35	35	33	38	40	43	46	48	57	71	28	37	40	42	68	65	66	70	71	60	47	45	56	53	51	47	44	....	47.5
	Minimum	20	11	15	23	16	26	16	26	29	30	28	22	34	25	10	22	32	25	39	29	39	41	41	35	42	39	35	33	29	28	....	28.0
New England§§	Maximum	31	35	33	41	32	38	41	48	38	42	47	69	38	33	49	50	57	67	68	80	72	58	65	56	61	66	41	46	48	51	....	50.0
	Minimum	9	13	18	20	21	18	10	22	26	32	26	33	15	14	22	32	28	38	32	41	40	33	36	42	33	36	28	26	29	35	....	26.9
New Salem	Maximum	35	32	31	39	33	34	35	41	37	50	48	59	70	60	50	40	50	62	65	71	71	69	67	65	56	68	60	50	45	49	....	51.4
	Minimum	16	10	15	16	14	26	16	26	31	32	28	30	32	22	20	28	38	31	37	40	45	48	47	40	40	38	48	40	30	30	....	30.5
Oakes	Maximum	36	32	30	32	36	31	35	41	46	42	48	55	60	59	35	44	57	58	58	64	67	70	62	52	60	49	60	53	45	48	....	48.8
	Minimum	24	18	19	25	26	30	28	20	28	31	32	26	34	24	16	24	37	29	35	32	35	42	50	45	48	43	39	39	33	26	....	31.3
Park River	Maximum	30	25	29	36	35	32	35	37	46	48	43	52	60	44	28	36	36	49	49	58	63	66	55	47	46	55	59	46	41	51	....	44.6
	Minimum	15	15	16	18	21	28	18	25	26	30	28	28	31	25	14	17	26	31	29	28	28	31	37	43	42	37	38	30	29	27	....	27.0
Sharon	Maximum	32	30	30	29	34	31	37	36	45	48	46	52	59	53	33	36	40	54	48	56	62	67	57	48	47	49	55	50	42	50	....	45.2
	Minimum	23	13	15	20	21	28	27	23	26	30	29	26	34	19	13	20	33	30	32	30	36	34	44	41	42	37	38	33	29	28	....	28.6
Steele	Maximum	32	32	30	34	32	33	36	43	44	49	48	56	72	55	38	38	45	61	61	66	68	70	70	50	47	55	45	54	44	44	....	48.4
	Minimum	19	12	17	25	25	27	24	26	30	30	29	23	34	20	13	23	32	28	39	28	39	42	42	34	42	36	34	33	30	28	....	28.8
Towner	Maximum	35	34	36	37	39	41	41	50	50	52	52	63	71	75	42	68	47	62	62	71	80	83	80	74	67	75	75	61	57	58	....	57.9
	Minimum	25	8	14	13	17	26	25	29	30	29	25	27	35	20	13	29	32	25	38	27	43	50	42	35	43	33	39	37	31	30	....	29.0
Valley City	Maximum	35	33	31	32	35	35	37	38	45	46	48	55	58	56	43	40	46	57	56	60	65	69	65	49	55	55	56	55	49	50	....	48.5
	Minimum	25	15	15	22	21	29	26	19	26	31	30	22	32	24	16	22	32	31	32	32	31	38	45	44	42	40	40	36	31	24	....	29.1
Wahpeton	Maximum	41	38	33	33	38	39	37	42	50	51	52	54	63	63	34	46	56	50	57	60	66	73	74	61	65	61	62	59	54	54	....	52.2
	Minimum	28	18	20	26	25	32	28	19	21	32	32	28	36	29	16	22	34	36	32	40	38	42	48	47	54	43	43	41	33	30	....	32.4
Westhope	Maximum	31	31	34	35	34	34	37	44	47	46	48	60	69	60	37	35	45	56	54	64	72	67	64	58	61	66	59	51	51	50	....	50.0
	Minimum	12	5	17	14	15	22	21	29	30	32	26	28	33	18	14	22	32	22	37	32	38	42	41	35	42	33	37	35	26	30	....	27.3
Williston	Maximum	24	30	37	37	35	37	41	47	43	37	49	66	64	36	46	55	55	67	67	71	76	64	59	57	66	60	44	46	48	50	....	50.5
	Minimum	9	8	16	16	23	27	24	27	35	33	26	30	36	13	14	33	36	37	43	40	53	41	36	35	32	40	36	31	25	33	....	29.6
Moorhead, Minn	Maximum	33	29	30	31	37	34	33	41	49	49	49	53	57	50	30	44	49	47	52	60	64	57	56	56	60	48	58	51	44	52	....	47.1
	Minimum	24	19	18	25	27	31	27	21	32	33	32	29	35	20	15	22	34	34	33	33	37	42	46	47	46	43	40	37	32	31	....	31.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 5-27-35—1050]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIV   BISMARCK, N. D., MAY 1935   No. 5

GENERAL SUMMARY

The outstanding feature of the weather for May was the continuation of above normal precipitation, with the greatest amounts in the central and western parts of the State where most needed. May was the third month with precipitation above the average after 14 months of sub-normal moisture. The precipitation was well distributed throughout the month and occurred mostly as moderate showers. Snow fell during the first three days of the month. The temperature averaged somewhat below the seasonal average, but only a few stations reported frost after the 13th. Light to moderate dust storms occurred at scattered places on the 5th, 10th, 24th, and 25th, but very little soil blowing was reported. By the end of the month pastures and ranges were good to excellent and early planted crops were up with good stand and color.

TEMPERATURE

The mean temperature for the State was 49.5°, or 3.8° below the 44 year average, and was 14.1° lower than the mean for May 1934. The highest mean reported was 53.9° at Towner, McHenry County; the lowest was 45.4° at Howard, Williams County. The highest temperature reported was 89° at Towner, McHenry County on the 31st, the lowest was 20° at Howard, Williams County on the 4th. The greatest monthly range of temperature was 61° at Langdon, Cavalier County; the least was 38° at Hettinger, Adams County. The greatest daily range of temperature was 45° at Crosby, Divide County on the 30th.

PRECIPITATION

The average precipitation for the State was 2.66 inches, or 0.32 inch above the 44 year average, and 2.31 inches more than the average for May 1934. The greatest monthly amount reported was 4.03 inches at Dogden Butte, McLean County; the least reported was 1.41 inches at Cavalier, Pembina County. The greatest amount recorded in any 24 consecutive hours was 1.50 inches at Richardton, Stark County on the 7th. The average number of days with 0.01 inch or more of precipitation was 12. The average snowfall was 1.5 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Devils Lake, Foxholm, 12th; Tagus, 13th.

FOG: Alpha, Grand Forks, New England, Richardton, 11th; Bismarck, 2d, 5th, 11th, 16th, 18th; Courtenay, 3d; Devils Lake. 13th; Linton, 5th; Moorhead, 2d; Mott, 1st, 11th, 12th; Tagus, 4th, 10th. 12th.

HAIL: Devils Lake, Eckman, Pettibone, 5th; Mott, 4th; New Salem, Rugby, Towner, Williston, 21st; Sharon, 8th, 26th; Westhope, 9th.

HALOS, lunar: Devils Lake, 20th, 23d; Sharon, 14th.

HALOS, solar: Bismarck, 6th; Devils Lake, 10th, 13th, 18th, 19th; Dogden Butte, 19th, 20th; Moorhead, 4th, 5th, 7th, 17th, 18th, 19th, 20th, 29th; Oakes, 4th; Petersburg, 17th, 18th, 19th; Tagus, 6th, 18th, 19th, 31st; Williston, 6th, 10th, 13th, 20th.

SLEET: Bismarck, 1st; Fort Yates, 2d; Tagus, 8th, 11th.

THUNDERSTORMS: Bismarck, 10th, 29th; Corinth, 21st, 25th; Devils Lake, Eckman, Foxholm, 5th; Dogden Butte, Mott, 25th; Grand Forks, McLeod, Oakes, Petersburg, Sharon, 26th, Napoleon, Parshall, Tagus, 21st; Pettibone, 5th, 10th, 20th; Rugby, 5th, 21st; Steele, 11th, 25th; Tuttle, 10th; Williston, 3d, 20th, 21st, 24th, 25th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck........	30.05	30.51	3	29.67	5	10.2	30	ne.	10	80	57	55	43
Devils Lake.....	30.08	30.51	3	29.64	5	9.4	26	ne.	11	78	49	55	55
Grand Forks....	30.04	30.45	3	29.67	5	......	28	se.	1	68	....	42	....
Williston........	30.04	30.48	3	29.62	1	9.8	32	se.	10	82	59	59	41
Moorhead, Minn	30.06	30.49	3	29.65	7	9.5	26	se.	1	70	44	49	56
Averages & ext's	30.05	30.51	3	29.62	1	9.7	32	se.	10	76	52	52	49

† And other dates.

COMPARATIVE DATA FOR MAY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	46.6	−6.7	96	13	2.21	−0.13	5.36	0.35	3.9	12	6	8	17
1893.	52.2	−1.1	97	19	1.61	−0.73	4.79	0.40	0.2	6	11	8	12
1894.	54.6	+1.3	98	23	1.51	−0.83	3.15	0.24	0.0	5	16	9	6
1895.	54.4	+1.1	101	15	2.48	+0.14	4.22	0.90	0.0	8	10	11	10
1896.	56.9	+3.6	103	22	4.89	+2.55	8.61	1.98	0.0	13	6	14	11
1897.	55.4	+2.1	97	16	0.71	−1.63	1.84	T.	T.	4	16	10	5
1898.	52.7	−0.6	92	14	1.98	−0.36	4.56	0.01	0.0	5	15	9	7
1899.	50.6	−2.7	91	16	3.49	+1.15	7.79	1.26	0.4	8	9	9	13
1900.	59.2	+5.9	106	15	0.69	−1.65	2.27	0.05	0.0	3	18	8	5
1901.	60.0	+6.7	99	19	0.31	−2.03	0.98	T.	T.	2	21	4	6
1902.	55.9	+2.6	94	24	3.57	+1.23	4.98	0.78	0.4	10	13	6	12
1903.	54.3	+1.0	96	11	3.12	+0.78	7.83	1.17	T.	4	14	8	9
1904.	54.2	+0.9	93	20	1.76	−0.58	3.42	0.11	T.	6	14	9	8
1905.	50.1	−3.2	88	10	3.05	+0.71	7.24	1.12	4.0	8	12	8	11
1906.	50.8	−2.5	99	11	4.63	+2.29	8.08	2.35	0.4	12	9	8	14
1907.	44.0	−9.3	84	6	1.11	−1.23	3.81	T.	3.1	6	12	10	9
1908.	50.8	−2.5	88	9	2.97	+0.63	5.35	0.56	0.9	8	13	7	11
1909.	51.0	−2.3	98	5	4.29	+1.95	8.60	2.30	0.1	10	12	9	10
1910.	50.7	−2.6	94	10	0.96	−1.38	2.21	0.15	0.1	6	12	11	8
1911.	55.0	+1.7	99	6	2.88	+0.54	7.54	0.43	T.	8	14	9	8
1912.	54.2	+0.9	90	16	4.52	+2.18	9.13	2.29	0.7	11	10	10	11
1913.	51.2	−2.1	100	11	1.68	−0.66	4.00	0.50	0.2	9	10	10	11
1914.	55.2	+1.9	95	16	2.12	−0.22	4.21	0.86	1.0	8	16	8	7
1915.	51.1	−2.2	98	15	3.16	+0.82	5.00	1.14	0.4	9	10	10	11
1916.	51.0	−2 3	95	7	2.22	−0.12	5.16	0.45	0.3	8	11	11	9
1917.	51.2	−2.1	98	15	0.30	−2.04	2.08	0.00	0.1	2	20	7	4
1918.	51.7	−1.6	99	6	2.30	−0.04	4.63	0.30	0.5	9	10	11	10
1919.	55.5	+2.2	101	16	3.25	+0.91	7.74	0.66	0.4	9	16	8	7
1920.	53.9	+0.6	89	20	1.74	−0.60	3.78	0.56	0.1	7	13	10	8
1921.	53.8	+0.5	90	21	2.46	+0.12	5.62	1.03	T.	9	13	10	8
1922.	56.3	+3.0	93	24	3.11	+0.77	6.82	1.23	0.1	12	10	11	10
1923.	54.1	+0.8	100	13	1.77	−0.57	4.63	0.03	0.2	6	15	10	6
1924.	46.9	−6.4	84	15	0.79	−1.55	3.32	0.02	0.0	5	12	10	9
1925.	53.6	+0.3	111	10	1.44	−0.90	4.85	0.38	T.	4	17	9	5
1926.	58.5	+5.2	105	10	2.18	−0.16	4.02	0.43	0.0	7	13	11	7
1927.	48.0	−5.3	87	13	5.62	+3.28	9.30	2.60	3.2	14	6	8	17
1928.	58.2	+4.9	107	16	1.15	−1.19	3.34	0.22	0.0	5	18	7	6
1929.	49.1	−4.2	92	8	2.99	+0.65	7.29	0.65	0.4	7	16	9	6
1930.	50.8	−2.5	98	18	2.62	+0.28	5.99	0.96	0.7	9	12	8	11
1931.	53.1	−0.2	100	10	1.41	−0.93	3.40	T.	0.3	6	16	7	8
1932.	55.9	+2.6	98	25	2.14	−0.20	4.50	0.21	2.2	6	13	9	9
1933.	54.8	+1.5	98	19	3.15	+0.81	5.41	1.43	T.	9	9	10	12
1934.	63.6	+10.3	111	18	0.35	−1.99	1.36	0.00	0.0	3	17	10	4
1935.	49.5	−3.8	89	20	2.66	+0.32	4.03	1.41	1.5	12	6	11	14
Per..	53.3	....	111	5	2.34	....	9.30	0.00	0.5	7	13	9	9

Climatological Data for May 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	9	......	......	....	....	.....	....	......	2.58	......	0.84	0.0	13	13	10	8	nw.	H. A. Bury.
Amenia	Cass	954	39	52.2	−1.8	82	20†	28	10	43	2.77	−0.08	0.83	4.0	9	2	15	14	sw.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	45.8	−6.9	71	20	27	3	31	3.23	+1.17	0.90	0.0	14	11	7	13	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	49.2	−4.3	76	20†	26	3	34	2.55	+0.15	1.05	4.0	9	7	8	16	se.	H. D. Piper.
Beach	Golden Valley	2,759	29	48.8	−2.6	73	24	29	3	30	2.91	+0.33	0.77	0.2	15	......	......	......	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	49.8	−4.3	74	20†	30	5	36	3.19	+0.75	0.83	2.0	15	13	2	16	e.	C. L. Hall.
Bismarck	Burleigh	1,674	60	50.1	−4.4	74	20	32	3	32	2.25	−0.07	0.87	1.8	15	3	11	17	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	50.0	−1.3	79	31	30	3	32	3.10	+1.01	0.86	1.0	16	12	8	11	se.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	47.7	−4.5	70	24	31	3†	31	3.38	+0.96	1.20	0.0	13	10	11	10	se.	George Larsen.
Cando	Towner	1,488	34	......	......	....	....	.....	....	......	1.87	−0.45	0.57	1.0	13	1	25	5	se.	A. J. Swanson.
Carrington	Foster	1,579	37	48.8	−3.7	77	19†	29	2	38	3.95	+1.32	0.91	T.	12	9	9	13	se.	L. A. Swanson.
Carson	Grant	2,500	23	49.4	−3.7	75	16†	26	3	40	3.52	+1.23	1.45	3.5	14	5	12	14	se.	J. W. Evens.
Cavalier	Pembina	894	25	52.2	......	82	20	28	5	42	1.41	−1.30	0.48	0.0	7	7	14	10	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	48.9	......	78	21	30	2†	30	2.34	−0.04	0.64	1.0	11	15	9	7	ne.	Theo. Marquardt.
Corinth	Williams	2,180	7	......	......	....	....	.....	....	......	2.01	......	0.75	2.0	10	0	8	23	se.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	......	......	....	....	.....	....	......	1.98	......	0.85	2.0	8	5	21	5	se.	Geo. E. Berg.
Crosby	Divide	1,954	28	48.2	−3.0	86	30	29	3	45	1.71	−0.30	0.60	0.3	11	3	7	21	se.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	49.5	−3.1	78	20	31	10	33	2.16	+0.13	0.75	0.1	12	4	10	17	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	47.0	−5.2	71	29	29	1	33	2.77	+0.41	0.76	1.0	19	3	12	16	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	48.4	......	76	20†	27	3	38	4.03	+1.17	1.23	1.5	13	4	10	17	se.	R. L. Williams.
Drake	McHenry	1,634	6	48.8	......	76	20	31	3†	31	2.53	......	0.64	2.0	12	3	5	23	se.	Peter Anton.
Dunn Center	Dunn	2,191	36	46.5	−6.2	75	24	31	3	33	3.15	+0.63	0.81	0.2	13	2	6	23	se.	W. F. Moede.
Dunseith	Rolette	1,682	39	49.0	−3.1	77	20	29	3	30	2.87	+1.03	0.68	1.0	10	4	15	12	ne.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	50.0	−1.4	77	20†	29	3	35	3.25	+1.14	0.90	0.0	13	2	15	14	se.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	48.3	−5.4	76	24	22	3	38	2.31	−0.35	0.50	1.0	10	0	24	7	se.	O. A. Thompson.
Edmore	Ramsey	1,524	11	48.7	......	81	20	25	10	42	1.69	−0.39	0.58	0.3	10	6	14	11	se.	E. D. Warner.
Ellendale	Dickey	1,457	40	51.2	−4.5	77	20	29	5	32	1.78	−1.30	0.52	1.0	12	8	13	10	ne.	J. E. Demmer.
Energy‡‡	McLean	1,750	23	50.0	......	76	20	29	3	34	2.70	+0.48	0.90	0.0	10	3	18	10	se.	H. S. Solenberger.
Fairfield	Billings	......	6	......	......	....	....	.....	....	......	2.78	......	0.86	1.0	13	5	14	12	se.	F. R. Hecker.
Fessenden	Wells	1,610	23	48.2	−3.8	78	19	29	10	37	2.84	+0.46	0.66	3.0	12	2	11	18	se.	T. D. Monsen.
Forman	Sargent	1,249	42	......	......	....	....	.....	....	......	1.49	−1.38	0.53	3.0	8	11	10	10	se.	Helge Dyste.
Fort Yates	Sioux	1,670	35	51.1	−5.0	78	23	28	2	44	2.66	+0.69	0.57	1.5	8	8	8	15	e.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	47.4	......	71	30†	30	2†	30	2.87	+0.90	0.67	3.0	11	3	11	17	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	......	......	....	....	.....	....	......	3.14	+0.90	0.70	1.0	14	4	11	16	se.	Verne King.
Fullerton	Dickey	1,439	37	50.8	−3.2	78	20	29	4	35	2.54	−0.66	0.54	6.0	9	7	14	10	nw.	F. O. Alin.
Gackle	Logan	1,951	5	48.7	......	74	20	27	3	29	2.61	......	0.69	1.7	9	8	17	6	se.	A. H. Haut.
Garrison	McLean	1,901	58	48.4	−4.3	75	20	30	3	30	3.80	+1.57	1.03	3.0	14	7	8	16	se.	W. F. Robinson.
Grafton	Walsh	827	43	52.1	−1.2	82	20	28	5	39	1.90	−0.29	0.67	0.0	4	8	14	9	se.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	44	51.4	−2.3	80	20	29	10	36	1.61	−1.00	0.55	T.	12	1	20	10	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	49.2	−2.4	75	20	30	3	37	3.05	+1.12	0.84	1.0	11	5	14	12	se.	W. A. Christianson.
Hankinson	Richland	1,068	6	53.0	......	78	31	27	2	32	1.57	......	0.65	6.0	7	11	12	8	se.	R. G. Stock.
Hannah	Cavalier	1,568	43	49.6	......	80	23†	26	4	40	1.57	−0.56	0.33	0.0	8	5	21	5	se.	James Muir.
Hansboro	Towner	1,597	27	48.9	−1.8	80	23	26	10	38	2.13	−0.18	0.60	T.	9	10	13	8	se.	C. E. Blackorby.
Hettinger	Adams	2,675	28	48.6	−5.0	68	16†	30	3	32	3.30	+0.95	0.94	T.	18	8	15	8	se.	Glenn Brokaw.
Hillsboro	Traill	901	29	51.3	−2.6	81	20	30	4†	36	2.39	−0.80	0.75	2.0	6	6	13	12	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	28	45.4	−5.5	73	24	20	4	33	2.70	+0.49	0.62	1.4	12	7	7	17	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,457	43	49.2	−4.3	78	20	29	3†	33	2.48	−0.30	0.76	1.0	10	6	12	13	se.	S. Calvelage.
Kenmare	Ward	1,799	4	49.0	......	73	30	31	3	31	3.10	......	0.80	0.5	15	7	9	15	se.	R. Costello.
Langdon	Cavalier	1,615	39	49.6	−1.3	86	20	25	10	35	1.77	−0.44	0.56	0.0	6	14	10	7	nw	R. T. Burke.
Larimore	Grand Forks	1,134	42	50.6	−2.0	81	20	25	7	40	2.80	+0.04	1.05	2.0	7	13	5	13	se.	Mabel Walsh.
Linton	Emmons	1,711	18	50.0	−4.2	77	20	29	3†	38	1.49	−0.79	0.49	0.5	14	2	17	12	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	51.2	−2.7	78	20	29	4	37	2.33	−0.70	0.89	2.0	11	1	19	11	se.	J. O. Halverson.
McClusky	Sheridan	1,943	17	48.2	......	78	20	25	3	38	3.33	+0.68	1.40	1.0	12	13	5	13	se.	Edw. Tapley.
McLeod	Ransom	1,075	24	......	......	....	....	.....	....	......	......	......	......	......	......	......	......	......	......	J. G. Carlson.
Maddock	Benson	1,604	20	49.2	−3.5	79	20	28	10	37	2.90	+0.70	0.76	0.5	13	1	6	24	se.	A. T. Felland.
Mandan	Morton	1,750	21	49.9	−4.0	74	20	32	3	33	2.63	+0.21	0.79	1.8	15	3	1	27	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	......	......	....	....	.....	....	......	2.29	−0.06	0.67	2.0	11	4	14	13	......	P. B. Anderson.
Marmarth	Slope	2,714	26	49.8	−1.4	71	16†	28	3	39	2.62	+0.15	0.60	1.2	13	7	5	19	nw.	S. P. Grane.
Mary	McKenzie	......	6	......	......	....	....	.....	....	......	2.14	......	0.73	0.0	12	9	4	18	se.	Fred Hartman.
Max	McLean	2,093	6	47.2	......	72	20†	28	3	34	3.21	......	0.83	2.0	15	12	4	15	se.	A. W. Rice.
Mayville	Traill	975	39	52.6	−2.1	80	20†	30	10	42	2.09	−0.93	0.42	3.5	8	12	10	9	ne.	H. B. Addicott.
Minot	Ward	1,557	39	49.3	−2.9	74	20	31	3	37	2.84	+0.80	0.97	1.5	14	4	18	6	e.	Mark M. Chatfield.
Mohall	Renville	1,646	41	49.8	−2.5	76	30	31	3	36	3.44	+1.43	0.73	2.0	12	4	17	10	se.	John Behan.
Mott	Hettinger	2,424	28	48.8	−4.7	70	24	29	3	32	2.40	+0.02	1.07	1.0	15	5	13	13	se.	W. M. Hendricks.
Napoleon	Logan	1,955	43	48.8	−3.6	79	20	27	3	36	2.76	+0.40	0.62	2.2	9	9	5	17	se.	C. J. Hoof.
New England	Hettinger	2,400	41	48.4	−3.6	71	24	26	2	35	3.78	+1.71	1.29	2.0	12	8	11	12	se.	F. S. Sleight.
New Salem	Morton	2,163	31	49.8	−2.6	76	20	28	3	33	3.34	+1.09	0.93	1.0	15	7	12	12	se.	J Christiansen.
Oakes	Dickey	1,318	6	51.6	......	78	20†	29	3†	37	1.90	......	0.61	3.0	13	4	19	8	se.	Eugene Naylor.
Park River	Walsh	998	31	49.7	−3.3	79	20	29	10	37	1.94	−0.43	0.61	0.0	6	13	7	11	se.	C. B. Wright.
Parshall	Mountrail	1,929	20	46.8	......	72	21†	29	3†	31	3.93	+1.82	0.70	2.5	15	4	12	15	se.	C. E. Shubert.
Pembina	Pembina	789	61	......	......	....	....	.....	....	......	1.50	−0.93	0.55	0.0	6	......	......	......	......	E. H. Kruse.
Petersburg	Nelson	1,520	5	......	......	....	....	.....	....	......	2.65	......	1.05	1.0	11	12	8	11	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	48.2	−3.6	76	19	27	3†	33	3.21	+0.59	0.77	1.0	9	9	8	14	se.	H. H. McCumber.
Portal	Burke	1,954	30	48.1	−2.4	75	30	28	4	35	2.36	+0.19	0.70	2.5	13	6	2	23	se.	R. G. Wegener.
Powers Lake	Burke	2,205	30	48.5	......	72	28	31	1†	38	2.77	+0.60	0.69	0.5	8	15	9	7	se.	Geo. B. Gee.
Richardton	Stark	2,467	19	48.0	−4.6	70	20	28	3	25	2.77	+0.28	1.50	0.0	11	5	10	16	se.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	......	......	....	....	.....	....	......	2.51	......	0.82	0.0	11	2	19	10	e.	W. B. Paterson.
Ryder	Ward	2,108	6	......	......	....	....	.....	....	......	3.66	......	0.73	1.0	13	12	4	15	se.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	48.2	......	76	30	29	3	37	3.03	......	0.83	2.0	15	4	6	21	e	H. J. Bugge.
Sharon	Steele	1,516	11	49.6	......	79	20	29	2†	31	3.27	+0.17	1.35	4.0	14	3	14	14	ne.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	......	......	....	....	.....	....	......	2.81	+0.80	0.90	0.0	10	5	11	15	se.	H. J. Giffey.
Steele	Kidder	1,857	41	49.7	−3.7	79	20	29	3†	35	2.51	−0.07	0.75	T.	12	2	13	16	se.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	......	......	....	....	.....	....	......	2.56	......	0.70	T.	14	3	15	13	se.	G. N. Pilgard.
Tioga	Williams	2,279	6	......	......	....	....	.....	....	......	3.28	......	0.88	0.0	13	2	6	23	se.	Anton Carlson.
Towner	McHenry	1,482	33	53.9	+0.7	89	31	31	1†	42	3.77	+1.56	0.71	2.5	13	6	13	12	ne.	J. A. Gilje.
Trotters	Golden Valley	......	9	......	......	....	....	.....	....	......	2.58	......	0.87	2.0	13	3	10	18	se.	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	......	......	....	....	.....	....	......	2.62	+0.30	0.77	1.5	11	12	0	19	......	M. A. Slettum.
Tuttle	Kidder	1,936	27	......	......	....	....	.....	....	......	2.67	+0.23	1.16	T.	11	4	16	11	se.	Adam Leno.
Valley City	Barnes	1,245	29	50.6	−2.9	79	20	27	4	42	2.84	−0.07	1.04	3.0	12	13	7	11	se.	I. C. Robertson.
Velva	McHenry	1,511	8	49.6	......	75	20	31	3	33	3.67	......	0.94	1.0	12	2	12	17	se.	Oscar Anderson.
Wahpeton	Richland	962	43	53.4	−2.2	78	20†	30	3	38	2.13	−0.55	1.00	4.0	10	17	0	14	se.	C. G. [illegible]nick.
Washburn	McLean	1,731	34	50.2	−3.6	78	20	30	3	38	2.37	+0.23	0.52	T.	11	6	10	15	e.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	50.2	−1.6	76	20	31	3†	36	2.91	+0.97	0.92	2.0	13	8	8	15	ne.	D. W. Drake.
Williston	Williams	1,878	56	49.2	−4.8	74	24	31	4	30	2.42	+0.36	0.48	1.6	16	8	6	17	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	49.4	−2.1	78	20	31	3†	33	2.65	+0.73	0.51	0.0	11	8	16	7	se.	O. M. Sanderson.
Wishek	McIntosh	2 010	6	50.6^{c}	−0.1	83^{c}	20	30^{c}	2†	40^{c}	2.20	−0.68	0.50	0.0	8	9	1	21	se.	E W. Davis.
Zap	Mercer	1,838	20	......	......	....	....	.....	....	......	3.74	+1.35	0.98	2.0	11	10	7	14	......	R. A. Norton.
Moorhead, Minn.	Clay	935	54	51.6	−3.5	79	20	30	2	35	1.81	−1.08	0.75	5.1	9	5	11	15	e.	U. S. Weather Bureau.
Averages	......	......	.....	49.5	−3.3	89	31	20	4	45	2.66	+0.26	1.50	1.5	12	6	11	14	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for May 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	....	....	.09	.10	T.	....	.84	.07	....	....	....	....	.03	....	.08	....	.11	.15	.25	.32	.03	....	....	....	.26	T.	....	T.	T.	....	.25	2.58
Amenia	Red	T.	.83	.42	....	....	.08	....	.10	.02	....	.80	.12	....	....	....	....	....	....	....	....	....	.18	....	....	....	.22	T.	....	....	....	....	2.77
Arnegard (near)	Missouri	.40	.11	....	.06	....	....	.90	.35	....	.08	.12	....	....	T.	.07	....	.05	T.	.08	....	.15	....	....	....	.80	.03	....	....	....	....	.03	3.23
Ashley	Missouri	.21	.25	....	.14	....	....	.21	.03	....	T.	.38	....	....	....	.01	....	....	....	....	....	T.	....	....	....	1.05	.27	....	....	....	....	....	2.55
Beach	Lit. Missouri	.34	....	.02	.08	....	....	.68	.32	....	....	....	....	T.	.01	.04	....	.06	.05	.37	.01	.01	....	....	....	.77	.03	....	....	....	....	.12	2.91
Berthold Agency	Missouri	.79	.27	....	.05	....	....	.83	.14	....	.40	.03	....	....	.02	.02	....	.10	....	.04	....	.10	.01	....	....	.35	....	....	....	....	....	.04	3.19
Bismarck ***	Missouri	.87	.06	.01	.11	T.	T.	.43	.04	T.	.24	.05	T.	T.	.02	T.	....	.05	.01	.01	T.	.05	T.	....	....	.23	T.	....	....	T.	....	.07	2.25
Bottineau	Mouse	.40	.35	....	.18	.04	....	.14	.86	.02	....	.33	.06	.02	....	....	....	....	....	....	....	.14	....	....	....	.39	....	.11	.01	.02	....	.03	3.10
Bowman	Grand	.30	.06	T.	....	....	....	1.20	.02	....	....	.10	....	T.	.14	.06	....	.05	.27	.47	T.	.02	....	....	....	.31	....	....	....	....	....	.43	3.38
Cando	Devils Lake	.16	.02	.03	....	....	.16	.16	.08	....	....	.57	.05	....	.04	....	....	....	....	....	.04	....	....	....	....	.51	....	.02	.03	....	....	....	1.87
Carrington‖‖	James	.63	.14	T.	....	.05	....	.51	.10	T.	.91	.47	.02	....	....	.01	....	....	....	....	T.	.36	....	....	....	.65	....	....	....	....	....	.07	3.95
Carson	Heart	.30	.15	....	.26	....	....	1.45	....	....	.35	.06	....	....	.10	....	....	.12	.05	.18	....	.35	....	....	....	.07	....	....	....	.03	....	.05	3.52
Cavalier	Red	....	....	....	....	.10	.01	....	.24	.06	....	.04	.48	....	....	....	....	....	....	....	....	....	....	....	....	....	.48	....	....	....	....	....	1.41
Cooperstown	Sheyenne	.18	.43	.09	.04	....	.03	....	.32	.06	....	.40	.12	....	....	....	....	....	....	....	....	T	.03	....	....	....	.64	....	....	....	....	....	2.34
Corinth	Missouri	.42	.19	T.	....	....	....	.28	.06	....	.22	....	....	....	T.	....	....	.01	.01	....	....	.05	....	....	....	....	.75	....	.02	....	....	....	2.01
Courtenay	James	.15	.10	T.	T.	.10	T.	T.	.32	T.	T.	.40	....	....	....	T.	....	....	....	....	....	.05	....	....	....	.85	....	....	.01	....	....	....	1.98
Crosby	Mouse	T.	.60	....	.05	....	....	....	.10	.15	.01	.33	.19	....	....	....	....	....	....	....	....	.13	.04	....	....	....	.07	....	....	.04	....	....	1.71
Devils Lake ***	Devils Lake	.23	.04	T.	T.	.12	....	.17	.23	.01	.39	.36	.01	....	....	.01	T	....	....	....	T.	T.	....	....	....	.52	T.	T.	....	.07	....	....	2.16
Dickinson‖‖	Heart	.19	.21	.03	.20	T	T.	.76	.48	.05	....	.09	.03	....	.03	.07	T.	....	.01	.27	.02	T.	.06	....	....	.01	.17	.01	....	....	....	.08	2.77
Dogden Butte	Mouse	1.23	.50	.05	.23	....	T.	.18	.15	.06	T.	1.05	.01	....	....	....	....	....	.01	....	....	.20	....	....	....	.34	.02	T.	....	....	....	T.	4.03
Drake‖‖	Mouse	.18	.51	.03	.10	.03	T.	....	.31	.03	T.	.64	.23	....	....	....	T.	....	....	....	....	T.	.06	....	....	....	.39	.02	....	T.	....	....	2.53
Dunn Center	Knife	.21	.32	.02	.20	....	.18	.81	.04	....	....	.38	....	....	....	.10	....	....	.23	.19	....	....	.27	....	....	....	.20	....	....	....	....	....	3.15
Dunseith	Mouse	.30	.21	....	....	.16	....	.32	.68	....	....	.60	.09	....	....	....	....	....	....	....	....	.03	....	....	....	.42	.06	....	....	....	....	....	2.87
Eckman	Mouse	.50	.34	....	.02	.14	.02	.20	.52	.04	.02	.90	.02	....	....	T.	....	....	....	....	....	.37	....	....	....	.16	....	....	....	....	....	....	3.25
Edgeley	James	.37	.23	.07	.02	....	....	.09	....	....	....	.38	....	....	....	....	....	....	....	....	....	.35	.15	....	....	....	.50	....	....	....	....	.15	2.31
Edmore	Devils Lake	.04	.02	T.	....	.11	....	.14	.08	.01	.20	.58	T.	....	....	T.	T.	....	....	....	....	.04	....	....	....	.47	T.	T.	T.	....	....	T.	1.69
Ellendale	James	.52	.19	.07	.22	....	.02	.02	T.	....	....	.24	.02	....	....	.03	....	....	....	....	....	.04	.17	....	....	.24	....	....	....	....	....	....	1.78
Energy	Missouri	.90	.10	....	.05	....	....	.35	.10	....	.20	.05	....	....	....	....	....	T.	....	....	....	.67	....	....	....	.26	.02	....	....	....	....	T.	2.70
Fairfield	Knife	.32	.09	....	.48	....	....	.86	.14	....	.12	.05	....	....	....	.11	....	.10	.10	.18	....	.08	....	....	....	.15	....	....	....	....	....	....	2.78
Fessenden‖‖	James	.39	.42	.10	....	....	.06	....	.45	.05	....	.66	.30	.01	....	....	....	....	....	....	.03	.01	....	....	....	....	.36	....	....	....	....	....	2.84
Forman	Sheyenne	.45	.53	.10	....	.02	....	....	....	....	....	.10	T.	....	....	T.	....	....	....	....	....	T.	.05	....	....	.18	.06	....	....	....	....	....	1.49
Fort Yates	Missouri	.34	....	.10	....	....	T.	.55	T.	....	.37	....	....	....	....	....	....	T.	.44	....	....	T.	....	....	....	.57	.10	....	....	....	....	.19	2.66
Foxholm (near)	Mouse	.58	.38	....	T.	.05	....	.51	.11	.05	....	.67	.01	....	....	T.	....	....	.02	....	....	.04	....	....	....	.45	....	....	....	....	....	T.	2.87
Fryburg	Heart	.47	.10	.14	.19	T.	T.	.70	.14	....	T	.05	....	....	....	.18	....	....	.10	.30	T.	....	.20	....	T.	.15	.30	....	....	....	....	.12	3.14
Fullerton	James	.54	.47	.18	.03	T.	....	.11	T.	T.	T.	.46	T.	....	.06	T.	....	....	....	....	....	.47	T.	....	....	.22	....	T.	....	....	....	T.	2.54
Gackle	James	.39	.17	....	.06	....	....	.43	.07	....	....	.38	....	....	....	....	....	....	....	....	....	.39	....	....	....	.69	.03	....	....	....	....	....	2.61
Garrison	Missouri	.36	1.03	.11	.25	....	T.	....	.42	.13	.05	.63	.06	.02	....	T.	T.	....	.04	....	....	.03	.17	....	....	....	.50	....	....	....	....	....	3.80
Grafton	Red	....	....	....	....	T.	....	....	.67	T.	....	.18	.48	....	....	....	....	....	....	....	....	....	....	....	....	....	.57	T.	....	....	....	....	1.90
Grand Forks ***	Red	T.	.01	....	....	.04	....	.07	.34	.01	.23	.55	.01	....	....	....	.01	....	....	....	....	.02	....	....	....	.30	.02	....	....	....	....	....	1.61
Granville	Mouse	.84	.12	....	.04	.03	....	.12	.40	T.	.25	.49	.05	....	....	T.	....	....	....	....	....	.37	....	....	....	.34	T.	....	T.	....	....	....	3.05
Hankinson	Red	.65	.45	....	....	.01	....	....	....	....	.07	T.	....	....	....	....	....	....	....	....	....	.07	....	....	....	.18	....	....	....	....	....	.14	1.57
Hannah	Pembina	....	....	....	....	.17	.07	....	.33	.01	....	T.	.30	....	....	....	....	....	....	....	....	....	....	....	.06	.30	.30	T.	....	....	....	....	1.57
Hansboro	Devils Lake	.10	....	....	....	.15	....	.10	.30	.03	....	.52	.13	....	....	T.	....	....	....	....	....	T.	....	....	....	.60	....	T.	....	.20	....	....	2.13
Hettinger	Grand	.24	.09	T.	....	....	....	.92	.01	....	....	.13	....	.06	.08	.06	.01	.05	.06	.38	T.	.06	.04	....	....	.01	.07	....	....	.09	....	.94	3.30
Hillsboro	Red	....	.56	....	....	....	....	....	.43	....	....	.75	.20	....	....	....	T.	....	....	....	....	....	.18	....	....	....	.27	....	....	....	....	....	2.39
Howard (near)	Missouri	.40	....	.14	....	.01	....	.27	.07	T.	....	.62	.02	....	T.	....	....	....	.14	T.	....	.27	....	....	....	.23	.05	....	T.	....	....	.48	2.70
Jamestown	James	.19	.12	....	....	T.	.03	....	.44	.04	.08	.58	.10	....	....	....	....	....	....	....	....	.14	....	....	....	.76	....	....	....	....	....	....	2.48
Kenmare	Mouse	.15	.80	.05	.04	.04	....	.32	.31	.13	T.	.62	.02	....	....	.02	....	....	.01	....	.02	T.	.02	....	....	.55	T.	T.	....	....	....	....	3.10
Langdon	Pembina	....	....	....	....	....	.23	....	.22	.25	....	.15	.36	T.	....	....	....	....	....	....	....	....	....	....	....	....	.56	....	....	....	....	....	1.77
Larimore	Red	.07	.33	....	....	T.	.07	T.	.33	....	....	1.05	.30	....	....	....	....	....	....	....	....	....	....	....	....	....	.65	T.	....	....	....	....	2.80
Linton	Missouri	.20	.09	....	.06	T.	.01	.49	.04	.05	T.	.05	....	....	....	....	....	.02	....	.01	....	.09	.09	....	....	.21	.08	....	....	....	....	T.	1.49
Lisbon	Sheyenne	.15	.89	.31	....	....	.08	....	.16	.01	....	.45	.02	....	....	....	....	....	....	....	....	....	.04	....	....	....	.15	.12	....	....	....	....	2.33
McClusky	Missouri	1.40	.29	.04	.05	.05	....	.15	.12	T.	.27	.14	T.	....	....	....	....	....	....	....	....	.34	....	....	....	.43	T.	....	....	....	....	.05	3.33
McLeod	Sheyenne	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Maddock	Sheyenne	.43	.09	....	T.	.18	....	.15	.42	.02	T.	.76	.13	....	....	.02	....	....	....	....	....	.26	....	....	....	.34	T.	.01	....	.09	....	....	2.90
Mandan‖‖	Missouri	.79	.01	.19	T.	....	.19	.40	.02	....	.30	.04	T.	.01	....	....	T.	.07	.05	....	T.	.14	....	....	....	.19	T.	....	....	....	.01	.22	2.63
Manfred	James	.67	.03	T.	.03	.05	....	.26	.27	.05	.14	.41	....	....	....	....	....	....	....	....	....	.02	....	....	.33	T.	....	....	....	....	....	....	2.29
Marmarth	Lit. Missouri	.51	....	.18	.03	....	....	.60	.13	....	....	.06	....	....	....	....	....	.15	.15	.26	.07	.07	....	....	....	.18	....	....	....	T	....	.23	2.62
Mary	Lit. Missouri	.26	....	.03	....	....	....	.73	.21	....	.07	.14	....	....	....	....	....	.05	....	.13	....	.05	....	....	....	.29	.14	....	....	....	....	.04	2.14
Max‖‖	Missouri	.23	.83	.02	.15	.08	....	....	.57	.05	....	.53	.06	.04	....	....	....	....	.04	....	....	.02	.15	....	....	....	.43	.01	....	....	....	....	3.21
Mayville	Red	....	.42	....	....	....	.09	.32	.32	....	....	.37	.05	....	....	....	....	....	....	....	....	....	....	....	....	....	.40	.12	....	....	....	....	2.09
Minot	Mouse	.11	.46	.03	.02	....	.07	....	.43	.04	.04	.97	.21	....	....	T.	....	....	.02	....	....	.09	.07	....	....	....	.28	T.	....	....	....	....	2.84
Mohall	Mouse	.73	.68	T.	.04	.02	....	.30	.23	.03	....	.65	.07	....	....	.04	....	....	....	....	....	.02	....	....	....	.63	T.	....	T.	....	....	....	3.44
Mott	Cannon Ball	.14	.02	T.	.08	T.	....	1.07	.01	....	T.	.07	....	....	.08	.05	....	.02	.04	.24	....	.05	.02	....	....	.18	....	....	....	....	....	.33	2.40
Napoleon‖‖	Missouri	.26	.60	.02	....	T.	....	....	.62	.07	....	.17	.02	....	....	....	....	....	....	....	....	....	.50	....	....	....	.50	....	....	....	....	....	2.76
New England	Cannon Ball	.20	.02	....	....	....	1.29	.02	....	....	.05	....	....	.05	.05	....	....	....	.38	....	....	.05	....	....	....	.44	....	....	....	....	.18	1.05	3.78
New Salem	Heart	.51	.09	....	.15	....	....	.93	.02	.05	.05	.11	....	....	.05	.04	....	.07	....	.10	....	.89	....	....	....	.24	....	....	....	....	....	.04	3.34
Oakes	James	.61	.42	.05	....	.02	....	.08	.02	....	....	.20	.01	....	.01	....	....	....	....	....	....	.18	.10	....	....	....	.19	.01	....	....	....	....	1.90
Park River	Red	....	....	....	....	T.	....	....	.46	....	....	.34	.61	....	....	....	....	....	....	....	....	.06	....	....	....	.34	....	....	....	....	....	.13	1.94
Parshall	Missouri	.25	.70	.18	.30	.01	....	.62	.15	....	....	.51	.11	....	....	.01	T.	.04	....	....	.01	.20	....	....	....	.34	....	....	....	....	....	.50	3.93
Pembina	Red	....	....	....	....	.06	....	....	.34	.08	....	T.	.42	....	....	....	....	....	....	....	....	....	....	....	....	....	.55	.05	....	....	....	....	1.50
Petersburg	Red	.07	.17	....	....	.05	....	....	.50	....	....	1.05	.06	....	....	....	....	....	....	....	....	.02	....	....	....	.12	.58	.02	....	.01	....	....	2.65
Pettibone	James	.71	.13	T.	.07	.06	....	.35	.09	T.	....	.73	....	....	T.	T.	....	....	....	T.	.77	....	....	....	....	.30	....	....	....	....	....	T.	3.21
Portal‖‖	Mouse	.10	.70	.21	.20	....	.05	....	.25	.05	....	.12	.22	....	....	....	....	....	....	....	....	.04	.05	....	....	.15	.22	T.	....	....	....	....	2.36
Powers Lake	Missouri	....	....	....	....	....	.41	....	....	....	.19	....	.17	....	....	....	....	....	.51	....	....	.13	.26	....	....	....	.69	....	....	....	....	.41	2.77
Richardton	Heart	.03	.16	....	.02	....	....	1.50	.03	....	....	T.	....	....	T.	.03	....	.10	T.	.24	....	.25	T	....	....	.40	T.	....	....	....	....	.01	2.77
Rugby [near]	Mouse	.30	..	....	.03	.05	T.	.08	.47	.02	T	.82	T.	....	....	....	....	....	....	....	....	.36	....	....	....	.35	....	....	....	.02	....	.01	2.51
Ryder	Missouri	.73	.03	.10	....	.03	T.	.73	.20	.09	.43	.04	T.	....	T.	T.	....	T.	T.	....	.12	.32	....	....	....	.43	T.	T.	....	....	....	.41	3.66
Sanish‖‖	Missouri	.33	.83	.05	.15	....	....	....	.23	.12	.08	.37	.02	....	....	.05	....	....	.08	.03	....	.03	.20	....	....	T.	.46	....	....	....	....	....	3.03
Sharon	Red	.11	.44	.04	....	.10	T.	.02	.41	....	.02	1.35	.04	....	....	T.	T.	....	....	....	T.	.02	T.	....	....	.25	.42	.02	....	.03	....	....	3.27
Stanton	Missouri	.90	.07	....	.05	....	....	.73	....	.12	....	.05	....	....	....	....	....	....	....	.02	....	.68	....	....	....	.17	T.	....	....	....	....	.02	2.81
Steele	Missouri	.52	.09	.04	.10	T.	....	.55	.02	T.	.04	.75	.02	....	....	.01	....	....	....	....	....	.07	....	....	....	.30	....	....	....	....	....	T.	2.51
Tagus	Mouse	.43	.13	T.	.06	.01	....	.30	.25	.03	.20	.70	.03	....	T.	T.	....	....	.03	....	....	.07	....	....	....	.31	T.	T.	....	....	....	.01	2.56
Tioga	Missouri	.88	.02	.25	....	....	....	.23	.06	.01	.45	.05	....	....	....	....	....	.10	....	....	....	.05	....	....	.32	.40	....	....	....	....	....	.46	3.28
Towner	Mouse	.45	.28	....	.30	.03	....	.10	.71	.03	....	.71	.10	T.	....	....	....	....	....	....	....	.43	.23	....	....	.30	.10	T.	....	....	....	T.	3.77
Trotters	Lit. Missouri	.40	....	.08	....	....	....	.87	.15	....	....	.08	....	....	....	.09	....	.04	.03	.17	....	.14	....	....	.37	....	.06	....	....	....	....	.10	2.58
Turtle Lake	Missouri	.77	.30	....	.18	.04	....	.20	.12	.02	.20	.17	....	....	T.	....	....	....	....	....	....	.34	....	....	....	.28	....	....	....	....	....	....	2.62
Tuttle	Missouri	1.16	.11	.02	.10	.01	....	.50	.03	T.	.13	.40	T.	....	....	T.	....	....	....	....	....	.05	....	....	....	.16	....	....	....	....	....	....	2.67
Valley City	Sheyenne	.22	.49	.05	....	....	.05	....	.43	....	.05	1.04	.03	....	....	....	....	....	....	....	.01	.01	.01	....	....	....	.45	....	....	....	....	....	2.84
Velva	Mouse	.94	.36	T.	.10	T.	.01	.32	.43	.01	.28	.50	T.	.03	....	....	....	....	T.	....	....	.24	....	....	....	.45	T.	T.	....	....	....	T	3.67
Wahpeton	Red	.20	1.00	.07	....	....	....	.07	.10	....	....	.15	.02	....	....	....	....	....	....	....	....	....	.18	....	....	....	.22	.12	....	....	....	....	2.13
Washburn	Missouri	.29	.52	.02	.13	....	....	.06	.37	.04	....	.09	.27	....	....	....	....	....	....	....	....	....	.32	....	....	....	.26	....	....	....	....	....	2.37
Westhope	Mouse	.42	.30	....	.03	.05	....	.26	.50	.06	....	.92	.05	....	....	.01	....	....	....	....	....	.06	....	....	....	.22	T.	T.	.03	....	....	T.	2.91
Williston ***	Missouri	.40	.03	.10	....	T.	....	.48	.05	....	.19	.12	....	....	T.	.01	....	.14	.01	.07	.05	.25	....	....	.08	.39	T.	....	....	....	....	.05	2.42
Willow City	Mouse	.37	.13	....	.09	.03	....	.29	.51	....	....	.48	.02	....	....	....	....	....	....	....	....	.25	....	....	....	.45	....	.03	....	....	....	T.	2.65
Wishek‖‖	Missouri	.10	.32	....	....	....	....	.14	.50	.02	....	.40	....	....	....	....	....	....	....	....	....	....	.32	....	....	....	....	.40	....	....	....	....	2.20
Zap	Knife	....	.70	....	.09	....	....	.98	.12	....	....	.22	....	....	.04	....	....	....	.13	....	....	.35	....	....	....	.24	.02	....	....	....	....	.85	3.74
Moorhead, Minn ***	Red	.11	.54	....	....	.01	....	.18	T.	T.	.18	.62	....	....	....	....	T.	....	....	....	....	.01	....	....	....	.13	.03	....	....	T.	....	....	1.81
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum..	48	44	48	55	58	65	64	60	58	59	55	52	54	60	63	65	76	74	78	82	72	70	78	80	82	75	70	72	76	79	80	66.2
	Minimum ...	32	30	30	32	33	38	34	39	40	28	35	38	32	34	38	41	35	45	44	52	51	35	35	41	42	41	43	40	42	41	42	38.2
Arnegard (near)	Maximum...	36	41	39	46	46	65	56	45	46	44	44	46	47	47	50	60	60	52	54	71	60	52	63	65	61	53	55	61	70	70	65	53.9
	Minimum ...	30	30	27	39	37	37	40	34	35	34	35	33	34	37	37	41	42	42	42	44	42	42	32	46	43	39	34	41	39	40	47	37.6
Ashley	Maximum...	39	35	44	46	59	64	62	53	57	62	56	47	50	55	53	61	59	62	69	76	67	61	69	76	71	67	64	66	65	71	68	59.8
	Minimum ...	33	29	26	30	29	38	42	35	38	31	43	36	33	39	37	35	37	46	46	46	52	43	35	42	37	42	40	42	45	41	48	38.6
Beach	Maximum...	41	45	49	52	64	66	65	43	59	63	53	50	46	49	59	70	67	53	56	70	62	61	65	73	69	55	60	63	68	69	65	59.0
	Minimum ...	35	30	29	31	40	39	41	36	32	37	37	30	38	37	38	40	45	45	42	45	44	40	37	43	46	39	36	34	43	41	50	38.7
Berthold Agency	Maximum...	41	40	52	53	65	67	65	50	58	53	45	47	53	49	55	68	60	67	69	74	64	61	69	74	62	54	54	64	72	74	68	59.6
	Minimum ...	33	32	34	34	30	36	45	39	37	35	38	36	35	40	42	40	45	48	45	43	46	42	33	42	49	38	43	46	38	42	53	40.0
Bismarck	Maximum...	41	36	50	50	65	65	51	50	57	58	46	48	50	52	55	65	61	64	70	74	60	60	67	70	67	62	60	66	70	71	64	58.9
	Minimum ...	33	32	32	33	33	41	44	39	40	38	41	37	35	41	42	40	44	48	48	48	52	44	36	46	43	40	44	44	44	46	53	41.3
Bottineau	Maximum...	51	44	52	50	62	62	63	52	56	56	52	43	58	54	58	63	62	69	72	77	72	67	68	73	72	71	56	52	68	72	79	61.5
	Minimum ...	34	31	30	32	34	33	34	34	35	32	35	34	35	39	40	41	40	44	42	45	48	41	39	46	45	39	40	38	42	46	49	38.6
Bowman	Maximum...	42	42	49	54	62	64	50	45	59	66	54	48	48	48	58	68	58	50	51	62	61	60	62	70	57	60	61	63	61	67	62	56.8
	Minimum ...	36	32	31	33	36	41	42	35	31	42	38	33	36	36	38	37	45	41	41	44	43	42	32	42	45	36	36	37	47	39	49	38.6
Cando	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carrington §§	Maximum...	34	48	48	58	64	55	51	54	54	44	47	52	53	52	58	59	65	70	77	65	60	70	73	66	64	61	64	68	71	71	77	59.8
	Minimum ...	30	29	32	30	30	40	37	37	30	36	35	31	33	38	39	35	41	43	39	52	34	34	43	43	42	40	38	41	45	46	48	37.8
Carson	Maximum...	39	39	48	49	64	69	49	50	65	60	49	47	50	48	74	75	55	58	64	74	59	70	75	70	72	74	65	72	65	73	59	60.6
	Minimum ...	32	29	26	30	32	38	38	40	40	34	34	34	35	34	38	38	42	44	43	44	42	44	35	43	46	36	38	36	46	40	50	38.1
Crosby	Maximum...	38	44	49	55	60	66	50	45	56	52	53	45	55	53	52	69	57	65	67	67	67	65	70	74	60	58	51	55	70	86	61	58.5
	Minimum ...	34	34	29	30	30	31	38	36	36	35	35	36	31	33	40	41	41	47	44	45	44	41	35	42	45	40	39	35	35	41	48	37.8
Devils Lake	Maximum...	46	38	48	48	53	62	58	50	53	53	44	47	54	57	55	59	62	67	74	78	64	63	71	74	68	62	59	64	66	72	73	59.4
	Minimum ...	35	32	32	32	32	36	38	41	34	31	36	35	31	38	41	44	40	48	48	47	48	36	38	45	46	43	42	38	47	45	49	39.6
Dickinson §§	Maximum...	40	38	48	51	63	64	51	47	56	57	46	46	50	47	54	66	51	57	60	69	59	61	66	70	57	58	61	62	71	69	57	56.5
	Minimum ...	29	31	30	30	34	33	39	35	33	34	37	35	36	36	37	38	40	44	43	44	44	41	33	43	49	37	36	33	42	37	49	37.5
Drake §§	Maximum...	41	35	50	46	62	64	57	50	54	54	42	46	54	51	56	62	59	68	74	76	64	63	69	73	65	57	57	60	69	72	68	58.6
	Minimum ...	33	32	31	32	33	36	41	37	37	31	36	35	32	38	40	40	39	46	46	46	48	36	40	42	50	41	41	38	39	45	45	38.9
Dunn Center	Maximum...	38	34	38	47	52	70	47	40	48	42	38	45	41	41	45	66	48	59	65	71	65	59	67	75	52	56	58	64	70	72	58	53.9
	Minimum ...	33	32	31	33	34	36	46	34	34	35	37	35	35	37	39	40	44	46	45	43	48	43	34	43	52	33	36	44	39	40	51	39.1
Dunseith	Maximum...	47	54	50	49	56	59	60	47	53	53	47	45	54	54	56	62	58	67	73	77	70	62	69	73	69	56	59	60	65	73	71	59.6
	Minimum ...	35	30	29	30	30	31	40	35	35	33	34	32	33	37	38	40	42	44	50	54	49	37	42	43	44	35	38	38	42	44	45	38.4
Edgeley	Maximum...	44	35	40	45	60	63	59	51	48	55	54	48	48	53	51	56	60	60	70	72	70	68	72	76	74	50	61	62	65	65	72	58.3
	Minimum ...	29	30	22	39	28	38	41	37	38	29	41	38	32	39	36	32	35	41	55	40	45	40	60	38	38	38	40	41	43	41	43	38.3
Ellendale	Maximum...	45	40	43	48	57	63	62	57	58	61	57	48	51	58	54	59	62	63	70	77	66	62	69	73	68	69	68	67	68	72	72	60.9
	Minimum ...	39	30	30	30	29	41	43	40	39	33	46	40	38	42	41	48	36	49	48	47	53	44	39	41	45	44	45	46	45	47	46	41.1
Fessenden §§	Maximum...	41	35	50	46	60	65	57	51	54	56	45	47	56	55	56	61	60	63	78	64	62	70	60	65	75	62	59	63	70	76	71	59.1
	Minimum ...	32	31	30	31	30	36	38	35	36	29	37	35	31	37	36	40	36	46	42	55	35	33	41	45	42	41	40	37	37	42	41	37.3
Foxholm (near)	Maximum...	45	41	49	49	53	62	62	45	52	52	44	46	51	51	51	56	57	63	68	69	69	60	67	69	69	55	55	56	66	71	71	57.2
	Minimum ...	32	30	30	31	35	36	37	35	36	30	34	32	31	36	40	38	40	45	45	43	49	33	38	43	47	40	39	40	36	43	46	37.7
Fullerton	Maximum...	43	34	44	51	60	66	58	57	56	61	53	49	50	57	56	61	63	66	72	78	69	61	72	74	71	69	67	68	70	72	76	61.4
	Minimum ...	34	31	30	29	31	39	41	39	39	32	44	38	38	42	40	39	38	49	47	45	50	46	37	40	45	42	43	42	44	45	46	40.2
Garrison	Maximum...	39	38	51	52	63	67	58	47	56	54	43	46	52	49	53	64	50	50	70	75	62	61	68	70	59	56	57	60	71	72	63	57.3
	Minimum ...	33	32	30	32	34	38	43	38	37	33	38	35	34	38	40	38	37	46	46	46	42	40	35	42	50	51	40	47	41	44	48	39.6
Grafton	Maximum...	55	52	51	57	60	65	65	61	53	55	51	48	59	60	59	59	70	72	79	82	80	66	74	78	76	70	64	66	69	75	78	64.8
	Minimum ...	39	36	33	33	28	36	34	44	38	32	40	38	33	36	36	41	37	45	46	49	56	37	40	39	46	45	43	39	38	40	44	39.4
Grand Forks	Maximum...	52	45	51	55	57	66	63	56	46	55	47	48	56	59	61	60	68	71	77	80	70	64	73	77	74	70	63	69	66	73	79	62.9
	Minimum ...	40	33	34	30	32	37	38	44	33	29	41	39	32	37	41	43	39	49	50	44	49	39	37	41	48	45	45	38	39	40	48	39.8
Granville	Maximum...	50	45	52	49	64	66	55	50	56	54	44	47	55	52	57	63	64	68	71	75	64	62	68	73	61	58	57	61	69	73	69	59.7
	Minimum ...	35	33	30	35	35	34	39	40	37	31	37	34	31	38	41	43	44	48	46	40	48	37	37	36	48	40	41	38	34	44	44	38.6
Hansboro	Maximum...	48	49	54	50	52	56	54	46	53	53	45	50	54	58	57	60	67	70	75	70	70	75	80	75	70	70	63	65	65	75	73	61.4
	Minimum ...	34	33	30	30	30	40	38	33	36	26	32	30	30	35	36	38	37	38	40	32	40	40	43	40	42	42	42	37	42	40	42	36.4
Hettinger	Maximum...	43	40	49	54	65	65	57	50	66	63	56	50	49	51	58	68	60	54	55	57	60	61	63	68	62	64	62	64	65	65	60	58.2
	Minimum ...	38	31	30	31	35	33	45	36	36	42	40	36	35	37	39	38	45	42	42	45	45	40	33	44	46	39	37	38	44	39	50	39.1
Hillsboro	Maximum...	52	46	50	53	51	67	61	57	53	56	48	46	53	61	60	60	68	72	74	81	76	66	74	80	74	68	61	71	66	72	76	63.1
	Minimum ...	40	32	32	30	31	33	37	45	41	30	40	39	30	33	38	40	35	48	40	45	56	37	38	46	46	44	45	47	42	41	45	39.5
Howard (near)	Maximum...	37	38	36	36	55	65	48	45	55	52	44	50	49	52	52	67	57	62	60	66	63	63	67	73	63	56	52	55	67	71	58	55.3
	Minimum ...	33	26	23	20	28	36	36	31	30	32	34	36	32	35	37	39	40	41	40	45	44	35	34	45	38	37	35	40	35	42	45	35.6
Jamestown	Maximum...	43	34	44	47	56	65	58	54	58	56	41	47	52	55	56	58	61	67	73	78	64	61	70	75	70	67	63	66	67	76	74	59.9
	Minimum ...	33	30	29	29	29	34	38	39	38	32	37	34	32	36	40	40	31	47	48	45	49	39	37	42	45	41	43	42	44	45	48	38.6
Kenmare	Maximum...	49	39	50	51	62	65	46	48	55	55	48	45	53	52	53	63	63	65	70	72	67	64	69	70	50	59	54	60	69	73	63	58.1
	Minimum ...	37	33	31	32	39	41	39	37	38	35	34	34	32	40	42	41	43	48	47	45	50	36	40	47	49	41	42	42	38	42	44	40.0
Langdon §§	Maximum...	52	54	56	60	55	66	60	55	50	50	42	45	59	60	64	65	65	71	66	86	65	64	74	80	71	60	60	63	64	75	74	62.3
	Minimum ...	30	31	26	28	30	33	34	40	35	25	30	34	30	35	36	42	45	45	42	52	35	36	40	50	40	40	35	40	40	40	48	37.0
Larimore	Maximum...	52	46	50	56	59	65	63	55	50	55	49	48	56	60	61	63	67	71	76	81	73	63	73	80	73	69	61	67	67	76	79	63.4
	Minimum ...	38	31	32	31	32	38	25	43	39	28	39	37	32	35	36	39	31	45	43	44	55	32	37	40	46	43	42	38	42	40	39	37.9
Linton	Maximum...	41	36	48	54	65	66	63	51	59	63	57	48	49	54	55	64	62	64	71	77	72	61	70	71	65	68	66	68	70	71	69	61.2
	Minimum ...	35	30	29	29	30	34	44	34	36	37	42	36	32	30	40	37	36	47	46	45	48	45	32	37	47	45	39	42	47	39	53	38.8
Lisbon §§	Maximum...	43	35	44	51	58	61	62	58	56	60	51	50	50	59	60	60	65	69	72	78	70	63	72	75	71	71	68	69	70	74	76	62.0
	Minimum ...	35	32	31	29	32	37	36	42	41	32	39	40	36	37	38	44	41	49	46	50	55	42	38	38	48	42	45	44	44	43	42	40.3
McClusky	Maximum...	46	38	50	47	62	67	66	49	55	59	43	42	54	50	58	62	60	66	72	78	67	61	70	72	72	60	58	63	72	72	70	60.0
	Minimum ...	34	30	25	31	31	33	40	33	35	30	36	34	29	37	38	35	41	44	45	42	47	35	32	39	39	38	37	36	38	38	42	36.3
Maddock	Maximum...	46	42	50	50	58	63	61	50	54	55	51	47	55	55	55	62	60	69	76	79	77	68	70	76	72	61	59	67	68	74	72	61.4
	Minimum ...	35	30	30	30	30	35	36	39	36	28	35	34	31	36	36	40	35	46	46	44	50	34	34	39	42	40	40	35	38	42	41	37.0
Marmarth	Maximum...	43	47	50	57	65	65	60	49	69	68	60	53	49	50	60	71	66	51	52	66	65	61	63	71	68	61	64	64	64	67	60	60.0
	Minimum ...	33	32	28	35	40	40	43	36	30	42	40	36	39	38	40	40	48	45	42	43	43	38	36	44	48	35	36	37	46	40	50	39.5
Minot	Maximum...	41	39	52	52	64	68	52	49	55	53	44	48	53	50	56	63	60	68	71	74	65	62	69	71	61	57	56	60	72	73	73	59.1
	Minimum ...	33	33	31	35	36	35	44	39	39	33	33	33	32	37	42	41	44	47	47	40	49	39	34	46	51	41	41	43	35	43	47	39.5
Mohall	Maximum...	40	41	52	53	67	65	47	47	56	52	49	47	45	59	55	64	59	67	72	73	70	61	75	72	70	59	58	57	70	76	73	60.3
	Minimum ...	36	33	31	33	37	37	39	38	36	32	36	33	33	39	42	44	44	48	48	47	50	35	38	36	48	42	42	40	39	42	44	39.4
Mott	Maximum...	42	40	51	54	65	67	58	50	59	61	49	46	49	49	57	66	59	56	60	69	62	61	65	70	63	64	64	66	67	69	64	58.8
	Minimum ...	37	30	29	31	34	35	44	36	32	35	40	35	37	38	39	38	43	44	43	43	46	43	33	44	44	37	38	37	46	38	51	38.7
Napoleon §§	Maximum...	41	32	47	55	62	66	50	51	57	61	46	47	48	53	53	62	61	64	72	79	63	60	70	73	69	68	64	67	71	75	68	59.8
	Minimum ...	35	28	27	30	28	36	43	34	38	31	40	35	30	37	36	35	38	45	46	43	49	41	35	38	44	40	38	38	43	45	46	37.8
New England §§	Maximum...	41	41	50	60	66	61	52	55	59	60	50	51	49	46	56	69	52	58	54	69	62	64	66	71	58	61	63	67	69	70	57	58.3
	Minimum ...	31	26	34	33	31	39	36	31	33	37	35	35	37	39	37	42	45	42	45	43	42	33	43	48	37	37	36	47	40	50	52	38.6
New Salem	Maximum...	44	37	49	51	65	68	59	48	57	59	48	47	50	51	56	67	70	65	67	76	69	64	68	70	69	64	65	65	70	72	68	60.6
	Minimum ...	35	30	28	31	32	39	44	36	36	33	40	35	32	39	39	38	41	45	45	44	47	43	37	40	47	39	38	42	43	44	48	39.0
Oakes	Maximum...	45	35	44	51	58	66	63	59	58	62	59	49	50	59	57	61	64	67	71	78	73	62	71	76	71	73	70	70	69	72	78	62.6
	Minimum ...	35	30	29	29	31	38	41	40	31	33	45	39	38	41	42	45	39	51	48	46	54	44	36	39	45	43	45	44	42	43	45	40.7
Park River	Maximum...	49	47	49	53	54	62	61	51	48	52	44	46	48	57	56	60	66	70	75	79	62	63	70	75	68	61	64	63	71	71	74	60.3
	Minimum ...	38	32	34	33	34	39	35	44	38	29	39	36	34	36	37	39	33	44	45	45	57	37	40	41	38	45	40	42	41	43	43	39.1
Sharon	Maximum...	45	38	45	50	55	63	59	53	53	53	44	46	53	57	57	58	63	67	71	79	64	61	71	74	70	66	61	67	67	72	74	59.9
	Minimum ...	37	29	30	30	32	35	38	42	39	29	38	36	34	35	36	40	33	44	45	53	52	36	42	43	48	41	41	39	45	44	49	39.2
Steele	Maximum...	40	36	45	48	60	65	60	50	55	56	46	46	48	57	53	61	58	66	71	79	64	60	70	71	70	65	61	64	70	73	68	59.2
	Minimum ...	36	30	29	29	30	36	45	44	34	43	40	36	31	38	45	37	49	49	49	44	52	44	36	40	48	37	40	40	41	45	49	40.2
Towner	Maximum...	58	52	55	65	74	69	71	58	58	60	65	53	57	61	64	70	72	75	78	82	82	74	73	80	78	67	70	70	68	81	89	68.7
	Minimum ...	31	33	31	32	35	34	40	40	37	31	38	35	31	39	39	44	42	50	48	44	49	37	36	42	48	40	42	35	38	45	47	39.1
Valley City	Maximum...	49	47	48	54	57	66	63	50	56	56	54	47	53	58	59	60	64	69	76	79	71	62	71	76	73	68	76	69	68	71	76	62.8
	Minimum ...	38	29	31	27	33	36	33	41	37	29	40	36	34	38	39	40	39	46	46	40	54	40	35	34	45	41	45	41	44	39	43	38.5
Wahpeton	Maximum...	57	45	45	50	58	67	68	63	59	62	64	55	53	59	60	61	69	71	74	78	78	72	72	75	75	73	71	72	71	74	78	65.5
	Minimum ...	41	32	30	31	38	39	39	43	42	31	47	42	35	39	42	46	40	52	49	49	51	45	35	37	48	46	47	41	38	43	45	41.4
Westhope	Maximum...	48	43	52	52	65	68	69	49	56	55	57	56	56	52	56	64	68	60	73	76	65	68	71	74	66	59	62	60	69	75	71	61.8
	Minimum ...	36	32	31	37	35	35	41	40	35	31	35	34	31	39	43	42	44	41	48	45	49	36	35	39	47	41	42	35	35	44	41	38.7
Williston	Maximum...	39	44	48	54	61	67	53	47	57	56	44	46	50	50	55	68	53	60	63	70	61	62	68	74	59	56	55	58	69	72	61	57.4
	Minimum ...	33	34	32	31	41	40	40	36	34	39	38	36	35	41	42	44	47	46	45	48	40	46	42	52	47	41	39	45	39	46	53	41.1
Moorhead, Minn	Maximum...	49	37	45	51	58	64	63	59	51	57	49	48	53	59	60	60	68	71	73	79	70	61	72	75	71	71	65	69	66	72	76	62.0
	Minimum ...	33	30	33	31	35	40	38	45	41	32	44	40	34	37	39	45	39	51	48	51	54	42	41	40	48	45	46	44	42	43	50	41.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 6-28-35—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIV BISMARCK, N. D., JUNE 1935 No. 6

GENERAL SUMMARY

Precipitation during June 1935 was below average, but was well distributed throughout the month. Amounts were adequate for crops in all but a few northern, central, and southwestern sections. Temperature and sunshine averaged below normal. It was the coolest June since 1928. Temperatures were unusually low during the first week and furnace fires were continued in most residences until June 7th. Light snow fell at some northern stations on the 4th. High winds caused property damage in the central and eastern parts of the State on the 13th, 20th, and 30th. One girl was killed during the tornado in Sioux County on the 20th. Most stations throughout the State reported moderate dust storms on the 3d, and a few stations reported light dust storms on the 2d, 25th, and 29th. At the end of the month crops, pastures, and ranges were mostly in good condition.

TEMPERATURE

The mean temperature for the State was 60.3°, or 2.7° below the 44 year average, and was 4.0° lower than the mean for June 1934. The highest mean reported was 64.2° at Fort Yates, Sioux County; the lowest was 56.7° at Powers Lake, Burke County. The highest temperature reported was 99° at Bottineau, Bottineau County on the 29th, the lowest was 25° at Maddock, Benson County on the 6th. The greatest monthly range of temperature was 71° at Bottineau, Bottineau County; the least was 50° at Bismarck, Burleigh County, Park River, Walsh County, and Powers Lake, Burke County. The greatest daily range of temperature was 55° at Towner, McHenry County on the 9th.

PRECIPITATION

The average precipitation for the State was 3.01 inches, or 0.42 inch below the 44 year average, and 0.03 inch less than the average for June 1934. The greatest monthly amount reported was 7.08 inches at Hannah, Cavalier County; the least reported was 0.98 inch at Manfred, Wells County. The greatest amount recorded in any 24 consecutive hours was 3.49 inches at Fullerton, Dickey County on the 15th. The average number of days with 0.01 inch or more of precipitation was 10.

MISCELLANEOUS PHENOMENA

AURORAS: Corinth, 19th; Foxholm, 8th; Oakes, Williston, 7th.

FOG: Bismarck, 1st, 14th, 16th, 19th, 20th, 22d; Devils Lake, 14th, 16th, 17th; Dogden Butte, Foxholm, Minot, Rugby, Steele, Tagus, 14th; Edmore, 15th, 17th; Howard, Trotters, 19th; Pettibone, Tuttle, 14th, 17th; Ryder, 13th.

HAIL: Alpha, Beach, Fessenden, 14th; Ashley, Napoleon, Oakes, 15th; Carrington, Cooperstown, Foxholm, McLeod, Moorhead, Sharon, 13th; Dogden Butte, Hansboro, 1st; Eckman, Westhope, 30th; Edmore, Parshall, 11th; Fort Yates, Hettinger, Mott, 20th; Grand Forks, 1st, 11th; Pettibone, 7th; Richardton, 10th.

HALOS, lunar: Bismarck, 17th; Pembina, 4th.

HALOS, solar: Bismarck, 12th, 17th; Devils Lake, 17th, 26th, 28th; Dogden Butte, 8th, 10th, 12th, 23d, 28th; Moorhead, 17th, 26th; Petersburg, 5th, 28th; Sharon, 12th, 17th, 26th; Tagus, 8th, 28th; Tuttle, 12th; Williston, 4th, 8th, 19th, 29th.

THUNDERSTORMS occurred on the 1st, 3d, 5th, 7th, 8th, 9th, 10th, 11th, 13th, 14th, 15th, 16th, 17th, 19th, 24th, 26th, 27th, 29th, and 30th; with the greatest number reported on the 11th, 13th, 15th, and 24th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.83	30.15	6	29.26	1	10.1	34	s.	1	81	54	52	59
Devils Lake	29.83	30.10	6	29.23	1	9.5	29	nw.	3	83	53	55	62
Grand Forks	29.80	30.04	6	29.31	1	......	36	se.	13	80	....	61	....
Williston	29.83	30.20	4	29.30	1	9.4	30	nw.	3	80	53	49	65
Moorhead, Minn	29.83	30.06	6	29.37	1	9.1	33	n.	13	79	54	59	59
Averages & ext's	29.82	30.20	4	29.23	1	9.5	36	se.	13	81	54	55	61

† And other dates.

COMPARATIVE DATA FOR JUNE

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	60.5	−2.5	94	28	3.35	−0.08	7.44	1.62	0	8	11	9	10
1893.	67.4	+4.4	103	33	3.38	−0.05	5.54	0.86	0	9	13	10	7
1894.	68.8	+5.8	103	25	3.44	+0.01	7.70	1.07	0	7	17	6	7
1895.	59.7	−3.3	97	29	4.67	+1.24	6.74	2.44	0	12	8	13	9
1896.	65.6	+2.6	97	37	3.80	+0.37	7.08	0.94	0	9	16	9	5
1897.	61.7	−1.3	109	20	3.75	+0.32	10.40	0.20	0	9	11	10	9
1898.	62.6	−0.4	105	26	3.19	−0.24	6.80	0.68	0	9	10	10	10
1899.	62.2	−0.8	105	30	3.81	+0.38	9.02	1.40	0	10	12	11	7
1900.	66.9	+3.9	109	27	1.39	−2.04	3.45	0.27	0	5	15	11	4
1901.	61.6	−1.4	95	22	6.14	+2.71	9.71	2.94	0	15	10	11	9
1902.	58.0	−5.0	97	28	3.65	+0.22	6.30	1.00	0	11	12	9	9
1903.	62.4	−0.6	96	27	1.44	−1.99	3.13	0.04	0	4	17	8	5
1904.	61.4	−1.6	100	30	5.77	+2.34	9.84	2.01	0	11	13	8	9
1905.	59.7	−3.3	97	32	4.52	+1.09	8.17	2.38	0	12	10	7	13
1906.	62.0	−1.0	95	32	4.06	+0.63	8.81	0.70	0	11	13	8	9
1907.	61.9	−1.1	95	25	2.85	−0.58	5.58	1.34	0	10	12	10	8
1908.	60.4	−2.6	93	27	3.37	−0.06	7.15	1.30	0	10	12	9	9
1909.	62.9	−0.1	98	28	3.21	−0.22	7.65	1.10	0	10	12	11	7
1910.	67.3	+4.3	111	19	1.83	−1.60	5.35	0.00	0	6	16	9	5
1911.	66.9	+3.9	108	25	3.12	−0.31	7.47	0.70	0	9	13	10	7
1912.	61.8	−1.2	104	28	2.06	−1.37	4.53	0.14	0	6	16	8	6
1913.	65.8	+2.8	101	27	2.35	−1.08	6.95	0.81	0	8	16	9	5
1914.	62.2	−0.8	93	29	6.26	+2.83	13.28	2.43	0	13	9	11	10
1915.	56.7	−6.3	94	20	5.00	+1.57	10.56	1.01	0	12	9	12	9
1916.	58.0	−5.0	92	29	3.89	+0.46	6.78	1.50	0	11	10	11	9
1917.	59.7	−3.3	103	19	2.09	−1.34	6.20	0.80	0	8	13	11	6
1918.	63.3	+0.3	102	27	1.63	−1.80	3.92	0.09	0	7	14	11	5
1919.	67.2	+4.2	108	22	2.31	−1.12	8.70	0.52	0	5	15	10	5
1920.	62.2	−0.8	98	26	3.62	+0.19	7.42	0.50	0	11	12	12	6
1921	68.2	+5.2	108	30	3.51	+0.08	7.65	0.75	0	9	14	10	6
1922.	63.5	+0.5	108	30	3.78	+0.35	7.54	0.64	0	9	15	8	7
1923.	66.1	+3.1	100	30	3.82	+0.39	10.27	0.91	0	8	13	12	5
1924.	58.6	−4.4	89	26	4.17	+0.74	7.57	1.85	0	11	10	12	8
1925.	61.5	−1.5	98	30	6.07	+2.64	12.97	3.16	0	14	11	10	9
1926.	60.7	−2.3	104	22	2.65	−0.78	5.66	0.66	0	9	13	9	8
1927.	61.2	−1.8	99	22	2.84	−0.59	6.69	1.03	0	9	11	13	6
1928.	58.2	−4.8	92	24	5.07	+1.64	10.61	1.88	0	12	10	10	10
1929.	61.4	−1.6	98	21	1.44	−1.99	7.99	0.15	0	7	16	9	5
1930.	63.3	+0.3	96	30	3.09	−0.34	6.71	0.13	0	10	13	11	6
1931.	68.4	+5.4	110	27	2.35	−1.08	9.27	0.11	0	8	14	10	6
1932.	67.0	+4.0	98	34	3.83	+0.40	8.22	1.11	0	10	14	10	6
1933.	70.7	+7.7	110	33	1.75	−1.68	4.49	0.38	0	7	18	10	2
1934.	64.3	+1.3	100	29	3.04	−0.39	5.52	1.09	0	11	12	10	8
1935.	60.3	−2.7	99	25	3.01	−0.42	7.08	0.98	T.	10	11	12	7
Per..	63.0	....	111	19	3.43	....	13.28	0.00	T.	9	13	10	7

Climatological Data for June 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	9	......	......	......	......	......	......	......	2.02	......	0.96	0	10	20	8	2	nw.	H. A. Bury.
Amenia	Cass	954	39	63.2	−0.2	89	30	31	3†	37	3.76	−0.03	1.25	0	9	5	12	13	ne.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	56.8	−4.9	90	29	33	4	44	3.26	+0.10	1.15	0	7	15	11	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	61.4	−1.0	89	13	33	6	38	4.59	+1.05	2.70	0	9	14	9	7	se.	H. D. Piper.
Beach	Golden Valley	2,759	29	60.5	−1.2	94	29	32	6	38	3.55	−0.34	1.24	0	16	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	59.7	−3.1	85	28	33	6	40	1.63	−2.25	0.73	0	5	23	3	4	e.	C. L. Hall.
Bismarck	Burleigh	1,674	60	62.2	−1.5	87	30	37	6	36	2.82	−0.53	0.94	0	11	7	16	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	60.4	−0.9	99	29	28	6	40	2.45	−0.86	0.67	0	9	16	6	8	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	60.0	−2.5	92	29	32	6	38	2.65	−0.84	1.30	0	10	19	10	1	nw.	George Larsen.
Cando	Towner	1,488	34	......	......	86	29	......	......	......	2.39	−1.21	0.90	0	15	2	20	8	nw.	A. J. Swanson.
Carrington	Foster	1,579	37	60.2	−2.8	85	30	28	5	40	4.41	+0.90	2.34	0	9	13	9	8	nw.	L. A. Swanson.
Carson	Grant	2,500	23	61.6	−0.8	92	29	35	6	38	4.31	+0.24	2.30	0	9	15	10	5	nw.	J. W. Evens.
Cavalier	Pembina	894	25	59.8	......	88	30	32	5	40	3.89	+0.97	0.93	0	19	11	15	4	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	61.4	......	84	9	26	5	42	2.71	−0.85	0.77	0	10	24	3	3	nw.	Theo. Marquardt.
Corinth	Williams	2,180	7	......	......	......	......	......	......	......	2.66	......	1.27	0	10	1	14	15	sw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	......	......	......	......	......	......	......	2.81	......	1.12	0	8	8	20	2	nw.	Geo. E. Berg.
Crosby	Divide	1,954	28	57.2	−3.9	88	29	37	4†	44	2.34	−0.82	1.10	0	9	9	8	13	nw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	59.7	−2.2	85	30	30	5	34	1.97	−1.59	0.84	0	10	6	13	11	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	59.0	−2.7	92	29	35	6	42	2.14	−1.05	0.51	0	15	6	20	4	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	59.6	......	87	30	29	6	38	2.19	−1.16	0.51	0	11	12	7	11	nw.	R. L. Williams.
Drake	McHenry	1,634	6	59.8	......	87	29†	33	6	37	1.74	......	0.45	0	10	5	16	9	nw.	Peter Anton.
Dunn Center	Dunn	2,191	36	59.9	−2.1	90	29	37	6	41	3.49	−0.52	0.61	0	12	5	18	7	nw.	W. F. Moede.
Dunseith	Rolette	1,682	39	58.5	−2.4	87	30	28	6	40	2.03	−1.05	0.61	0	11	8	14	8	ne.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	59.7	−1.9	91	30	30	6	42	3.05	+0.11	1.72	0	9	1	17	12	se.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	60.2	−2.7	86	13	30	6	43	3.39	−0.30	2.60	0	8	2	28	0	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	57.7	......	85	30	27	5	40	2.62	−0.10	0.66	0.2	13	7	11	12	se.	E. D. Warner.
Ellendale	Dickey	1,457	40	62.2	−3.8	88	13	33	5	40	3.13	−1.46	1.78	0	9	17	8	5	nw.	J. E. Demmer.
Energy‡‡	McLean	1,750	23	61.0	......	87	29†	34	6	40	3.38	−0.10	1.29	0	9	5	22	3	nw.	H. S. Solenberger.
Fairfield	Billings	......	6	......	......	......	......	......	......	......	2.93	......	1.34	0	6	12	15	3	w.	F. R. Hecker.
Fessenden	Wells	1,610	23	60.3	−1.4	89	30	28	6	43	1.11	−2.72	0.45	0	10	1	21	8	nw.	T. D. Monsen.
Forman	Sargent	1,249	42	......	......	......	......	......	......	......	4.65	+1.16	2.71	0	8	20	6	4	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	35	64.2	−2.0	89	14	36	5	42	2.20	−1.30	1.22	0	6	12	12	6	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	56.8	......	89	30	31	6	33	2.31	−0.78	0.77	0	13	4	13	13	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	......	......	......	......	......	......	......	3.04	−0.35	0.65	0	11	12	11	7	nw.	Verne King.
Fullerton	Dickey	1,439	37	62.0	−1.4	88	13	33	6	41	5.32	+1.57	3.49	0	8	15	10	5	nw.	F. O. Alin.
Gackle	Logan	1,951	5	61.0	......	86	13	33	6	36	3.43	......	1.97	0	6	14	15	1	nw.	A. H. Hant.
Garrison	McLean	1,901	58	61.0	−1.2	87	30	34	6	41	2.53	−0.89	0.61	0	12	8	17	5	nw.	W. F. Robinson.
Grafton	Walsh	827	43	61.6	−1.2	85	29†	34	5†	39	3.02	−0.34	0.61	0	11	12	9	9	s.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	44	61.2	−1.8	84	29†	31	6	35	2.46	−0.96	0.59	T.	14	4	19	7	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	59.6	−2.6	90	30	30	6	36	2.34	−0.55	0.84	0	10	10	14	6	nw.	W. A. Christianson.
Hankinson	Richland	1,068	6	63.7	......	90	13	33	4	35	5.18	......	2.25	0	9	12	13	5	nw.	R. G. Stock.
Hannah	Cavalier	1,568	43	59.0	......	82	24†	29	5	39	7.08	+3.68	1.78	T.	16	0	25	5	nw.	James Muir.
Hansboro	Towner	1,597	27	57.2	−3.2	85	29†	29	5	38	4.93	+1.84	2.65	T.	9	9	15	6	se.	C. E. Blackorby.
Hettinger	Adams	2,675	28	61.2	−1.7	94	29	33	6	43	1.89	−1.71	0.79	0	11	21	7	2	nw.	Glenn Brokaw.
Hillsboro	Traill	901	29	61.7	−2.5	85	30	33	5	37	4.02	+0.60	1.95	0	12	10	12	8	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	28	57.8	−2.4	88	29	32	6	42	2.25	−0.53	1.12	0	8	10	12	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	43	61.8	−1.4	89	30	32	5†	46	2.18	−1.02	0.70	0	11	8	21	1	n.	S. Calvelage.
Kenmare	Ward	1,799	4	60.6	......	88	29	35	5	33	2.72	......	0.78	0	10	11	14	5	nw.	R. Costello.
Langdon	Cavalier	1,615	39	57.8	−2.1	84	29	28	6	41	3.30	−0.11	0.73	0	13	16	14	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	60.6	−1.8	86	30	31	5	37	2.69	−1.25	0.82	0	10	13	6	11	se.	Mabel Walsh.
Linton	Emmons	1,711	18	61.4	−2.9	87	13†	33	6†	44	4.09	+1.53	1.24	0	11	7	19	4	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	61.8	−1.7	88	14	31	5	32	4.64	+0.68	1.82	0	13	3	18	9	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	17	59.8	......	91	28	30	6	42	3.00	−0.15	1.19	0	10	20	7	3	nw.	Edw. Tapley.
McLeod	Ransom	1,075	24	61.3	−3.2	89	13	32	5	41	4.37	+0.25	1.89	0	7	12	10	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	20	60.4	−0.7	87	30	25	6	44	1.69	−1.69	0.80	0	10	1	17	12	nw.	A. T. Felland.
Mandan	Morton	1,750	21	62.4	−0.9	88	29†	36	6	36	2.85	−0.48	0.83	0	11	5	7	18	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	......	......	......	......	......	......	......	0.98	−2.64	0.24	0	8	17	10	3	......	P. B. Anderson.
Marmarth	Slope	2,714	26	61.4	−0.6	94	29	33	6	37	3.00	−0.26	1.20	0	12	9	11	10	nw.	S. P. Grane.
Mary	McKenzie	......	6	......	......	......	......	......	......	......	3.82	......	1.22	0	7	17	7	6	nw.	Fred Hartman.
Max	McLean	2,093	6	58.5	......	86	30	31	6	38	3.21	......	0.98	0	13	13	6	11	nw.	A. W. Rice.
Mayville	Traill	975	39	64.0	0.0	85	29†	29	6	44	6.42	+3.01	3.00	0	10	8	13	9	nw.	H. B. Addicott.
Minot	Ward	1,557	39	59.4	−2.9	90	30	31	6	40	1.99	−1.23	0.33	T.	15	2	20	8	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	41	60.0	−1.1	92	30	33	6	42	2.69	−0.61	0.91	0	12	2	20	8	nw.	John Behan.
Mott	Hettinger	2,424	28	61.9	−2.5	95	29	33	6	38	1.95	−1.59	0.82	0	8	14	13	3	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	43	60.6	−1.8	87	13†	31	6	39	3.88	+0.35	1.46	0	13	10	7	13	nw.	C. J Hoof.
New England	Hettinger	2,400	41	61.2	−1.4	96	29	32	5	37	1.99	−0.91	0.47	0	9	13	10	7	se.	F. S. Sleight.
New Salem	Morton	2,163	31	62.5	−0.4	91	29	33	6	40	2.44	−0.99	0.80	0	10	13	14	3	nw.	J. Christiansen.
Oakes	Dickey	1,318	6	63.0	......	90	13	32	5	43	3.81	......	2.34	0	13	6	20	4	nw.	Eugene Naylor.
Park River	Walsh	998	31	59.0	−3.9	82	30	32	5	34	3.78	+0.30	1.86	0	10	12	9	9	nw.	C. B. Wright.
Parshall	Mountrail	1,929	20	58.0	......	89	30	36	4	35	3.20	+0.11	0.95	0	13	7	19	4	nw.	C. E. Shubert.
Pembina	Pembina	789	61	......	......	......	......	......	......	......	2.96	−0.64	0.91	0	10	14	3	13	nw.	E. H. Kruse.
Petersburg	Nelson	1,520	5	......	......	......	......	......	......	......	2.28	......	0.78	0	10	8	11	11	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	59.8	−1.7	87	13	30	6†	40	1.83	−1.83	0.81	0	9	19	7	4	nw.	H. H. McCumber.
Portal	Burke	1,954	30	58.7	−0.5	88	29	33	6	43	2.62	−0.73	0.85	T.	11	7	12	11	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	30	56.7	......	85	30	35	6	34	2.66	−0.89	0.82	0	5	11	17	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	19	59.9	−2.7	89	29	34	6	30	2.97	−0.48	0.90	0	9	9	13	8	nw.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	......	......	......	......	......	......	......	1.45	......	0.45	0	8	4	19	7	se.	W. B. Paterson.
Ryder	Ward	2,108	6	......	......	......	......	......	......	......	2.77	......	0.73	0	13	20	0	10	se.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	59.6	......	89	29	38	6	43	3.49	......	0.73	0	12	15	10	5	e	H. J. Bugge.
Sharon	Steele	1,516	11	59.4	......	82	9†	29	6	34	3.96	+0.29	2.02	T.	12	7	14	9	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	......	......	......	......	......	......	......	3.20	+0.16	1.12	0	7	11	16	3	nw.	H. J. Giffey.
Steele	Kidder	1,857	41	61.1	−1.4	86	13†	32	6	43	2.37	−1.13	0.92	0	8	6	19	5	nw.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	......	......	......	......	......	......	......	2.38	......	0.64	0	8	14	10	6	nw.	G. N. Pilgard.
Tioga	Williams	2,279	6	......	......	......	......	......	......	......	2.02	......	0.61	0	11	17	8	5	nw.	Anton Carlson.
Towner	McHenry	1,482	33	63.0	+0.2	95	9†	28	6	55	1.38	−1.52	0.58	0	7	14	12	4	nw.	J. A. Gilje.
Trotters	Golden Valley	......	9	......	......	......	......	......	......	......	3.93	......	1.33	0	8	7	12	11	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	......	......	......	......	......	......	......	3.16	−0.82	0.82	0	10	16	2	12	......	M. A. Slettum.
Tuttle	Kidder	1,936	27	......	......	......	......	......	......	......	2.11	−1.21	0.85	0	8	13	14	3	nw.	Adam Leno.
Valley City	Barnes	1,245	29	61.8	−1.7	86	13	29	5	42	1.78	−1.55	0.70	0	7	20	2	8	w.	I. C. Robertson.
Velva	McHenry	1,511	8	61.4	......	89	30	33	6	39	2.27	......	0.66	0	12	5	15	10	nw.	Oscar Anderson.
Wahpeton	Richland	962	43	63.8	−1.3	89	13†	33	5	35	4.55	+0.69	1.50	0	13	15	0	15	nw.	C. G. Luick.
Washburn	McLean	1,731	34	61.8	−2.3	88	29†	33	6	33	2.20	−1.34	0.68	0	8	15	7	8	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	60.4	−1.6	90	29	30	6	39	4.79	+1.78	3.37	0	10	10	15	5	nw.	D. W. Drake.
Williston	Williams	1,878	56	61.0	−1.7	91	29	38	6	37	3.08	−0.35	1.48	0	7	9	12	9	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	59.1	−1.9	86	28†	29	6	45	1.83	−1.28	0.63	0	7	13	16	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	6	61.4^{e}	−0.9	90^{e}	13	33^{e}	6	35^{e}	3.69	+0.77	1.10	0	9	8	2	20	nw.	E. W. Davis.
Zap	Mercer	1,838	20	......	......	......	......	......	......	......	2.31	−1.46	0.60	0	8	20	6	4	......	R. A. Norton.
Moorhead, Minn.	Clay	935	54	61.9	−2.5	86	13	33	6	32	3.01	−1.04	1.53	0	10	5	12	13	n.	U. S. Weather Bureau.
Averages	......	......	......	60.3	−2.2	99	29	25	6	55	3.01	−0.44	3.49	T.	10	11	12	7	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for June 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	.96	T.	.04		.10				.30	.06			.02	.20					.07	.16				.11					T.			2.02
Amenia	Red			T.	.10	.12				.75				1.25		.15	.60			.04					.63	.12							3.76
Arnegard (near)	Missouri	1.15	.03	T.		.30	T.					.02		.70	.40						.66												3.26
Ashley	Missouri	.18				.38				.22		.16				2.70	.05				.28				.58	.04		T.					4.59
Beach	Lit. Missouri	1.24	.15			.11	.01			.09	.30	.01		.14	.02	.56				.14	.46				.18	.10				.02	.02		3.55
Berthold Agency	Missouri	T.				.03								.34		.44					.73										.09		1.63
Bismarck ***	Missouri	.22		.01	.03	.63	T.	T.		.01	.10	T.		T.	.02	.92	T.				.73				.02					T.	.13		2.82
Bottineau	Mouse	.55	.30					.01	.11					.29			.15								.35	.02					.67		2.45
Bowman	Grand	.73		.01		.20				.10	.08	.02		.02						1.30	T.				.14						.05		2.65
Cando	Devils Lake	.16	.02	.03	.01			.02		.01		.23		.42		.20	.03			.11					.90	.21	.02	.02					2.39
Carrington‖‖	James	.02					.02	.02	T.					2.34	.10	.25									1.59	.04		.03					4.41
Carson	Heart	.25				.35				.06	.07					2.30	.15				.70				.25						.18		4.31
Cavalier	Red	.11	.05	.93	.06	T.				.04		.73	.07	.64	.02	.02	.08	.22	.02	.09		T.			.06	.50	.01	.23	.01		T.		3.89
Cooperstown	Sheyenne	.09	T.	.02				.02	T.	T.				.77	.01	.37	.02	T.	.65	T.					.60	.16		T.	T.				2.71
Corinth	Missouri	1.27		.03		.50					.02	.15		.15	.16	.02					.25					T.					.11		2.66
Courtenay	James	.07		T.			.01	.25		T.				1.12		.15	.39		.02							.80							2.81
Crosby	Mouse	.19	1.10				.09	.01				.02		.70	.02	.11	.10																2.34
Devils Lake ***	Devils Lake	.09	T.	.19	.05			.06				.17		.22		.25			T.	.10					.78	.06					T.		1.97
Dickinson‖‖	Heart	.51	.18	T.	.01	.06	.12			.15	.01	.15	.02	.10	.02	T.	.07				.43	.26				.05					T.		2.14
Dogden Butte	Mouse	.35		.01	T.	.25		.06				.11		.35	T.	.51					.12	.29			.13	.01							2.19
Drake‖‖	Mouse	.17	.17	T.	T.		.11	.05	T.			T	.05	.17	.27	.07	.45					T.				.23							1.74
Dunn Center	Knife	.61	.31			.17	.48			.04				.26	.18	.44	.05				.48	.29				.18							3.49
Dunseith	Mouse	.58	.28	.15	.06			.05		.06		.08		.61		.02									.10	T.		.04					2.03
Eckman	Mouse	.75	.11			.04		.01	T.			T		.19		.06	.12								.05						1.72		3.05
Edgeley	James					.06				.15		.09				2.60	.30		.05			.07			.07								3.39
Edmore	Devils Lake	.21	.01	.51	.03			.01		.03		.26	T.	.48		.31	.03	T.		T.					.55	.11	.08						2.62
Ellendale	James	.11				.07				.30		.16		.04		1.78	.17		.25		T.				.25								3.13
Energy	Missouri	.56				.60						.12		.19		1.29					.28				.20	.12					.02		3.38
Fairfield	Knife	.79	.20						.10		.35			.15							1.34												2.93
Fessenden‖‖	James	.10	.02		T.		T.	.05		.02			.04		.15	.11	.16									.45	.01						1.11
Forman	Sheyenne	.27		T.	T.	.05		T.		.60		T.		.12		2.71	.07		.18						.65				T.				4.65
Fort Yates	Missouri				.18							.10			1.22	.10					.55				.05								2.20
Foxholm (near)	Mouse	.77	T.	.01	.01	.46		.03	T.		T.	.06		.16		.41	.09	.02			.04				.11	T.		T.			.14		2.31
Fryburg	Heart	.65	T.	T.	T.	.20	.02	T.		.43	.20	.05		.36	.25	T.				T.	.63			T.	.02	T.				.23			3.04
Fullerton	James	.25				.22				.32		.12		.26		3.49			T.		.20				.46								5.32
Gackle	James	.16				T.				.13		.43	T.			1.97					.08				.66								3.43
Garrison	Missouri	.61	.12		.05	.22	.32	.07						.09	.27	.15	.25					.24				.14							2.53
Grafton	Red	.13	.03	.35	.05					T.		.61		.37		.14		.43	.53						T.	.26	T.	.12					3.02
Grand Forks ***	Red	.21	.07	.38	.04			.01				.50	.01	.13		.40	T.	T.	.02		T.				.59	.01	.08				.01		2.46
Granville	Mouse	.84	T.	T.		.19		.08				.18	T.	.36		.12	.10		T.	T.	.08				.21		T.				.18		2.34
Hankinson	Red	.11				T.			.35	.05		.06		.05	.59	1.60			T.						2.25			.13					5.18
Hannah	Pembina	.22	.07	.65	.08			T.	.14	.04		.35		1.12		T.	.02	1.64	.60	.03					1.78	.18	.06			.10			7.08
Hansboro	Devils Lake	2.65	.03	.56	.10			T.		.15		.14		.95		T.				T.					.25	.10	T.						4.93
Hettinger	Grand	.79	.02	T.		.06	.02			.13	.02			T.		.10	.33	T.		.14	.21				.07								1.89
Hillsboro	Red	.20	.15	T.	.15			.12				.15		1.95		.18	.23							.17	.62	.02					.08		4.02
Howard (near)	Missouri		1.12	T.		.19	.07			T.	T.	.02		.17	.08			T.			.35			T.	.25	T.					T.		2.25
Jamestown	James	.09	T.					.01		.02	.01	.21		.22			.62	.70		.01		.01			.28								2.18
Kenmare	Mouse	.62	.02	T.		.48						.14				.32	.15	.01	.11		T.					.09					.78		2.72
Langdon	Pembina	.10	.10	.30	.20								.48	.25	.61		.10	.12	.18			.07				.73		.06					3.30
Larimore	Red	T.		.18	.08			.12				T.		.22		.35		.35	.82	.07					.41	.09							2.69
Linton	Missouri	.27			.02	.44				.04	.12	.05		T.		1.24	.03				.48	.21			1.19								4.09
Lisbon	Sheyenne	.12	.02		.01		.01		.04	.25			.76		.03	.33	1.82			.10					.03	1.09							4.64
McClusky	Missouri	.28		.03		.29	T.	.19			.03	T.		.12		.41					1.19				.33	.13							3.00
McLeod	Sheyenne	.25				T.		T.		.52		.11		.65		1.89	.02									.93	T.	T.					4.37
Maddock	Sheyenne	.14	T.	T.	.06			.03		.02		.08		.80	.01	.37									.03	.15							1.69
Mandan‖‖	Missouri	.05		.05	.37	.21	T		T.		.09			T.	.08	.83				.35	.65				.04						.13		2.85
Manfred	James	.10				.05		.03			.02			.19		.24					T.				.17	.18							0.98
Marmarth	Lit. Missouri	.78		.05		.04				.28	.23			.18		.01			.04	1.20	.02			T.	.16					.01	T		3.00
Mary	Lit. Missouri	.88	.09			.33				T.	T.			.56	.30	.44					1.22				T.								3.82
Max‖‖	Missouri	.48	.26	.03	.03	.21	.23	.15						.10	.12	.23	.24					.98				.15							3.21
Mayville	Red	.13	.50		1.40			.34				.06			3.00	.11	.34								.11	.43							6.42
Minot	Mouse	.21	27		.02	.06	.33	.06	T.			.05	.16	.18	.06	.13	.18		T.			.20	.01			.07		T.					1.99
Mohall	Mouse	.50	T.			.35				T.		.03	T.	.26		.29	.15	T.	T.		.08	.01			.06	.01	T.	.04			.91		2.68
Mott	Cannon Ball	.82				.13	.01			.12	.02			T.		T.	.15				.38				.32								1.95
Napoleon‖‖	Missouri	.15	.10		.03		.27			.16		.05	.47		.01	.27	1.46					.32			.19	.40							3.88
New England	Cannon Ball	.13					.16		.25		.41		.02			.24				.23	.47				.08								1.99
New Salem	Heart	.65	.04			.33				.03	.14	.11		T.	T.	.05	.02				.80				.27						T.		2.44
Oakes	James	.30	.04			.05				.44		.11	.03	.06		2.31	.01		.05		.02				.27	.09		T.					3.81
Park River	Red			.04	.12	.05				T.		.74		.12	.26		.31		.14	.14						1.86							3.78
Parshall	Missouri	.95	.12	.01		.33	.09				.01	.25	.10	.12	.45	.10		T.			.66				.01								3.20
Pembina	Red	.06	.16	.53								.34		.91		.05	.02	.05							.82		.02						2.96
Petersburg	Red	.05			.15			.28				T.		.19		.28		.45	.03	.02					.78	.05							2.28
Pettibone	James	.07	.03	T.	.02	.09		.10			T	T	T.	T.	T.	.30					.37				.81		.04						1.83
Portal‖‖	Mouse	.33	.85	T.		.11	.40				.07	.03	.47		.05	.14			.13							.04							2.62
Powers Lake	Missouri	.82		.45									.12										.60								.67		2.66
Richardton	Heart	.80				.63				.15	.07	.04		T.		.24	.03				.90				.11	T.							2.97
Rugby [near]	Mouse	.44	.03	.04				T.	T.	T.		.05		.32		.45									.07	.05	T.						1.45
Ryder	Missouri	.32	T.	.05	.40	.13	.10	T.	T.			T.	.21	.08	.34	.10		T.			.73				.03					.08	.20		2.77
Sanish‖‖	Missouri	.38	.59	.05		.37	.25	.04				.13		.33	.26	.33	.03					.73											3.49
Sharon	Red	.07		.04	.11			.06	T.	T.		.02		2.02		.26		.03	.68	.01					.60	.06	T.						3.96
Stanton	Missouri	.53				.64					T.	.10				1.12					.26					.23					.32		3.20
Steele	Missouri	.02		T.	.02	.23		.02			T.	.06				.92					.31				.79			T.					2.37
Tagus	Mouse	.64	T	T.	T.	.36	T.	.01				.08		.07		.56		T.			.20					T					.46		2.38
Tioga	Missouri	.42	.15	.07	.04	.09	T.				.03		.03	.10	.27						.61										.21		2.02
Towner	Mouse	.58	T.	T.		T.						.10		.34		.23	.04								.08						.01		1.38
Trotters	Lit. Missouri	1.16	.36			.07					.10			.61	.17	T.				.13	1.33				T.								3.93
Turtle Lake	Missouri	.70		.05		.36		.05				.28		.07		.82					.48				.25	.10							3.16
Tuttle	Missouri	.25		T.		.24		.04				.01				.32					.38				.85	.02							2.11
Valley City	Sheyenne	.05						T.		.04		.05			.70	.65			.14						.15								1.78
Velva	Mouse	.66	T.	.05		.30		.05				.02		.42		.25	.13		T.		.26				.06	.02					.05		2.27
Wahpeton	Red	.12			.05	.03	.07		.05	.32		.02			.50	.38	1.17								.30	1.50		.04					4.55
Washburn	Missouri	.21	.14			.29	.28							T.		T.	.68				.06	.16				.38							2.20
Westhope	Mouse	.51	.17			T.				.02		.01		.35		.03	.20								.12		T.			.01	3.37		4.79
Williston ***	Missouri	1.48	T.	T.	.01	.27	T.				T.	T.		.19	.32	.01					.80										T.		3.08
Willow City	Mouse	.63	.14	T.				T.				.09	T.	.37		.07	T.								.25	T.				.28			1.83
Wishek‖‖	Missouri	.22		.05			.32						.03			.60		1.10				.60			.12	.65							3.69
Zap	Knife					.48					.08	.05		.12	.60						.56				.18						.24		2.31
Moorhead, Minn ***	Red	.30	.01	.01	.04	T.		.10	.03	.04		T.		.43		.52		T.				T.		T.	1.53		T.	T.			T.		3.01

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	70	62	60	68	70	70	78	80	79	80	82	80	80	78	82	80	78	75	74	76	74	79	80	84	84	80	84	83	84	89	....	77.4
	Minimum ...	40	42	31	31	38	42	52	58	52	54	51	49	50	49	54	51	50	49	52	45	47	44	45	60	60	55	58	49	52	62	....	49.1
Arnegard (near)	Maximum...	57	56	62	55	54	58	63	62	74	71	68	69	70	78	72	64	61	58	62	60	63	68	79	66	65	66	68	68	90	87	....	66.5
	Minimum ...	50	45	40	33	40	34	39	49	54	48	50	43	53	60	55	47	44	45	38	48	44	44	55	45	50	49	50	57	46	56	....	47.0
Ashley	Maximum...	74	58	63	63	54	54	71	80	82	76	82	75	89	83	79	76	75	72	64	67	69	73	80	81	72	71	79	89	80	81	....	73.4
	Minimum ...	55	50	46	37	35	33	37	42	57	48	54	48	55	53	55	57	55	54	42	50	45	43	47	59	48	51	52	52	58	65	....	49.4
Beach	Maximum...	59	59	61	62	58	59	71	86	77	68	76	77	77	83	76	72	65	68	71	62	69	76	81	73	72	74	79	84	94	79	....	72.3
	Minimum ...	52	42	42	36	48	32	39	48	55	54	50	49	57	51	49	49	45	43	41	51	42	49	56	53	45	53	53	53	62	58	....	48.7
Berthold Agency	Maximum...	58	60	67	57	53	59	62	84	71	74	79	69	70	80	73	68	65	67	70	60	67	76	75	74	67	72	78	85	84	82	....	70.2
	Minimum ...	54	52	47	37	41	33	35	44	56	45	50	45	56	53	57	51	50	48	41	53	44	44	57	57	53	49	49	46	65	62	....	49.2
Bismarck	Maximum...	67	61	65	55	45	58	72	81	76	74	78	74	80	85	69	77	70	66	67	59	69	75	82	77	75	74	80	82	87	87	....	72.2
	Minimum ...	57	53	49	40	40	37	42	45	57	50	50	52	59	54	61	58	54	52	45	53	48	49	56	59	51	55	56	50	66	64	....	52.1
Bottineau	Maximum...	71	64	56	55	54	59	80	78	69	75	80	70	71	69	71	75	71	70	65	66	70	78	79	77	68	75	76	85	99	88	....	72.1
	Minimum ...	54	50	45	35	36	28	56	45	46	43	47	37	49	53	58	55	54	46	45	41	43	44	58	56	49	49	48	58	59	69	....	48.6
Bowman	Maximum...	61	60	61	62	59	54	68	82	73	65	76	78	78	84	75	77	66	67	73	65	68	76	84	70	71	73	79	83	92	84	....	72.1
	Minimum ...	54	44	41	38	45	32	34	44	51	54	45	48	56	50	57	50	49	43	46	51	42	46	52	52	44	47	52	50	61	61	....	48.0
Cando	Maximum...	75	70	57	64	58	61	64	80	72	79	82	77	56	59	67	81	79	67	63	68	72	77	78	67	68	72	71	84	86	80	....	71.1
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carrington §§	Maximum...	66	60	52	49	58	69	82	82	75	80	73	69	73	67	77	72	60	67	63	71	76	75	78	70	72	77	82	81	84	85	....	71.5
	Minimum ...	53	50	36	32	28	38	42	54	42	46	48	53	50	50	57	56	52	45	46	40	44	50	61	51	51	52	54	58	63	64	....	48.9
Carson	Maximum...	62	60	65	60	52	56	71	83	77	75	80	76	82	87	74	79	69	69	65	65	71	75	84	73	70	71	80	84	92	88	....	73.2
	Minimum ...	53	47	44	39	40	35	38	45	53	50	47	70	57	53	55	54	51	45	44	49	44	48	54	54	45	54	54	54	62	64	....	50.1
Crosby	Maximum...	61	60	59	61	55	46	59	69	84	69	78	76	75	73	78	72	72	57	60	65	73	79	84	64	68	74	78	84	88	74	....	69.8
	Minimum ...	51	47	42	37	37	37	38	43	40	45	50	42	46	49	55	48	47	45	38	43	48	58	47	51	48	52	52	55	62	46	....	46.6
Devils Lake	Maximum...	76	64	55	50	51	58	62	78	78	75	81	71	64	73	69	77	74	60	64	68	70	74	77	80	70	74	75	82	83	85	....	70.6
	Minimum ...	56	54	36	33	30	31	44	44	49	42	51	44	52	51	59	58	54	52	49	45	44	43	50	58	53	53	51	52	59	68	....	48.8
Dickinson §§	Maximum...	61	60	62	59	59	57	69	84	73	72	76	75	78	85	70	76	63	65	69	62	67	74	82	65	72	72	77	83	92	82	....	71.4
	Minimum ...	50	47	41	39	40	35	38	45	53	49	46	46	48	48	57	48	46	44	39	49	46	43	53	55	45	45	51	46	50	59	....	46.7
Drake §§	Maximum...	70	60	61	55	47	58	68	80	74	73	79	72	67	74	67	77	69	62	65	63	70	76	79	75	71	75	78	84	87	87	....	70.8
	Minimum ...	54	51	47	36	36	33	39	43	57	44	50	45	49	48	52	55	51	50	42	48	43	48	51	58	52	52	52	51	60	69	....	48.9
Dunn Center	Maximum...	63	60	63	59	57	57	71	83	72	69	79	73	72	79	71	72	65	65	65	58	69	80	85	75	73	73	78	83	90	83	....	71.4
	Minimum ...	53	49	44	40	41	37	40	42	55	49	50	47	48	49	57	50	45	46	40	41	46	45	55	58	48	49	52	57	60	59	....	48.4
Dunseith	Maximum...	71	61	51	52	52	57	64	77	78	74	77	69	67	69	69	77	72	69	62	66	69	77	77	75	68	73	74	86	84	87	....	70.1
	Minimum ...	52	47	44	33	32	28	40	42	52	42	45	39	47	47	56	56	51	47	45	47	41	45	48	55	48	46	51	46	59	76	....	46.9
Edgeley	Maximum...	69	60	61	59	50	66	65	67	77	76	71	76	86	84	77	75	76	68	72	65	67	77	77	78	76	78	79	78	80	82	....	72.4
	Minimum ...	53	48	50	38	35	30	34	34	34	40	50	46	54	54	65	65	65	52	42	45	42	43	43	65	51	52	53	46	51	64	....	48.1
Ellendale	Maximum...	77	65	65	54	51	61	71	79	84	77	81	73	88	79	71	74	79	62	65	68	70	74	80	83	76	74	80	81	83	84	....	73.6
	Minimum ...	56	54	52	40	33	35	36	39	55	50	56	50	54	56	57	60	57	56	40	51	47	49	50	66	52	53	52	53	54	65	....	50.9
Fessenden §§	Maximum...	76	63	60	55	50	61	63	83	81	77	81	71	70	76	70	78	75	64	67	70	72	78	81	78	71	75	80	85	88	89	....	72.9
	Minimum ...	55	53	49	36	31	28	42	40	49	41	47	47	49	47	54	54	55	51	45	47	39	46	45	60	51	51	49	47	55	68	....	47.7
Foxholm (near)	Maximum...	62	61	55	55	50	54	66	72	71	68	67	65	65	74	73	65	64	57	60	59	67	72	74	73	66	70	74	78	82	89	....	66.9
	Minimum ...	51	49	44	35	32	31	42	39	56	43	51	39	50	45	54	50	47	46	42	47	40	44	54	55	50	49	48	48	61	61	....	46.8
Fullerton	Maximum...	78	66	67	55	48	59	72	80	80	76	82	76	88	78	73	78	70	65	69	68	69	77	78	86	76	73	81	86	84	87	....	74.2
	Minimum ...	58	54	52	39	34	33	37	39	55	48	55	49	53	55	56	58	58	53	44	49	46	45	48	47	52	52	53	48	55	65	....	49.7
Garrison	Maximum...	65	60	68	70	40	58	70	81	74	71	80	73	74	84	69	79	68	65	67	59	69	78	78	79	73	78	79	84	86	87	....	72.2
	Minimum ...	54	50	51	39	39	34	41	40	55	48	48	46	53	52	56	52	51	49	40	49	48	44	53	58	53	53	58	48	61	68	....	49.7
Grafton	Maximum...	77	78	71	49	54	57	65	75	80	77	80	72	72	73	70	78	77	72	69	71	72	76	77	78	75	71	76	81	85	85	....	73.1
	Minimum ...	55	57	44	35	34	34	35	36	56	44	57	48	51	53	58	60	54	54	42	46	54	48	47	62	55	53	53	49	56	67	....	50.2
Grand Forks	Maximum...	75	71	57	42	53	59	64	75	82	77	81	72	71	77	75	76	75	63	72	70	74	76	78	76	76	72	78	81	84	84	....	72.2
	Minimum ...	57	57	39	37	32	31	36	41	54	42	51	48	55	54	60	58	57	52	49	45	54	43	49	63	56	54	52	52	57	67	....	50.1
Granville	Maximum...	70	65	60	55	47	59	69	70	74	74	80	71	64	75	69	72	67	62	62	65	68	78	82	75	72	77	79	86	88	90	....	70.8
	Minimum ...	54	52	47	35	38	30	45	41	51	41	52	41	52	45	58	49	53	50	42	48	42	46	51	57	53	50	49	50	60	68	....	48.3
Hansboro	Maximum...	71	60	51	50	50	50	61	75	71	74	74	70	65	70	72	76	70	58	65	67	76	75	68	68	68	73	75	82	85	85	....	68.5
	Minimum ...	48	50	37	32	29	31	38	37	56	41	50	38	48	50	57	54	52	50	48	44	43	41	45	45	51	48	50	47	54	60	....	45.8
Hettinger	Maximum...	62	60	61	62	59	60	68	81	75	68	78	82	81	83	79	77	68	69	71	68	69	75	84	71	73	74	80	84	94	83	....	73.3
	Minimum ...	51	46	43	39	46	33	39	46	51	54	48	39	58	49	57	54	50	47	58	49	43	42	52	54	46	45	54	50	63	68	....	49.1
Hillsboro	Maximum...	75	75	67	52	52	61	64	76	75	80	82	73	81	77	73	75	75	75	69	68	75	77	77	76	72	80	80	82	84	85	....	73.8
	Minimum ...	44	51	52	37	33	34	39	39	42	46	52	48	55	54	60	57	57	53	54	45	51	46	48	55	55	54	53	50	56	67	....	49.6
Howard (near)	Maximum...	59	55	56	54	65	58	70	86	66	77	74	75	72	84	78	74	65	73	65	63	70	77	81	65	69	67	76	84	88	75	....	70.7
	Minimum ...	44	42	33	39	39	32	37	44	50	45	45	44	52	49	50	50	47	44	36	49	40	46	56	47	45	45	45	48	50	55	....	44.9
Jamestown	Maximum...	65	64	54	47	61	71	83	86	78	80	74	86	79	68	78	69	62	68	65	72	78	79	83	74	73	80	85	86	86	89	....	74.1
	Minimum ...	57	54	49	38	32	32	40	40	50	44	54	46	52	52	53	58	58	53	44	48	43	44	48	60	52	54	53	50	59	66	....	49.4
Kenmare	Maximum...	61	65	61	60	55	60	70	80	72	76	80	72	68	80	78	74	74	59	54	66	72	76	80	78	70	76	80	85	88	86	....	71.9
	Minimum ...	53	45	48	37	35	38	42	47	56	46	55	41	52	48	58	52	50	47	43	46	44	46	57	54	53	54	52	53	64	61	....	49.2
Langdon §§	Maximum...	72	60	44	49	50	56	62	77	76	80	78	68	54	73	72	77	74	60	64	70	74	76	77	68	71	72	74	80	84	83	....	69.2
	Minimum ...	52	53	44	32	29	28	35	40	46	39	40	40	46	48	52	53	51	52	50	45	50	52	41	58	50	50	46	45	58	65	....	46.3
Larimore	Maximum...	79	71	59	47	55	59	64	75	83	77	84	71	69	77	75	77	74	64	66	69	71	75	79	74	72	71	76	84	83	86	....	72.2
	Minimum ...	57	56	43	35	31	32	35	40	56	44	49	47	53	52	58	56	53	51	52	44	48	46	48	61	53	52	52	47	56	66	....	49.1
Linton	Maximum...	73	67	66	60	55	55	71	81	80	76	80	78	87	87	83	79	76	70	70	67	70	78	82	80	75	74	80	83	85	86	....	75.1
	Minimum ...	53	50	42	37	38	33	33	37	54	43	51	48	57	48	55	55	50	48	41	49	44	40	53	49	48	49	48	46	64	65	....	47.6
Lisbon §§	Maximum...	76	78	68	67	50	50	61	70	81	80	76	81	75	88	75	71	76	72	60	69	67	71	75	77	84	75	73	80	81	83	....	73.0
	Minimum ...	56	54	53	39	31	34	36	39	53	48	52	49	53	56	56	60	58	55	50	47	48	45	47	65	54	55	53	50	56	66	....	50.6
McClusky	Maximum...	69	74	62	56	52	56	67	78	75	71	77	75	78	85	71	78	75	61	67	64	69	77	78	77	85	73	76	91	85	87	....	73.0
	Minimum ...	53	43	46	34	34	30	41	40	57	41	45	45	53	47	44	54	48	46	38	46	41	42	49	57	49	47	47	49	61	69	....	46.5
Maddock	Maximum...	75	69	60	59	55	61	69	82	82	76	81	74	73	70	71	77	76	70	66	67	72	78	80	83	70	75	80	85	86	87	....	73.6
	Minimum ...	54	55	49	35	31	25	41	38	56	39	45	42	52	47	58	53	53	50	48	45	38	40	45	57	51	52	50	45	58	67	....	47.3
Marmarth	Maximum...	63	63	63	67	63	60	72	83	80	67	78	78	78	83	77	76	70	71	76	67	69	76	83	75	72	74	78	84	94	86	....	74.2
	Minimum ...	52	40	40	39	50	33	35	48	55	54	47	47	50	50	60	50	50	46	47	53	35	45	56	53	44	47	53	55	65	61	....	48.7
Minot	Maximum...	68	61	62	56	45	59	69	81	72	76	81	72	65	77	70	72	65	61	64	61	70	80	80	71	70	75	77	85	89	90	....	70.8
	Minimum ...	47	51	47	38	39	31	38	43	50	42	52	42	51	49	51	51	50	49	47	48	43	42	55	56	54	52	49	45	64	68	....	48.1
Mohall	Maximum...	67	58	60	59	53	61	69	81	75	76	80	73	69	78	76	76	71	59	64	67	72	79	79	71	70	77	79	83	85	92	....	72.0
	Minimum ...	53	51	44	36	36	33	42	39	57	45	49	39	52	46	54	50	49	48	41	49	42	45	49	66	54	53	49	49	56	64	....	48.0
Mott	Maximum...	62	62	63	61	58	59	72	84	75	73	80	77	82	84	79	81	70	69	71	70	71	77	88	71	76	75	80	84	95	89	....	74.6
	Minimum ...	53	47	42	40	46	33	40	46	53	52	46	49	58	50	59	52	50	45	40	52	43	42	54	55	45	50	52	50	62	69	....	49.2
Napoleon §§	Maximum...	74	59	64	55	44	55	70	83	80	78	79	75	87	87	69	76	71	64	68	65	68	75	80	80	71	71	77	83	83	83	....	72.5
	Minimum ...	55	49	45	37	32	31	37	44	55	45	52	48	55	52	57	56	52	49	49	48	42	42	49	61	48	50	51	48	59	65	....	48.8
New England §§	Maximum...	61	59	63	61	61	59	76	85	74	71	78	72	82	86	78	80	74	71	68	75	71	80	85	70	68	72	85	87	96	86	....	74.5
	Minimum ...	49	40	38	45	32	37	45	61	54	49	46	42	49	59	52	50	48	43	53	44	44	50	53	50	46	45	48	50	61	55	....	47.9
New Salem	Maximum...	70	59	65	51	56	57	72	88	76	74	74	76	81	86	85	72	74	66	69	67	70	79	82	72	73	74	80	87	91	89	....	73.8
	Minimum ...	54	49	44	38	39	33	41	48	55	47	52	55	57	55	54	56	54	48	40	54	46	56	52	57	47	54	68	65	53	65	....	51.2
Oakes	Maximum...	79	76	67	60	51	63	73	82	82	77	83	74	90	84	75	75	74	68	67	69	72	76	81	85	77	75	84	85	85	87	....	75.9
	Minimum ...	58	53	53	40	32	34	37	39	54	47	58	50	55	45	58	60	57	45	45	47	45	45	48	66	53	54	53	50	58	66	....	50.2
Park River	Maximum...	71	75	56	46	52	56	62	70	72	74	76	78	68	73	70	74	70	67	65	68	70	72	74	76	71	67	73	80	81	82	....	69.6
	Minimum ...	54	48	47	36	32	35	37	46	38	46	46	48	51	50	54	48	54	56	52	46	44	49	50	52	55	53	54	52	55	66	....	48.5
Sharon	Maximum...	75	67	57	46	51	60	61	75	82	75	79	71	75	72	67	75	69	64	68	68	71	74	74	74	71	69	75	78	79	82	....	70.1
	Minimum ...	56	54	42	34	31	29	37	41	53	43	49	45	51	51	59	56	53	52	50	46	47	45	48	60	52	51	50	50	60	65	....	48.7
Steele	Maximum...	85	65	68	56	48	56	69	81	82	76	76	74	86	86	75	76	70	62	67	62	67	72	80	80	70	71	80	82	85	85	....	73.1
	Minimum ...	58	51	49	37	33	32	37	38	59	43	46	48	59	49	56	56	53	51	42	48	45	44	50	59	50	52	50	51	60	68	....	49.1
Towner	Maximum...	75	77	72	73	63	63	80	84	95	95	90	80	72	74	74	79	69	70	66	66	76	80	79	77	71	78	80	88	88	89	....	77.4
	Minimum ...	55	52	48	38	38	28	43	39	40	50	45	41	48	54	58	52	50	50	44	46	41	41	52	59	53	52	50	49	61	77	....	45.1
Valley City	Maximum...	78	79	62	63	48	60	69	81	84	80	80	75	86	83	75	77	77	69	67	67	71	75	76	81	77	76	77	83	83	84	....	74.8
	Minimum ...	56	53	50	36	29	33	37	39	52	42	52	46	55	52	56	58	57	52	46	45	46	46	43	62	52	53	52	48	54	64	....	48.9
Wahpeton	Maximum...	79	80	69	68	48	62	69	80	80	80	81	75	89	89	76	75	76	71	71	72	72	76	78	78	80	78	83	81	87	87	....	76.3
	Minimum ...	59	55	53	38	33	34	37	45	45	48	54	48	57	56	59	61	58	51	54	44	48	44	46	65	56	55	55	52	60	66	....	51.2
Westhope	Maximum...	71	61	59	56	54	62	69	81	79	78	82	74	69	75	73	78	69	66	67	72	76	81	78	83	84	78	82	87	90	89	....	74.1
	Minimum ...	52	51	47	35	36	30	42	42	57	42	49	38	51	51	58	51	48	45	40	41	43	42	44	55	53	51	44	49	57	60	....	46.8
Williston	Maximum...	58	61	62	59	58	60	72	85	72	77	77	72	75	81	75	73	62	64	67	63	72	78	80	64	71	75	78	84	91	72	...	71.3
	Minimum ...	53	49	45	38	42	38	43	48	57	50	56	49	55	55	57	52	49	49	41	51	47	52	60	52	53	53	54	50	66	55	....	50.6
Moorhead, Minn	Maximum...	76	70	65	43	47	58	67	78	77	74	80	73	86	75	72	74	72	62	69	68	71	74	77	79	76	72	78	79	82	83	....	71.9
	Minimum ...	58	55	40	37	36	33	40	46	56	49	57	49	57	55	60	60	58	54	54	46	51	49	47	63	56	55	55	54	60	67	....	51.9

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIV BISMARCK, N. D., JULY 1935 No. 7

GENERAL SUMMARY

High temperature and heavy showers characterized the weather during July 1935. The temperature average was the highest ever recorded in July in North Dakota since the climatological service was established forty-four years ago. The average precipitation was the second highest during the same period. The night temperatures were particularly high. Most of the rain fell in heavy showers during the first eleven days, although scattered heavy showers occurred from the 19th to the 28th. There were an unusually large number of thunderstorms, and considerable damage from hail was reported. Black stem rust developed rapidly during the month and greatly reduced the yields of spring wheat.

TEMPERATURE

The mean temperature for the State was 73.8°, or 5.4° above the 44 year average, and was 2.0° higher than the mean for July 1934. The highest mean reported was 78.9° at Amenia, Cass County; the lowest was 69.7° at Foxholm, Ward County. The highest temperature reported was 110° at Fort Yates, Sioux County on the 26th, the lowest was 45° at three scattered stations on the 28th and 30th. The greatest monthly range of temperature was 62° at Fort Yates, Sioux County; the least was 37° at Dogden Butte, McLean County. The greatest daily range of temperature was 53° at Linton, Emmons County on the 16th.

PRECIPITATION

The average precipitation for the State was 4.62 inches, or 2.12 inches above the 44 year average, and 3.40 inches more than the average for July 1934. The greatest monthly amount reported was 8.89 inches at Dogden Butte, McLean County; the least was 1.49 inches at Hettinger, Adams County. The greatest amount recorded in any 24 consecutive hours was 3.89 inches at Rugby, Pierce County on the 5th. The average number of days with 0.01 inch or more of precipitation was 10.

MISCELLANEOUS PHENOMENA

AURORAS: Bismarck, 8th; Corinth, 15th, 23d, 25th, 28th; Devils Lake, 8th, 23d; Foxholm, 24th, 29th; Edmore, 29th; Grand Forks, 22d, 29th; Howard, 20th, 24th; Tagus, 16th, 25th, 30th; Trotters, 24th; New England, Tuttle, 25th.

FOG: Bismarck, 8th, 15th, 22d; Devils Lake, 1st, 23d; Eckman, 1st, 3d, 23d, 24th; Ellendale, Sharon, 9th; Foxholm, 6th, 23d; Grand Forks, 5th, 18th; Granville, 3d; Howard, 27th; Moorhead, 18th; Mott, Steele, Towner, 6th; Petersburg, 19th; Rugby, 1st, 3d; Tagus, 3d, 5th, 23d, 27th; Tuttle, 1st, 24th.

HAIL: Arnegard, 1st, 26th; Beach, 2d, 9th; Bismarck, 4th, 22d; Bowman, Hettinger, 11th; Carrington, 4th, 24th; Corinth, 1st; Devils Lake, Dunn Center, Larimore, 26th; Foxholm, 8th; Fryburg, 10th, 11th, 19th; Maddock, 27th; Marmarth, Napoleon, 10th; Mary, 9th, 26th; Max, 22d; Parshall, 9th; Pembina, Westhope, 2d; Pettibone, Tuttle, 3d; Richardton, 4th, 8th, 26th; Velva, 22d, 24th; Williston, 1st, 19th; Willow City, 25th.

HALOS, lunar: Sharon, 15th; Grand Forks, Tagus, 21st.

HALOS, solar: Moorhead, 14th; Sharon, 18th; Tagus, 21st; Williston, 29th.

THUNDERSTORMS occurred in all parts of the State from the 1st to the 11th and from the 17th to the 29th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck........	29.87	30.24	13	29.64	16	8.7	40	nw.	10	83	53	51	76
Devils Lake.....	29.91	30.19	13	29.66	16	7.5	25	e.	8	87	58	62	76
Grand Forks....	29.85	30.09	13	29.65	16	......	35	sw.	20	84	....	63	....
Williston........	29.88	30.23	13	29.53	28	7.6	40	nw.	18	82	50	49	81
Moorhead, Minn	29.88	30.16	13	29.68	22	8.0	28	nw.	3	81	54	56	75
Averages & ext's	29.88	30.23	13	29.53	28	8.0	40	nw.	10†	83	54	56	77

† And other dates.

COMPARATIVE DATA FOR JULY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	68.7	+0.3	108	31	3.23	+0.73	5.23	1.17	0	8	19	8	4
1893.	69.5	+1.1	112	35	2.04	−0.46	4.59	0.53	0	7	17	10	4
1894.	71.7	+3.3	107	38	0.63	−1.87	2.58	T.	0	3	20	8	3
1895.	66.1	−2.3	102	29	2.90	+0.40	6.36	0.95	0	8	14	11	6
1896.	67.5	−0.9	107	31	1.59	−0.91	4.78	0.47	0	6	15	10	6
1897.	68.9	+0.5	109	38	4.43	+1.93	8.94	0.15	0	9	13	11	7
1898.	67.6	−0.8	106	28	2.49	−0.01	6.30	0.25	0	7	15	11	5
1899.	68.3	−0.1	109	32	2.34	−0.16	6.12	0.45	0	6	18	9	4
1900.	67.9	−0.5	107	33	2.25	−0.25	4.83	0.37	0	6	16	10	5
1901.	70.8	+2.4	110	40	4.28	+1.78	8.14	1.13	0	6	18	7	6
1902.	67.6	−0.8	106	34	2.15	−0.35	5.20	0.08	0	5	20	7	4
1903.	66.7	−1.7	109	26	2.23	−0.27	5.72	T.	0	7	17	8	6
1904.	64.4	−4.0	102	34	2.49	−0.01	7.65	0.10	0	6	17	8	6
1905.	65.6	−2.8	100	32	3.90	+1.40	6.91	0.68	0	8	17	9	5
1906.	66.9	−1.5	102	34	1.97	−0.53	5.92	0.13	0	11	13	8	10
1907.	65.8	−2.6	103	31	3.14	+0.64	6.00	1.11	0	9	16	11	4
1908.	68.6	+0.2	103	31	2.10	−0.40	5.00	0.33	0	6	19	9	3
1909.	67.1	−1.3	99	34	2.89	+0.39	6.82	0.41	0	8	15	9	7
1910.	70.0	+1.6	114	33	1.60	−0.90	3.70	T.	0	5	18	9	4
1911.	65.1	−3.3	107	23	1.82	−0.68	3.70	0.26	0	6	18	10	3
1912.	66.0	−2.4	106	30	3.54	+1.04	8.87	0.49	0	10	12	13	6
1913.	65.6	−2.8	103	35	2.30	−0.20	4.96	0.89	0	8	17	8	6
1914.	72.1	+3.7	109	36	2.31	−0.19	5.50	0.41	0	6	19	9	3
1915.	62.3	−6.1	97	30	3.01	+0.51	7.55	0.67	0	11	12	11	8
1916.	73.1	+4.7	105	33	3.16	+0.66	10.10	0.24	0	7	19	9	3
1917.	70.9	+2.5	114	27	1.66	−0.84	3.66	0.14	0	7	17	11	3
1918.	65.5	−2.9	102	34	2.71	+0.21	6.08	0.53	0	7	14	10	7
1919.	71.2	+2.8	105	37	1.81	−0.69	6.10	0.11	0	5	18	10	3
1920.	68.3	−0.1	103	31	2.16	−0.34	4.89	0.78	0	7	18	11	2
1921	71.4	+3.0	110	35	3.07	+0.57	10.00	0.37	0	7	17	10	4
1922.	65.6	−2.8	100	30	2.43	−0.07	6.15	0.60	0	8	16	11	4
1923.	71.2	+2.8	103	35	3.14	+0.64	6.16	0.70	0	8	16	11	4
1924.	65.5	−2.9	99	32	1.95	−0.55	3.97	0.57	0	6	18	9	4
1925.	66.7	−1.7	106	29	1.34	−1.16	4.35	0.33	0	6	18	9	4
1926.	70.3	+1.9	108	32	2.00	−0.50	5.10	0.31	0	7	18	8	5
1927.	65.4	−3.0	97	28	2.85	+0.35	6.99	0.70	0	9	15	10	6
1928.	67.4	−1.0	96	38	5.05	+2.55	12.22	1.77	0	10	16	10	5
1929.	70.6	+2.2	109	34	1.27	−1.23	3.62	0.00	0	5	21	8	2
1930.	72.3	+3.9	107	34	1.04	−1.46	4.37	0.02	0	5	21	8	2
1931.	70.6	+2.2	111	37	3.03	+0.53	5.36	0.18	0	8	17	8	6
1932.	70.0	+1.6	108	36	2.01	−0.49	5.95	0.68	0	7	19	8	4
1933.	71.9	+3.5	109	36	2.00	−0.50	4.95	0.39	0	7	19	9	3
1934.	71.8	+3.4	112	29	1.22	−1.28	3.33	0.02	0	6	18	10	3
1935.	73.8	+5.4	110	45	4.62	+2.12	8.89	1.49	0	10	17	11	3
Per..	68.4	....	114	23	2.50	....	12.22	0.00	0	7	17	9	5

Climatological Data for July 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	9	......	......	...	...	...	...	......	3.53	......	0.86	0	9	27	3	1	se.	H. A. Bury.
Amenia	Cass	954	39	78.9	+10.2	98	26	53	30	43	1.62	−1.27	0.65	0	5	8	13	10	s.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	72.4	+3.1	100	16	47	30	45	5.02	+3.26	0.98	0	10	25	6	0	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	74.6	+5.9	97	16†	48	30	38	2.89	+0.06	1.14	0	9	25	6	0	se.	H. D. Piper.
Beach	Golden Valley	2,759	29	73.8	+5.3	105	28	49	1†	40	5.40	+3.58	2.07	0	12	13	13	5	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	72.7	+3.5	95	28	46	30	47	3.91	+1.74	1.34	0	10	28	3	0	e.	C. L. Hall.
Bismarck	Burleigh	1,674	60	75.8	+6.0	100	2	52	30	39	5.46	+3.22	1.81	0	7	16	14	1	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	74.2	+7.6	102	16	51	10†	40	5.25	+2.95	2.14	0	12	24	3	4	se.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	74.8	+5.4	104	28	50	12	41	2.89	+0.52	1.41	0	5	28	3	0	se.	George Larsen.
Cando	Towner	1,488	34	......	......	...	...	...	...	......	5.14	+2.62	1.85	0	15	17	10	4	se.	A. J. Swanson.
Carrington	Foster	1,579	37	75.0	+6.3	97	1	50	22	40	5.78	+3.24	2.48	0	12	19	10	2	sw.	L. A. Swanson.
Carson	Grant	2,500	23	73.2	+4.4	102	26	50	29	42	2.74	+0.80	1.15	0	5	19	12	0	se.	J. W. Evens.
Cavalier	Pembina	894	25	73.6	......	95	16	53	7	34	4.10	+1.37	1.00	0	14	10	16	5	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	73.8	......	93	16†	49	30	33	3.59	+1.04	0.78	0	10	27	3	1	ne.	Theo. Marquardt.
Corinth	Williams	2,180	7	......	......	...	...	...	...	......	3.29	......	0.62	0	13	......	......	......	e.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	......	......	...	...	...	...	......	4.42	......	0.81	0	16	15	15	1	se.	Geo. E. Berg.
Crosby	Divide	1,954	28	71.8	+5.0	97	14†	49	12	41	2.88	+0.73	0.75	0	11	10	17	4	ne.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	73.4	+6.0	94	16	56	7	33	5.23	+2.66	1.75	0	12	13	13	5	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	72.6	+4.4	106	28	48	30	49	2.93	+0.68	0.77	0	8	13	17	1	e.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	71.8	......	91	2	54	6	29	8.89	+6.32	3.06	0	12	20	8	3	nw.	R. L. Williams.
Drake	McHenry	1,634	6	72.9	......	96	2	54	30	34	7.38	......	3.33	0	13	11	15	5	nw.	Peter Anton.
Dunn Center	Dunn	2,191	36	72.2	+4.2	102	28	54	12†	36	6.10	+3.92	2.02	0	9	14	17	0	se.	W. F. Moede.
Dunseith	Rolette	1,682	39	71.2	+5.3	92	16	49	30	37	6.40	+3.96	2.02	0	15	15	14	2	ne.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	72.2	+5.4	97	16	50	30	42	5.24	+2.97	1.25	0	17	9	20	2	se.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	75.8	+7.0	97	26	50	30	40	4.43	+1.69	2.00	0	7	12	18	1	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	70.8	......	89	16	51	30†	37	7.03	+4.45	2.04	0	15	15	12	4	se.	E. D. Warner.
Ellendale	Dickey	1,457	40	75.8	+5.1	99	16	55	30	40	2.72	−0.43	0.91	0	7	23	8	0	se.	J. E. Demmer.
Energy ‡‡	McLean	1,750	23	73.4	......	98	28	47	30	45	4.68	+2.42	0.85	0	8	13	18	0	se.	H. S. Solenberger.
Fairfield	Billings	......	6	......	......	...	...	...	...	......	5.36	......	1.74	0	9	18	13	0	se.	F. R. Hecker.
Fessenden	Wells	1,610	23	73.3	+5.3	101	2	52	30	37	7.26	+5.14	2.01	0	13	10	17	4	nw.	T. D. Monsen.
Forman	Sargent	1,249	42	......	......	...	...	...	...	......	2.70	−0.25	1.00	0	9	29	2	0	se.	Helge Dyste.
Fort Yates	Sioux	1,670	35	78.8	+7.1	110	26	48	30	49	2.49	+0.07	0.75	0	4	24	5	2	se.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	69.7	......	91	15	49	1	35	4.97	+2.74	1.30	0	13	11	18	2	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	......	......	...	...	...	...	......	4.78	+2.78	1.65	0	8	26	5	0	se.	Verne King.
Fullerton	Dickey	1,439	37	76.0	+7.0	98	2†	53	30	40	3.37	+0.18	1.22	0	8	22	8	1	nw.	F. O. Alin.
Gackle	Logan	1,951	5	73.7	......	94	2	53	30	35	4.37	......	1.21	0	7	17	14	0	se.	A. H. Haut.
Garrison	McLean	1,901	58	72.7	+4.5	94	15	50	30	36	5.56	+3.36	1.90	0	9	16	13	2	nw.	W. F. Robinson.
Grafton	Walsh	827	43	75.6	+7.9	99	25	52	7	42	3.39	+0.90	1.12	0	11	17	10	4	s	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	44	74.4	+6.9	94	16	53	7	35	6.14	+3.41	2.47	0	10	8	21	2	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	72.2	+4.7	98	2	51	29	38	5.92	+3.82	1.52	0	12	8	22	1	se.	W. A. Christianson.
Hankinson	Richland	1,068	6	76.4	......	101	29	55	6	39	7.20	......	2.35	0	7	23	7	1	se.	R. G. Stock.
Hannah	Cavalier	1,568	43	72.4	......	92	19†	47	31	41	2.36	−0.07	0.85	0	14	7	23	1	se.	James Muir.
Hansboro	Towner	1,597	27	71.4	+6.2	95	16	50	30	38	3.78	+1.34	1.35	0	12	18	12	1	se.	C. E. Blackorby.
Hettinger	Adams	2,675	28	76.6	+6.5	106	28	51	30	48	1.49	−1.06	0.86	0	4	26	5	0	se.	Glenn Brokaw.
Hillsboro	Traill	901	29	76.4	+6.8	97	26	55	30	38	3.39	+0.96	1.05	0	9	16	11	1	nw.	H. F. Lund.
Howard ‡‡ (near)	Williams	2,275	28	73.0	+7.0	98	2†	49	1	43	2.62	+0.84	0.65	0	9	14	16	1	se.	C. P. Ansbaugh.
Jamestown	Stutsman	1,457	43	75.2	+6.7	99	16	53	30	41	4.08	+1.36	1.20	0	9	9	20	2	n.	S. Calvelage.
Kenmare	Ward	1,799	4	73.4	......	96	15	52	1	33	5.22	......	1.17	0	17	14	14	3	se.	R. Costello.
Langdon	Cavalier	1,615	39	72.0	+7.4	95	14†	48	30	44	2.58	+0.11	0.85	0	11	21	8	2	se.	R. T. Burke.
Larimore	Grand Forks	1,134	42	73.9	+6.9	96	25	52	7	36	5.18	+1.95	1.63	0	8	22	6	3	nw.	Mabel Walsh.
Linton	Emmons	1,711	18	76.1	+4.8	105	26	46	30	53	2.95	+0.89	1.45	0	5	14	17	0	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	76.0	+6.7	98	26	54	30	36	2.40	−0.90	1.15	0	7	14	14	3	se.	J. O. Halverson.
McClusky	Sheridan	1,943	17	73.0	......	96	3	49	30	38	6.25	+3.93	2.13	0	10	15	10	6	nw.	Edw. Tapley.
McLeod	Ransom	1,075	24	76.1	+5.9	100	26†	45	28	45	3.21	+0.28	1.18	0	6	26	2	3	nw.	J. G. Carlson.
Maddock	Benson	1,604	20	73.6	+6.0	98	2	50	30	39	5.89	+3.49	2.28	0	12	7	22	2	nw.	A. T. Felland.
Mandan	Morton	1,750	21	75.4	+4.8	98	2	52	30	39	4.71	+2.06	1.38	0	7	16	7	8	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	......	......	...	...	...	...	......	7.51	+5.37	1.97	0	15	21	7	3	......	P. B. Anderson.
Marmarth	Slope	2,714	26	76.4	+7.0	104	28	52	13†	45	2.05	+0.21	0.82	0	7	23	5	3	se.	S. P. Grane.
Mary	McKenzie	......	6	......	......	...	...	...	...	......	3.25	......	1.00	0	8	28	3	0	se.	Fred Hartman.
Max	McLean	2,093	6	71.4	......	95	2	48	30	40	6.48	......	2.10	0	10	19	3	9	......	A. W. Rice.
Mayville	Traill	975	39	75.6	+6.6	98	17†	50	5	37	4.82	+2.03	2.40	0	9	......	......	......	n.	H. B. Addicott.
Minot	Ward	1,557	39	72.4	+4.5	95	2	50	30	39	7.20	+5 33	3.15	0	11	5	24	2	ne.	Mark M. Chatfield.
Mohall	Renville	1,646	41	71.8	+5.5	95	15†	50	30†	39	4.86	+2.63	1.25	0	15	11	18	2	nw.	John Behan.
Mott	Hettinger	2,424	28	76.2	+5.9	105	28	48	30	50	3.75	+1.16	1.75	0	10	17	14	0	ne.	W. M. Hendricks.
Napoleon	Logan	1,955	43	73.6	+5.0	95	2†	48	30	46	4.89	+2.39	1.95	0	7	22	8	1	se.	C. J. Hoef.
New England	Hettinger	2,400	41	76.8	+8.0	106	28	49	29	43	2.28	+0.33	0.49	0	8	11	20	0	se.	F. S. Steight.
New Salem	Morton	2,163	31	75.8	+5.9	101	28	50	30	43	3.68	+1.65	1.67	0	8	23	8	0	se.	J. Christiansen.
Oakes	Dickey	1,318	6	77.0	......	101	16	53	30	40	2.67	......	0.91	0	11	13	18	0	nw.	Eugene Naylor.
Park River	Walsh	998	31	73.3	+5.4	96	20	51	7	40	3.80	+1.29	0.88	0	9	16	7	8	nw.	C. B. Wright.
Parshall	Mountrail	1,929	20	71.2	......	94	28	45	30	45	6.48	+4.67	3.55	0	13	10	21	0	se.	C. E. Shubert.
Pembina	Pembina	789	61	......	......	...	...	...	...	......	4.63	+2.17	1.15	0	15	20	3	8	nw.	E. H. Kruse.
Petersburg	Nelson	1,520	5	......	......	...	...	...	...	......	4.76	......	1.30	0	13	12	13	6	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	74.2	+6.2	97	2	50	5	40	5.11	+2.41	1.51	0	8	16	11	4	se.	Wm. R. Dahl.
Portal	Burke	1,954	30	71.0	+4.8	97	16	46	1	43	4.06	+2.16	0.95	0	16	14	10	7	se.	R. G. Wegener.
Powers Lake	Burke	2,205	30	72.0	......	94	16	51	30	37	5.15	+2.93	2.83	0	9	16	12	3	e.	Geo. B. Gee.
Richardton	Stark	2,467	19	72.7	+2.6	98	25	52	30	39	5.59	+3.55	3.21	0	6	13	15	3	n.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	......	......	...	...	...	...	......	7.91	......	3.89	0	13	13	16	2	se.	W. B. Paterson.
Ryder	Ward	2,108	6	......	......	...	...	...	...	......	4.35	......	1.72	0	12	26	4	1	se.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	73.0	......	99	15	45	30	50	2.25	......	0.75	0	9	12	19	0	e.	H. J. Bugge.
Sharon	Steele	1,516	11	73.0	......	92	16†	51	30	38	3.61	+1.58	1.14	0	16	10	15	6	e.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	......	......	...	...	...	...	......	5.28	+2.99	1.85	0	9	22	8	1	se.	H. J. Giffey.
Steele	Kidder	1,857	41	73.8	+4.4	96	28	48	30	42	4.92	+2.02	1.75	0	8	15	13	3	se.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	......	......	...	...	...	...	......	5.47	......	1.42	0	14	18	10	3	se.	G. N. Pilgard.
Tioga	Williams	2,279	6	......	......	...	...	...	...	......	4.19	......	1.08	0	12	22	9	0	nw.	Anton Carlson.
Towner	McHenry	1,482	33	73.0	+5.0	100	2	49	30	39	6.37	+4.11	1.60	0	15	23	7	1	se.	J. A. Gilje.
Trotters	Golden Valley	......	9	......	......	...	...	...	...	......	4.64	......	1.20	0	10	22	8	1	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	73.6	+5.3	97	2	50	5	44	4.59	+1.69	1.12	0	12	30	0	1	nw.	M. A. Slettum.
Tuttle	Kidder	1,936	27	......	......	...	...	...	...	......	4.63	+2.04	1.09	0	9	18	13	0	se.	Adam Leno.
Valley City	Barnes	1,245	29	75.8	+7.1	97	16	49	30	44	2.93	+0.14	0.85	0	9	20	10	1	se.	I. C. Robertson.
Velva	McHenry	1,511	8	73.2	......	95	2	54	30	34	7.07	......	1.97	0	11	9	20	2	se.	Oscar Anderson.
Wahpeton	Richland	962	43	77.2	+7.4	101	29	55	30	36	4.69	+1.23	1.85	0	10	23	0	8	se.	C. G. Luick.
Washburn	McLean	1,731	34	75.0	+5.5	96	2	56	30	33	5.26	+2.88	1.85	0	6	20	5	6	e.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	72.1	+5.3	95	16	51	15†	40	8.49	+6.26	2.24	0	13	21	3	7	nw.	D. W. Drake.
Williston	Williams	1,878	56	73.6	+4.7	103	28	50	1	40	4.88	+2.99	1.16	0	13	16	15	0	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	71.8	+6.1	91	16	49	30	39	6.31	+4.22	1.84	0	11	21	9	1	se.	O. M. Sanderson.
Wishek	McIntosh	2 010	6	75.9	+7.3	102	16	47	30	46	3.73	+1.11	1.26	0	9	......	......	......	se.	E. W. Davis.
Zap	Mercer	1,838	20	......	......	...	...	...	...	......	6.18	+4.22	2.32	0	6	26	5	0	......	R. A. Norton.
Moorhead, Minn	Clay	935	54	75.6	+7.5	96	29	55	7	37	2.13	−1.30	1.48	0	7	9	13	9	s.	U. S. Weather Bureau.
Averages	......	......	......	73.8	+5.4	110	26	45	28†	53	4.62	+2.20	3.89	0	10	17	11	3	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood: Grand Forks, University: Howard Grenora.

Daily Precipitation for July 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			.71	.41	.06				.46	.33	.86							T.	.07	T.		.55						.08			T.	3.53
Amenia	Red				.30		.12				.35	.65		T.	T.									.20			T.						1.62
Arnegard (near)	Missouri	.60	T.		.12	.98				.47	.26	.70							.26	.50			.20				.93						5.02
Ashley	Missouri					.38			.06	.25		.43					.04	.07	T.		T	.40		1.14		.12							2.89
Beach	Lit. Missouri			.25	.26	.14	.01		.04	.40	2.07	1.75								.15	.01		.22						.10				5.40
Berthold Agency	Missouri			.17	.06	.81		.42	.06	.40	1.34	.21											.08				.36						3.91
Bismarck ***	Missouri			T.	1.15	.24		T.	T.	1.38	1.36	.50											.82	T.	T.		T.		T.	.03		T.	5.46
Bottineau	Mouse	.57		.25				.44	.18	.04	.27	.21								2.14	.23		.33	.25		.31							5.25
Bowman	Grand				.90							1.41									.12	.05							.41				2.89
Cando	Devils Lake	.74	.03	.04	.24	1.85	.01	.18	.77	.18	.37	.14											.24	.23		.07		.05					5.14
Carrington‖‖	James			.75	.43			.03	.47	.14	2.48									.34			.96		.02		.09			.02		.05	5.78
Carson	Heart				.71	.22				.51		1.15											.15										2.74
Cavalier	Red	T.	.40	T.	1.00	.01	.01	.18	.55	T.	.38	.25		.02	.30			.33	T.		.61						.01	.05		T.			4.10
Cooperstown	Sheyenne			.29	.07	.78	T.	.13	.20	.11	.76	.75				T.		T.			.40		T.	.10		T.	T.			T.			3.59
Corinth	Missouri	.61		.04				.50		.62	.02	.15							.35	.17		.09	.30			.25	.15		.04		T.		3.29
Courtenay	James			.06	.25	.63		.76		.14	.24	.81			.08		.02				.52	.02		.14	.44	.04	.12	.15					4.42
Crosby	Mouse	T.	T.	T.	.15		.75	.09	.60		.04								.10	.10		.09	.72		T.		.08		.16				2.88
Devils Lake ***	Devils Lake	.01		.09	.67	.99	.01	T.	1.75	.28	.40	.18		T.				T.			.16		.23			T.	.46			T.			5.23
Dickinson‖‖	Heart			.13	.33	.51	.01		T.	.67	.30	.77						T.		T.	.21	T.				T.				T.	T.	T.	2.93
Dogden Butte	Mouse	.21		.07	.86	3.06	.01		.48	.98	.47	.37						T.					.91	.13			T.	1.34		T.			8.89
Drake‖‖	Mouse	.04			.42	1.28	.18		.56	.73	.18	.48			.02									3.33	T.	.04	.01	.11					7.38
Dunn Center	Knife			.93	.43	.51			.14	.85	2.02	.97								.03								.22					6.10
Dunseith	Mouse	.86	.05	T.	.96	.12		.48	.19	.07	.30	.17						.03		2.02			.33	.03		.75	.04	T.					6.40
Eckman	Mouse		.03	.02	.78	.02		.44	.86	.02	.38	.30						.06		1.25	.02		.76	.02		.17	.10	.01		T.			5.24
Edgeley	James																																
Edmore	Devils Lake			.05	1.47	1.92		.15	2.04	.07	.21	.21			.03			T.			.38		.12		.01	.03	.29			.05			7.03
Ellendale	James				.04	.37			.67		.12	.34						T						.91		.27							2.72
Energy	Missouri			.65	.42	.80				.85	.45	.70						T.					.55				.26						4.68
Fairfield	Knife			.52	.50	.09			.09	.83	1.74	1.22								.31							.06						5.36
Fessenden‖‖	James	.01			.86	.72	.01		.97	.70	.29	2.01			.15				.10					.93		.11		.40			T.		7.26
Forman	Sheyenne				.05	.20			.27		.75	.29			T.				.05	.02	T.	T.		1.00		.07							2.70
Fort Yates	Missouri				.75							.50									.61		.63										2.49
Foxholm (near)	Mouse	.03		.03	.20	T.		.38	.74	.03	.33	.19								1.30	.01		1.15			.48	T.	.10		T.			4.97
Fryburg	Heart		.23		.25	.20				.18	1.25	.96								1.65												.06	4.78
Fullerton	James					.47			.37	.05	1.22	.28						.03			T.		.88			.07				T.			3.37
Gackle	James				T.	.65			.06	.14	1.21	.87											1.18				.26						4.37
Garrison	Missouri	.03			.50	1.90			.18	.64	.60	.90												.53				.28					5.56
Grafton	Red			.14	.52			.10	1.12		.13	.13			.10			.02			T.		.03				.54			.56			3.39
Grand Forks ***	Red			T.	.86	T.	.01		.38	T.	.43	2.47			.03			T.	.21		.07		T				1.66			.02			6.14
Granville	Mouse			T.	.39	.22		.04	.45	.18	.37	.38						T.		.44			1.52			.48	.03	1.42					5.92
Hankinson	Red				2.35			1.80		1.60									.15		.65		.60				.05						7.20
Hannah	Pembina	.85	.06	T.	.18	.02	.03	.13	.70	.05	.12	.06				T.		.02			T.		T.	.02	T.	.02	.10						2.36
Hansboro	Devils Lake	.34	.15		.40	.15		.40	.37		.13	.04								1.35	.02		.13			.30							3.78
Hettinger	Grand				.23	.29						.86										.11											1.49
Hillsboro	Red			.06	.22	T.			.08		1.05	1.00			.09						.09			T.			.42	.38		T.			3.39
Howard (near)	Missouri	T.	.30	.04				T.	.15	.57	T	.23					T.	T.					.65			.18		.20	.30			T.	2.62
Jamestown	James				.64	.01		1.04			.41	1.20									.06			.12		.51	.09			T.			4.08
Kenmare	Mouse	.22	.38	.04		.24		1.17	.22	.09	.19	.10						.27		.96	.10		.74			.37	.03	.08		.02			5.22
Langdon	Pembina	.35			.05	.22		T.	.85	.04	.26	.45	.10			.06	.10							.10					T.				2.58
Larimore	Red			T.	1.07				.63	.22	.53	1.63	.05								T.			.10			T.	.95		T.			5.18
Linton	Missouri					.69				.51	.04	.26						T.					1.45							T.			2.95
Lisbon	Sheyenne					.24			.89	.04	.06	1.15										.01				.01							2.40
McClusky	Missouri				.43	.78				.97	2.13	.57		T.										.67	.36		.19	.09		.06			6.25
McLeod	Sheyenne				T.	.13			.34		1.18	.96									T.	.14		.46									3.21
Maddock	Sheyenne	.16		T.	.16	.17	.01	T.	2.28	.97	.62	.29						T.					.30	.60			.04	.29		T.			5.89
Mandan‖‖	Missouri		.01	.03	.97	T.			1.38	.88	.87												.57	T.			T.			T.		T.	4.71
Manfred	James	.30	.05		.41	.24			.68	.73	1.97	.53		.17				.50		T.			.84	.22		.25	.22	.40		T.			7.51
Marmarth	Lit. Missouri				.82					.11	.05	.50							T.	.12		.04	.41						T.				2.05
Mary	Lit. Missouri	T.		.16	.30	.10	*			1.00	.65	.50								.09							.45						3.25
Max‖‖	Missouri	.35			.27	1.01		.25		.85	1.25	.35								.16				1.75				.24					6.48
Mayville	Red			.60	2.40				.14		.42	.95			.04						.11						.09	.07					4.82
Minot	Mouse	.23	T.	T.	.88	T.	.01	T.	.09	.25	.47	.64						T.		.86	T.	3.15					.11	.51					7.20
Mohall	Mouse	.04	.03	.02	.22	.08	T.	.22	.50	.10	.35	.15						T.		1.10	.05		1.25			.50	.25						4.86
Mott	Cannon Ball			.55	1.75	.12			.01	T.	.14	.98										.10	.01		.03					.06		T.	3.75
Napoleon‖‖	Missouri					.42					1.11	1.95						T.						1.05		.28	.07	.01					4.89
New England	Cannon Ball		.12		.49			.44	.47		.30										.02	T.							.16	T.		.28	2.28
New Salem	Heart			T.	.54	1.05	.01			1.67	.26												.08		.03		.04			T.			3.68
Oakes	James			.04	.07	.56			.27	.02	.41	.32								.01		T.		.91		.04		.02					2.67
Park River	Red				.88		.54	.74	.52	T.		.24		.02				.03			.05			T.		T.		.78				T.	3.80
Parshall	Missouri	.05	T.	.07	.10			.20	.30	3.55	.27							.05	.51				1.10				.16		.01			.11	6.48
Pembina	Red	.80	.78		1.15	.02		.06	.32		.20	.17			.23			.08			.62			.05			.12	.01	.02				4.63
Petersburg	Red			T.	T.	.60		.05	1.03	.06	.63	.79				.04		.02			.08			.09			.04	1.30		.03			4.76
Pettibone	James				1.18	1.07				.60	.30	1.51		.09				.28					.08				T.						5.11
Portal‖‖	Mouse	.29	.12	.02	.38			.40	.33	.19	.03	.20						.02	.60	.16	.95		.25	.08						.04			4.06
Powers Lake	Missouri	2.83							.33		.20	.16							.71	.16	.06	.30				.40							5.15
Richardton	Heart			.02		3.21				1.40	.49	.40															.07			T.			5.59
Rugby [near]	Mouse	.13		.06	.15	3.89		.03	1.73	.12	.64	.17										T.	.40	.06		.40	.13						7.91
Ryder	Missouri		.03	.23	.11			.13	.15	1.72	.28							.27	.27				1.01					.05				.10	4.35
Sanish‖‖	Missouri					T.	.01		.24	.21	.30	.14								.75			.07	.36				.17					2.25
Sharon	Red			.15	.06	.39		.03	.13	.46	.62	1.14		.06				.02	T.	T.	.33		.11	.01		.03	.02	.05		T.			3.61
Stanton	Missouri			.15	.15	.85				1.85	.36	1.38											.49				.02			.03			5.28
Steele	Missouri				.19	.53			.04	1.75	.95	1.23										.12					.11			T.			4.92
Tagus	Mouse				.23	.28		.06	.58	.08	.47	.17						.20		1.42	.21		1.02			.06	.68	.01		T.		T.	5.47
Tioga	Missouri	.36					.03	.60	.29	.19	.22								1.08	.24			.49		.25		.26		.18				4.19
Towner	Mouse	.15		.08	.37	.37		.16	1.60	.16	.85	.62						.25	T.	.45			.35	.34		.20	T.	.42					6.37
Trotters	Lit. Missouri			.48	.07		.11		.06	1.20	1.10	.90								.43			.17				.12						4.64
Turtle Lake	Missouri	.10		.15	.22	.80				.65	.14	1.12						.01	.20				1.04					.10		.06			4.59
Tuttle	Missouri	.05		.55	.07	.90				.98	.91	1.09		T.				.05					.03				T.			T.			4.63
Valley City	Sheyenne				.30	.12			.10	T.	.85	.74						T			.03			.08			.67	.04					2.93
Velva	Mouse			T.	1.37	.96		T.	.79	.16	.94	.39						T.		.11			1.97			.15	.01	.22					7.07
Wahpeton	Red					1.85			.60		.91	.84			.04	.02			.04	.03				.31	.05								4.69
Washburn	Missouri					1.13				.87	1.85	.88												.37				.16					5.26
Westhope	Mouse		1.41	.04	1.84	.02		.59	.49		.22	.26								2.24	.10		.81			.22	T	.22					8.49
Williston ***	Missouri	1.16	.01	.01	.01	T.		.46	.16	.43	.82								.74	.24	T.		.80			T.	.02		.02			T.	4.88
Willow City	Mouse	.47		T.	.52			.41	.59	.19	.34	.82								1.84			.58			.50	.05			T.			6.31
Wishek‖‖	Missouri				.15	.75			.02		1.26	.25							.15				.20	.90		.05							3.73
Zap	Knife			1.37	2.32				.70		.88	.74											.17										6.18
Moorhead, Minn ***	Red			T.	.01	T	T.		.09	T.	.71	.74		T.	T.			.04		T.	T.		.12		T.		.39			T.			2.13

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	90	92	94	92	90	89	91	92	91	90	84	86	82	84	90	96	92	88	94	93	92	94	86	92	92	98	90	96	97	96	92	91.1
	Minimum	64	74	64	70	67	68	70	68	64	70	61	57	58	62	70	64	68	69	72	70	68	64	67	64	68	70	67	70	72	53	72	66.7
Arnegard (near)	Maximum	86	90	90	86	84	81	81	80	81	82	73	79	78	89	96	100	93	86	92	81	85	79	87	90	91	93	87	98	84	92	87	86.5
	Minimum	55	68	63	60	54	59	63	57	59	61	56	57	57	58	62	67	62	58	57	56	53	53	48	64	65	54	55	67	57	47	52	58.2
Ashley	Maximum	86	94	88	82	81	81	86	88	87	83	82	83	85	88	92	97	94	84	97	94	88	82	80	82	88	95	89	92	89	86	95	87.7
	Minimum	63	69	69	68	58	58	57	66	64	66	60	52	54	57	54	59	67	62	61	67	65	57	61	59	60	64	62	63	70	48	62	61.4
Beach	Maximum	89	91	91	85	82	86	94	85	85	83	81	81	87	87	95	97	85	88	97	82	83	77	81	94	92	94	91	105	84	93	92	88.3
	Minimum	49	66	54	58	57	62	65	62	58	49	54	54	56	57	58	66	62	62	61	59	57	59	56	61	64	63	55	70	61	55	64	59.2
Berthold Agency	Maximum	85	94	90	85	79	71	83	85	77	77	76	78	84	84	93	92	84	88	87	89	84	77	84	89	94	93	81	95	89	93	79	85.1
	Minimum	48	70	68	60	62	61	63	63	63	67	56	68	51	55	53	57	65	65	59	62	54	61	55	60	65	55	58	77	65	46	58	60.3
Bismarck	Maximum	86	100	91	86	78	80	87	88	86	85	79	82	87	87	94	95	89	87	93	91	86	87	83	87	91	96	89	96	85	91	90	88.1
	Minimum	63	72	68	63	61	62	61	70	64	65	61	58	59	63	62	64	70	65	64	70	62	63	63	65	68	65	62	65	61	52	59	63.5
Bottineau	Maximum	85	87	87	90	89	96	94	87	88	84	83	79	83	87	91	102	91	87	88	87	80	81	88	85	83	89	84	89	88	89	86	87.1
	Minimum	62	65	68	69	70	62	67	59	61	51	53	55	55	62	55	62	69	62	60	62	55	57	58	59	65	67	66	60	63	67	51	61.2
Bowman	Maximum	89	97	94	83	79	90	96	88	87	89	79	83	89	89	95	99	91	93	98	88	87	84	87	94	96	100	94	104	80	96	94	90.7
	Minimum	55	64	69	57	56	59	65	65	61	61	54	50	52	54	54	64	68	61	61	60	56	60	55	61	66	60	57	63	60	55	63	59.5
Cando	Maximum	86	87	87	84	68	76	77	82	89	88	85	79	83	83	93	93	85	87	93	89	84	83	84	92	91	95	89	93	93	94	89	86.5
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carrington §§	Maximum	97	82	83	75	74	78	84	84	80	79	80	85	86	90	96	86	85	92	93	92	94	90	90	89	89	86	94	86	90	88	88	88.6
	Minimum	65	69	66	60	59	56	65	64	68	62	58	58	61	61	61	67	60	61	50	61	64	60	58	65	66	58	62	63	56	61	63	61.5
Carson	Maximum	85	98	89	93	80	79	90	93	74	74	80	71	85	87	96	93	90	91	94	93	80	89	85	80	92	102	90	94	87	90	86	87.4
	Minimum	56	57	56	54	58	58	63	63	61	63	56	53	56	57	56	62	66	62	63	64	63	60	60	62	62	60	61	56	50	53	57	59.0
Crosby	Maximum	91	92	82	73	82	83	85	82	86	77	82	84	86	97	97	86	88	92	82	87	72	84	87	92	90	91	97	84	92	88	73	85.9
	Minimum	62	62	60	60	57	61	62	52	61	56	54	49	57	59	57	59	56	56	57	57	60	59	58	60	62	58	61	57	51	52	53	57.6
Devils Lake	Maximum	88	90	82	78	70	74	76	79	84	82	80	79	83	83	89	94	85	86	90	88	82	85	84	88	90	91	86	92	82	89	86	84.4
	Minimum	68	69	69	65	61	58	56	64	64	66	61	58	59	61	62	65	66	62	65	65	60	58	62	61	68	65	60	59	60	57	60	62.4
Dickinson §§	Maximum	90	94	92	83	80	79	93	84	83	82	75	80	85	86	94	97	86	87	95	83	84	84	83	94	96	95	89	106	82	95	95	88.1
	Minimum	51	56	60	59	59	58	60	63	59	61	54	50	50	53	51	53	65	61	60	60	55	59	58	59	60	59	54	57	67	48	54	57.2
Drake §§	Maximum	87	96	87	83	69	76	80	81	83	81	77	78	84	85	90	93	88	85	93	86	82	82	80	85	86	87	84	91	76	88	84	84.1
	Minimum	60	62	72	66	62	56	59	61	64	64	59	57	59	61	60	60	66	60	62	67	58	57	58	62	68	67	65	61	68	54	58	61.7
Dunn Center	Maximum	86	93	78	83	78	77	74	81	83	81	76	81	85	86	91	90	86	87	88	85	83	83	82	90	93	92	83	102	81	91	86	85.0
	Minimum	59	61	58	61	61	61	62	62	60	61	55	54	54	57	55	56	64	61	59	61	56	58	57	54	64	62	58	67	67	63	55	59.5
Dunseith	Maximum	83	83	84	82	77	74	74	83	84	84	78	77	80	81	90	92	84	85	86	85	79	79	81	85	86	87	81	87	86	85	83	82.7
	Minimum	58	61	66	61	60	57	55	61	62	62	58	56	58	62	57	60	66	58	59	64	57	58	58	60	62	65	65	59	63	49	58	59.8
Edgeley	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Ellendale	Maximum	87	96	94	83	82	79	87	86	85	84	83	85	87	84	88	99	85	84	97	94	87	88	82	87	88	98	90	94	91	89	95	88.3
	Minimum	62	63	63	71	59	59	57	67	66	73	61	57	58	62	61	59	71	63	62	71	68	59	62	63	65	64	65	63	71	55	62	63.3
Fessenden §§	Maximum	90	101	88	84	75	77	81	82	84	81	85	85	85	86	90	93	86	85	90	91	83	86	81	87	88	86	85	91	75	89	88	85.7
	Minimum	62	70	70	65	62	58	57	64	63	63	61	58	54	60	59	57	64	61	62	66	58	54	61	61	63	64	59	57	66	52	58	60.9
Foxholm (near)	Maximum	79	84	83	83	73	74	75	80	81	81	79	76	78	79	91	87	84	81	81	81	79	79	78	80	82	82	80	85	85	83	83	80.8
	Minimum	49	64	66	62	61	53	57	57	60	60	54	54	56	59	56	61	64	58	59	62	57	59	57	59	64	63	61	61	60	52	52	58.6
Fullerton	Maximum	95	98	95	84	82	78	85	88	88	86	82	82	85	87	88	97	90	86	97	93	87	90	84	90	92	98	91	96	91	93	95	89.5
	Minimum	65	69	71	71	60	59	57	68	65	64	61	57	56	60	60	58	58	63	62	71	67	57	61	62	63	64	63	63	67	53	62	62.5
Garrison	Maximum	88	89	92	85	74	78	83	84	87	83	78	81	87	87	94	93	89	85	89	88	83	84	81	86	90	92	87	84	72	82	79	85.0
	Minimum	57	65	64	65	60	57	60	63	54	62	58	56	57	60	58	58	65	65	62	65	58	60	58	61	66	65	60	64	64	50	56	60.4
Grafton	Maximum	89	87	86	79	75	70	77	79	83	84	82	82	83	89	90	93	96	98	93	94	89	97	92	94	99	95	95	97	96	91	90	88.8
	Minimum	67	65	71	65	65	57	52	62	63	66	66	60	60	58	55	60	70	61	63	68	68	55	65	59	64	65	63	57	71	55	60	62.5
Grand Forks	Maximum	89	91	86	82	80	68	80	79	86	80	83	83	84	81	89	94	86	86	91	91	85	88	87	90	93	93	87	91	82	90	88	85.9
	Minimum	68	65	70	67	63	58	53	64	66	68	64	61	59	61	59	63	69	62	65	70	60	58	66	61	66	65	62	60	62	55	57	62.8
Granville	Maximum	90	98	90	85	71	78	81	83	81	85	72	80	84	86	92	96	90	89	90	79	83	74	82	86	86	88	89	83	89	82	80	84.7
	Minimum	54	71	70	65	57	52	60	61	64	64	54	54	53	57	57	60	62	60	62	65	55	56	55	60	66	65	62	64	51	51	60	59.7
Hansboro	Maximum	86	84	80	85	85	75	75	81	86	84	80	80	81	80	90	95	85	87	90	81	81	80	81	87	87	89	84	90	78	88	83	83.8
	Minimum	62	62	60	62	60	59	58	53	60	60	59	56	60	58	57	60	67	54	57	62	58	56	58	57	61	65	69	54	60	50	53	58.9
Hettinger	Maximum	87	100	93	89	81	89	97	91	89	91	83	85	90	90	96	100	94	93	98	93	87	89	86	94	99	103	99	106	87	97	95	92.6
	Minimum	57	64	67	63	57	60	66	64	63	64	56	53	61	54	52	66	71	64	63	60	58	62	55	63	66	55	59	60	64	51	63	60.7
Hillsboro	Maximum	89	87	93	89	88	81	77	84	88	86	82	82	86	82	90	95	92	87	95	93	88	91	85	92	95	97	92	95	95	93	91	89.0
	Minimum	65	65	62	67	68	70	62	64	62	67	65	58	60	61	60	62	73	64	64	69	63	58	65	62	65	68	62	60	74	55	59	63.8
Howard (near)	Maximum	87	98	90	87	85	86	88	90	89	85	77	82	85	88	98	98	80	88	79	86	88	77	78	88	90	89	86	98	78	80	85	86.5
	Minimum	47	70	60	60	57	54	56	70	68	68	51	52	50	55	55	57	60	57	62	60	65	61	60	56	64	66	70	67	54	54	55	59.5
Jamestown	Maximum	89	98	89	85	79	77	83	87	83	80	82	82	85	87	90	99	86	85	97	91	85	89	84	91	94	94	89	96	87	94	91	88.0
	Minimum	65	69	67	70	59	59	57	62	65	68	68	55	57	58	58	60	67	62	63	66	64	57	64	62	66	67	60	62	68	53	59	62.5
Kenmare	Maximum	85	87	85	84	70	80	74	84	82	83	84	81	85	86	96	95	85	88	86	88	83	80	82	84	84	86	83	93	92	91	88	85.0
	Minimum	52	63	71	64	63	58	57	64	62	65	56	58	60	61	69	65	66	58	60	68	57	62	59	60	62	64	61	65	62	63	58	61.7
Langdon §§	Maximum	86	81	79	76	68	70	68	68	83	82	80	80	82	95	83	82	87	93	80	89	85	89	88	95	93	93	86	94	95	92	90	84.3
	Minimum	62	65	65	65	63	55	53	58	54	61	62	55	55	58	56	63	62	58	63	68	53	54	60	58	65	67	61	56	70	48	60	59.8
Larimore	Maximum	90	89	87	83	79	69	78	81	85	84	80	79	82	81	87	94	86	88	92	90	83	92	85	91	96	96	85	90	89	86	87	85.9
	Minimum	67	65	72	63	63	57	52	62	64	65	65	58	59	59	57	63	69	62	62	67	58	56	63	63	65	67	59	56	67	54	61	61.9
Linton	Maximum	87	100	97	88	80	84	87	92	85	86	84	85	88	90	97	102	92	91	100	96	89	91	83	87	90	105	98	98	93	93	95	91.4
	Minimum	65	69	65	70	57	57	59	69	63	66	60	48	48	53	50	49	71	64	63	66	62	59	62	62	64	62	62	65	71	46	57	60.8
Lisbon §§	Maximum	87	96	91	85	81	78	82	86	87	82	82	81	85	87	89	96	82	82	95	92	86	86	85	87	89	98	90	93	94	90	92	87.6
	Minimum	68	68	72	71	60	58	56	66	65	69	63	57	58	60	59	63	69	61	66	73	68	59	64	66	70	70	65	63	74	54	60	64.5
McClusky	Maximum	86	84	96	84	85	77	84	83	83	84	84	78	83	85	89	92	88	86	84	92	89	85	82	81	84	86	87	93	91	87	86	85.7
	Minimum	63	70	71	63	66	60	61	60	60	63	52	52	54	57	51	60	66	60	62	69	65	57	56	60	67	62	57	59	60	49	55	60.2
Maddock	Maximum	89	98	97	88	79	76	79	79	82	83	81	78	82	83	89	95	93	88	92	92	86	85	81	87	90	91	91	94	88	89	90	86.9
	Minimum	63	68	69	64	60	53	56	64	62	65	61	56	56	59	50	54	67	58	62	66	57	52	61	60	67	64	58	56	64	50	58	60.4
Marmarth	Maximum	89	95	93	87	80	90	93	88	88	90	85	85	90	90	94	98	90	91	99	87	86	81	93	96	98	100	97	104	97	93	95	91.7
	Minimum	55	65	63	57	56	61	67	68	61	62	55	53	52	53	54	68	68	61	65	60	59	60	65	68	70	62	59	72	52	62	65	61.2
Minot	Maximum	88	95	88	84	71	79	82	84	85	85	76	80	85	86	94	94	88	88	89	83	81	71	82	86	86	87	85	93	79	89	83	84.7
	Minimum	51	61	72	64	64	59	58	62	62	63	56	53	57	58	58	57	65	59	61	63	56	60	57	59	66	65	63	64	65	50	55	60.1
Mohall	Maximum	86	83	85	84	78	78	78	84	83	83	82	80	83	84	95	95	91	87	85	83	80	80	81	83	85	83	83	90	90	88	87	84.3
	Minimum	53	62	63	66	63	56	56	59	58	62	57	56	56	59	57	56	67	58	60	64	56	61	57	59	65	65	63	61	63	50	50	59.3
Mott	Maximum	90	103	94	85	83	85	94	87	88	89	80	84	92	91	100	101	100	92	97	89	88	90	87	95	100	104	93	105	100	98	94	92.8
	Minimum	56	71	60	57	59	59	65	64	63	72	54	50	52	55	54	60	61	61	61	60	62	61	58	60	62	55	59	54	56	48	60	59.6
Napoleon §§	Maximum	86	95	87	87	77	81	84	90	85	83	78	80	82	84	88	95	85	86	82	90	82	90	81	86	87	92	86	93	80	94	88	86.3
	Minimum	62	69	68	69	57	57	54	57	67	64	58	54	55	58	56	56	71	62	62	64	60	55	58	59	61	64	60	63	73	48	58	60.9
New England §§	Maximum	92	103	94	92	90	95	92	90	78	89	80	90	91	94	101	101	103	100	101	98	92	91	93	95	99	102	99	106	86	96	95	94.8
	Minimum	64	60	62	53	58	65	58	60	61	63	62	51	52	50	52	61	66	61	61	64	58	58	57	60	61	58	59	66	67	49	64	59.5
New Salem	Maximum	89	100	91	93	83	79	85	86	90	84	82	84	85	86	96	95	86	88	90	87	89	89	80	89	93	92	96	101	97	93	91	89.3
	Minimum	58	71	72	64	72	60	68	67	61	63	62	56	55	60	58	65	67	62	60	65	62	60	58	63	63	61	62	67	68	50	58	62.2
Oakes	Maximum	95	98	95	84	82	78	85	87	85	82	84	85	87	90	91	101	91	84	99	96	87	89	86	89	92	100	92	95	97	93	95	90.3
	Minimum	65	69	71	71	60	59	57	66	66	65	62	56	56	60	60	61	62	73	64	74	67	58	61	63	65	68	62	64	76	53	61	63.8
Park River	Maximum	85	81	80	77	72	70	74	80	83	80	80	81	78	87	92	81	90	92	96	92	89	90	88	93	92	90	88	89	[illegible]	[illegible]	87	84.8
	Minimum	66	65	66	64	63	57	51	62	63	63	65	60	61	60	65	65	71	64	60	56	62	56	67	60	62	62	63	57	69	58	58	61.8
Sharon	Maximum	85	86	84	78	78	73	76	85	82	77	79	79	73	83	84	86	92	85	83	90	90	84	85	85	88	90	87	92	82	89	90	84.5
	Minimum	66	65	70	62	58	58	58	53	62	64	64	62	55	57	59	59	64	67	63	61	68	60	62	62	66	65	60	57	63	51	60	61.4
Steele	Maximum	88	85	90	85	78	80	82	90	84	80	78	80	83	85	88	93	86	85	91	90	88	87	87	88	91	91	89	96	83	90	88	86.7
	Minimum	64	70	66	66	58	56	58	68	63	65	59	60	54	58	57	56	67	61	63	64	57	62	58	57	61	67	60	60	66	48	58	61.0
Towner	Maximum	89	100	91	99	71	76	77	84	85	87	82	79	83	85	90	93	88	85	88	83	82	72	80	85	80	89	88	80	88	86	[illegible]	85.7
	Minimum	61	71	68	65	55	52	59	64	61	61	60	55	55	58	57	60	66	61	62	65	56	56	56	60	66	66	60	65	49	54	[illegible]	60.3
Valley City	Maximum	88	95	88	92	90	83	84	90	89	82	82	82	85	87	90	97	96	95	85	96	89	88	86	90	93	96	89	83	93	92	[illegible]	89.5
	Minimum	66	67	72	73	57	58	54	64	63	66	61	55	56	58	56	59	72	61	62	69	65	55	63	61	65	67	62	61	71	49	58	62.1
Wahpeton	Maximum	89	92	97	88	81	82	80	82	86	86	81	82	81	83	87	93	93	87	94	93	90	88	90	91	98	99	96	101	91	96	[illegible]	89.4
	Minimum	67	68	73	72	61	59	56	61	64	64	63	58	59	59	60	63	69	63	70	72	59	65	63	71	70	73	71	65	75	55	63	64.9
Westhope	Maximum	86	87	83	84	78	76	76	85	84	83	77	79	83	84	91	95	86	87	85	80	82	84	84	85	84	87	84	88	85	87	89	84.0
	Minimum	55	61	67	63	62	54	58	62	61	66	58	55	57	58	51	60	64	60	63	61	63	58	59	63	60	65	67	59	63	51	57	60.2
Williston	Maximum	87	88	89	82	79	81	82	82	84	82	87	78	82	87	89	98	93	88	88	77	82	73	79	89	90	84	103	80	93	86	[illegible]	86.0
	Minimum	50	70	66	62	62	62	62	62	57	59	58	60	61	60	59	65	60	63	64	58	62	60	69	64	58	73	59	51	54	[illegible]	[illegible]	61.3
Moorhead, Minn	Maximum	88	91	90	85	81	70	81	81	87	82	82	84	81	87	93	81	93	89	86	87	79	89	92	94	96	91	96	93	[illegible]	[illegible]	[illegible]	86.8
	Minimum	67	66	70	67	62	59	55	64	64	65	62	59	61	62	63	62	70	65	69	71	68	62	67	65	69	68	65	65	66	56	61	64.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

Vol. XLIV Bismarck, N. D., August 1935 No. 8

GENERAL SUMMARY

Temperatures during August 1935 were variable. Readings above 100° occurred at many stations during the first half of the month, but unseasonably cold weather prevailed during the last week. Frost occurred at most places on the 28th. Although precipitation for the State averaged above normal and was fairly well distributed throughout the month, it was considerably above average in the eastern part of the State and below in the western part. Light dust storms occurred at several stations on the 11th and 15th, but no severe storms were reported. At the close of the month pastures and ranges in the west and central portions needed rain badly and soil conditions in those sections were too dry for fall plowing.

TEMPERATURE

The mean temperature for the State was 66.2°, which is the same as the 44 year average, and was 1.2° lower than the mean for August 1934. The highest mean reported was 72.0° at Wahpeton, Richland County; the lowest was 61.9° at Foxholm, Ward County. The highest temperature reported was 109° at Fort Yates, Sioux County and Linton, Emmons County on the 14th; the lowest was 26° at Linton, Emmons County on the 28th, and at Parshall, Mountrail County on the 30th. The greatest monthly range of temperature was 83° at Linton, Emmons County; the least was 52° at Dogden Butte, McLean County. The greatest daily range of temperature was 56° at Fort Yates, Sioux County and Mohall, Renville County on the 10th.

PRECIPITATION

The average precipitation for the State was 2.34 inches, or 0.27 inch above the 44 year average, and 1.19 inches more than the average for August 1934. The greatest monthly amount reported was 6.64 inches at Fullerton, Dickey County; the least was 0.28 inch at Howard, Williams County. The greatest amount recorded in any 24 consecutive hours was 3.43 inches at Moorhead, Clay County, Minnesota, on the 19-20th. The average number of days with 0.01 inch or more of precipitation was 8.

MISCELLANEOUS PHENOMENA

Auroras: Bismarck, 21st; Cooperstown, 29th, 31st; Corinth, 24th, 29th, 31st; Devils Lake, 20th, 24th; Dogden Butte, 25th, 26th; Foxholm, 3d, 7th, 20th, 24th, 25th, 30th, 31st; Howard, 21st, 22d, 23d; McClusky, 24th; Mohall, 31st; New Salem, 26th; Petersburg, 24th, 29th, 30th; Sharon, 20th, 24th, 30th; Tagus, 4th, 21st, 25th; Trotters, 24th, 31st; Tuttle, 20th, 31st; Williston, 24th, 25th, 31st; Willow City, 25th.

Fog: Bismarck, 17th, 18th, 23d; Crosby, Turtle Lake, 29th; Devils Lake, 6th, 7th, 8th, 10th, 18th, 19th, 23d, 28th; Dogden Butte, 20th, 23d; Ellendale, Gaekle, Grand Forks, Larimore, Pettibone, Steele, 18th; Granville, 17th, 23d; Hansboro, 23d; Howard, 20th, 29th; Mohall, 17th, 19th, 22d, 23d, 29th; New Salem, 19th; Oakes, 17th; Rugby, 7th, 14th, 23d; Sharon, 18th, 23d; Tagus, 18th, 19th, 20th; Tuttle, 17th, 18th, 23d.

Hail: Alpha, Devils Lake, Max, Steele, 8th; Drake, 6th; Eckman, Willow City, 6th, 7th; Edmore, 10th; Fort Yates, 21st; Oakes, 17th; Westhope, 7th; Williston, 23d.

Halos, lunar: Grand Forks, 12th; Tagus, 18th.

Halos, solar: Bismarck, Devils Lake, Foxholm, 26th; Moorhead, 7th; Sharon, 31st; Tagus, 13th, 26th; Williston, 9th, 15th, 31st.

Thunderstorms occurred at many stations from the 1st to the 10th, and from the 15th to the 25th, with the greatest number reported on the 1st, 2d, 5th, 6th, 7th, 8th, and 24th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	Percentage of sunshine
Bismarck........	29.90	30.26	27	29.33	15	9.3	30	nw.	10	77	46	40	70
Devils Lake.....	29.93	30.24	31	29.38	15	8.5	34	nw.	11	87	50	62	67
Grand Forks....	29.88	30.20	31	29.41	14	......	32	w.	8	84	....	61	....
Williston........	29.91	30.31	27	29.39	14	8.4	30	w.	23	73	40	36	70
Moorhead, Minn	29.90	30.22	31	29.38	11	9.0	27	w.	11	78	50	51	72
Averages & ext's	29.90	30.31	27	29.33	15	8.8	34	nw.	11	80	46	50	70

† And other dates.

COMPARATIVE DATA FOR AUGUST

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	67.3	+1.1	105	24	2.39	+0.32	4.14	0.36	0	8	15	10	6
1893.	66.7	+0.5	109	29	1.31	−0.76	3.27	0.10	0	3	20	7	4
1894.	68.8	+2.6	102	30	1.14	−0.93	2.71	0.20	0	4	17	10	4
1895.	64.5	−1.7	104	24	1.57	−0.50	3.65	0.36	0	5	17	11	3
1896.	64.7	−1.5	107	21	1.39	−0.68	4.55	T.	0	5	17	10	4
1897.	64.1	−2.1	106	29	1.18	−0.89	3.48	0.16	0	5	15	10	6
1898.	65.4	−0.8	104	24	1.69	−0.38	4.05	T.	0	5	15	11	5
1899.	65.2	−1.0	97	32	2.83	+0.76	7.80	0.24	0	6	15	11	5
1900.	70.4	+4.2	114	33	5.06	+2.99	9.48	2.17	0	10	14	11	6
1901.	66.9	+0.7	100	32	1.77	−0.30	4.75	0.15	0	6	18	8	5
1902.	64.3	−1.9	96	26	2.30	+0.23	5.21	0.36	0	8	16	9	6
1903.	63.7	−2.5	103	35	4.68	+2.61	6.75	2.74	0	10	13	7	11
1904.	63.3	−2.9	102	31	1.67	−0.40	5.37	0.20	0	6	17	7	7
1905.	67.5	+1.3	107	34	2.62	+0.55	6.82	0.74	0	7	17	8	6
1906.	66.3	+0.1	105	31	1.90	−0.17	3.30	0.34	0	7	17	6	8
1907.	64.5	−1.7	104	26	1.89	−0.18	6.59	0.20	0	6	18	9	4
1908.	63.2	−3.0	104	25	2.28	+0.21	4.86	0.54	0	7	17	8	6
1909.	69.8	+3.6	109	27	2.25	+0.18	5.79	T.	0	6	18	9	4
1910.	63.1	−3.1	109	24	1.41	−0.66	3.31	0.34	0	5	14	8	9
1911.	62.2	−4.0	98	23	3.55	+1.48	6.72	1.21	0	8	12	11	8
1912.	63.4	−2.8	118	32	2.95	+0.88	6.13	1.08	0	10	11	10	10
1913.	68.9	+2.7	106	30	2.62	+0.55	5.80	0.61	0	6	16	10	5
1914.	64.2	−2.0	101	26	2.18	+0.11	5.06	0.64	0	7	13	11	7
1915.	64.4	−1.8	100	19	1.18	−0.89	3.53	0.07	0	4	19	8	4
1916.	66.0	−0.2	100	26	2.75	+0.68	5.38	0.67	0	8	16	10	5
1917.	65.2	−1.0	105	25	0.82	−1.25	3.40	0.00	0	4	17	10	4
1918.	66.5	+0.3	102	34	3.35	+1.28	9.30	0.87	0	8	15	11	5
1919.	67.9	+1.7	101	30	1.62	−0.45	5.65	0.04	0	5	18	10	3
1920.	68.8	+2.6	108	28	1.56	−0.51	4.83	0.14	0	5	22	6	3
1921	67.2	+1.0	108	31	1.99	−0.08	6.64	0.03	0	6	18	10	3
1922.	69.8	+3.6	115	33	1.36	−0.71	4.70	0.14	0	6	18	9	4
1923.	63.0	−3.2	97	28	1.90	−0.17	4.98	0.24	0	8	14	12	5
1924.	63.8	−2.4	102	28	1.65	−0.42	3.96	0.07	0	6	17	9	5
1925.	67.9	+1.7	110	29	1.07	−1.00	3.40	0.05	0	5	20	8	3
1926.	65.6	−0.6	105	36	2.43	+0.36	9.76	0.80	0	7	14	8	9
1927.	63.4	−2.8	96	28	3.23	+1.16	6.60	1.25	0	8	18	8	5
1928.	61.8	−1.4	105	25	3.30	+1.23	9.17	0.20	0	8	17	9	5
1929.	68.5	+2.3	106	26	0.77	−1.30	2.06	T.	0	4	20	9	2
1930.	70.4	+4.2	104	32	1.45	−0.62	5.01	T.	0	6	15	9	7
1931.	67.0	+0.8	105	30	2.09	+0.02	4.95	0.36	0	6	16	9	6
1932.	68.3	+2.1	100	28	1.82	−0.25	4.46	0.35	0	7	16	10	5
1933.	68.5	+2.3	104	31	0.73	−1.34	2.37	0.06	0	5	17	9	5
1934.	67.4	+1.2	108	25	1.15	−0.92	3.06	0.10	0	5	16	11	4
1935.	66.2	0.0	109	26	2.34	+0.27	6.64	0.28	0	8	16	9	6
Per..	66.2	....	118	19	2.07	....	9.76	0.00	0	6	16	9	6

Climatological Data for August 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	9	......	......	......	......	......	......	......	1.42	......	0.64	0	3	24	3	4	w.	H. A. Bury.
Amenia	Cass	954	39	67.5	+1.0	100	13†	34	27†	46	3.64	+1.09	1.10	0	7	5	12	14	s.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	64.6	−2.7	108	10	30	29	53	0.43	−1.02	0.40	0	2	22	7	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	67.8	+1.3	103	14	31	28	45	1.54	−0.90	0.82	0	3	23	5	3	se.	H. D. Piper.
Beach	Golden Valley	2,759	29	67.2	+0.8	103	10	35	30	42	1.22	−0.55	0.93	0	6	13	8	10	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	65.4	−2.3	102	7	28	30	55	0.96	−0.77	0.46	0	4	22	4	5	c.	C. L. Hall.
Bismarck	Burleigh	1,674	60	68.0	+0.7	104	14	33	28	45	1.14	−0.68	0.48	0	10	14	13	4	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	64.8	+0.7	93	7†	35	28†	40	2.76	+0.57	0.72	0	11	20	6	5	se.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	66.9	−0.8	102	14	35	31	50	1.73	+0.37	0.76	0	5	22	7	2	nw.	George Larsen.
Cando	Towner	1,488	34	......	......	......	......	......	......	......	2.63	+0.50	0.46	0	16	9	11	11	nw.	A. J. Swanson.
Carrington	Foster	1,579	37	65.8	−1.0	97	14	34	29	37	1.58	−0.54	0.60	0	8	21	0	10	se.	L. A. Swanson.
Carson	Grant	2,500	23	68.1	+0.2	105	7	35	27	44	1.14	−0.38	0.82	0	4	19	9	3	nw.	J. W. Evens.
Cavalier	Pembina	894	25	65.8	......	99	14	33	31	43	2.48	+0.22	0.88	0	14	11	17	3	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	66.1	......	99	15	33	28	43	3.07	+0.81	0.85	0	11	19	8	4	nw.	Theo. Marquardt.
Corinth	Williams	2,180	7	......	......	......	......	......	......	......	2.40	......	1.50	0	8	......	......	......	s.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	......	......	......	......	......	......	......	1.83	......	0.72	0	8	16	11	4	se.	Geo. E. Berg.
Crosby	Divide	1,954	28	63.2	−1.4	101	10	33	27	48	0.64	−1.28	0.28	0	6	20	5	6	nw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	64.0	−0.8	97	14	37	31	36	4.52	+2.04	6.98	0	15	13	10	8	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	64.8	−1.5	103	10†	30	30	51	1.83	+0.04	0.54	0	9	16	11	4	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	64.2	......	90	10†	38	30†	38	2.53	+0.67	0.55	0	13	17	7	7	nw.	R. L. Williams.
Drake	McHenry	1,634	6	63.8	......	101	14	37	31	42	3.18	......	0.86	0	11	12	11	8	se.	Peter Anton.
Dunn Center	Dunn	2,191	36	64.6	−1.6	101	10	31	30	50	1.06	−0.35	0.46	0	5	23	4	4	nw.	W. F. Moede.
Dunseith	Rolette	1,682	39	63.0	−0.9	94	14	36	28	40	3.09	+0.71	0.79	0	12	13	11	7	ne.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	64.0	−0.2	98	14	34	31	48	2.33	+0.26	0.76	0	11	9	18	4	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	68.0	+1.1	103	13	31	29	52	2.81	+0.55	1.59	0	3	11	16	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	62.8	......	96	14	29	31	39	4.73	+2.72	1.05	0	13	15	8	8	nw.	E. D. Warner.
Ellendale	Dickey	1,457	40	68.4	−0.4	102	14	35	28	48	4.80	+1.72	2.12	0	5	21	6	4	nw.	J. E. Demmer.
Energy ‡‡	McLean	1,750	23	65.6	......	103	14	31	28	52	1.58	−0.27	0.45	0	7	12	17	2	nw.	H. S. Solenberger.
Fairfield	Billings	......	6	......	......	......	......	......	......	......	1.32	......	0.90	0	3	24	4	3	se.	F. R. Hecker.
Fessenden	Wells	1,610	23	64.6	−0.7	103	14	34	28	44	2.43	+0.26	0.52	0	13	8	13	10	se.	T. D. Monsen.
Forman	Sargent	1,249	42	......	......	......	......	......	......	......	3.95	+1.21	2.16	0	6	26	1	4	se.	Helge Dyste.
Fort Yates	Sioux	1,670	35	70.4	+1.1	109	14	29	28	56	0.55	−1.45	0.25	0	3	19	4	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	61.9	......	97	14	31	31	43	1.40	−0.34	0.58	0	11	8	16	7	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	......	......	......	......	......	......	......	2.19	+0.73	0.90	0	5	21	6	4	nw.	Verne King.
Fullerton	Dickey	1,439	37	68.7	+1.6	103	15	36	28	49	6.64	+4.06	3.74	0	7	21	7	3	nw.	F. O. Alin.
Gackle	Logan	1,951	5	67.6	......	101	14	35	28	39	1.75	......	0.67	0	6	15	13	3	nw.	A. H. Haut.
Garrison	McLean	1,901	58	65.6	−0.5	105	14	33	30	46	1.70	−0.32	0.45	0	11	13	15	3	nw.	W. F. Robinson.
Grafton	Walsh	827	43	67.6	+2.4	98	14	32	31	40	2.39	−0.08	1.05	0	10	9	13	9	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	44	65.6	+0.2	98	14	32	31	38	5.32	+2.84	1.86	0	14	8	16	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	63.7	−1.1	99	14	33	31	43	2.66	+0.81	1.26	0	10	12	14	5	nw.	W. A. Christianson.
Hankinson	Richland	1,068	6	69.4	......	101	15	36	31	43	4.49	......	0.90	0	10	25	3	3	nw.	R. G. Stock.
Hannah	Cavalier	1,568	43	65.4	......	99	7	34	28†	42	2.04	+0.22	0.41	0	12	8	18	5	nw.	James Muir.
Hansboro	Towner	1,597	27	62.8	+0.4	98	7	35	28	49	2.95	+0.75	0.73	0	10	22	3	6	nw.	C. E. Blackorhy.
Hettinger	Adams	2,675	28	69.2	+0.4	104	14	29	30	50	1.54	+0.24	0.89	0	5	25	4	2	nw.	Glenn Brokaw.
Hillsboro	Traill	901	29	68.3	+0.8	100	14	36	31	43	4.13	+1.64	1.25	0	12	16	9	6	nw.	H. F. Lund.
Howard ‡‡ (near)	Williams	2,275	28	64.9	0.0	103	10	35	26†	46	0.28	−1.23	0.18	0	4	16	13	2	nw.	C. P. Ausbaugh.
Jamestown	Stutsman	1,457	43	66.2	−0.2	101	14	32	28	44	3.86	+1.33	1.60	0	8	11	18	2	u.	S. Calvelage.
Kenmare	Ward	1,799	4	65.8	......	99	14	36	31	42	1.47	......	0.48	0	10	13	15	3	nw.	R. Costello.
Langdon	Cavalier	1,615	39	64.0	+1.5	102	14	33	31	47	3.74	+1.27	0.84	0	11	17	7	7	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	65.6	+0.6	96	14	34	31	40	3.71	+1.07	0.96	0	10	19	5	7	nw.	Mahel Walsh.
Linton	Emmons	1,711	18	69.8	+0.6	109	14	26	28	53	0.87	−1.14	0.30	0	7	14	15	2	n.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	67.4	+0.4	101	14	35	28	46	4.22	+1.88	2.38	0	12	13	13	5	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	17	65.6	......	100	14	32	28	38	2.62	+0.87	1.35	0	11	28	1	2	se.	Edw. Tapley.
McLeod	Ransom	1,075	24	68.6	+0.7	103	15	35	28	45	3.44	+1.29	1.70	0	8	18	8	5	se.	J. G. Carlson.
Maddock	Benson	1,604	20	65.0	−0.7	100	14	33	28	42	5.61	+3.40	1.42	0	14	9	15	7	nw.	A. T. Fetland.
Mandan	Morton	1,750	21	68.4	+0.3	104	14	32	28	46	1.34	+0.16	0.48	0	9	13	7	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	......	......	......	......	......	......	......	3.14	+0.79	1.35	0	12	19	7	5	......	P. B. Anderson.
Marmarth	Slope	2,714	26	68.6	+1.3	105	10	31	30	51	0.78	−0.96	0.33	0	4	20	6	5	se.	S. P. Grune.
Mary	McKenzie	......	6	......	......	......	......	......	......	......	1.12	......	0.65	0	5	21	7	3	se.	Fred Hartman.
Max	McLean	2,093	6	62.8	......	100	14	30	28	46	1.93	......	0.70	0	12	15	4	12	......	A. W. Rice.
Mayville	Traill	975	39	68.8	+1.8	101	15	32	28	41	4.70	+2.08	1.62	0	9	14	4	14	n.	H. B. Addicott.
Minot	Ward	1,557	39	63.7	−1.3	99	14	31	28	45	1.21	−0.80	0.44	0	8	4	25	2	nw.	Mark M. Chatfield.
Mohall	Renville	1,616	41	65.3	+1.4	100	14	34	31	56	1.87	+0.06	0.50	0	10	7	18	6	nw.	John Behan.
Mott	Hettinger	2,424	28	68.4	+1.3	104	7	30	30	50	1.29	−0.48	0.74	0	6	18	8	5	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	43	66.8	+0.4	105	14	29	28	51	1.34	−0.99	0.46	0	9	22	3	6	nw.	C. J Hoof.
New England	Hettinger	2,400	41	67.8	+0.9	104	10†	31	29	46	1.44	−0.15	0.33	0	7	15	11	5	nw.	F. S. Sleight.
New Salem	Morton	2,163	31	70.2	+3.0	105	15	35	31	49	1.77	+0.19	0.83	0	6	23	5	3	nw.	J. Christiansen.
Oakes	Dickey	1,318	6	69.8	......	104	15	33	28	49	5.86	......	2.62	0	7	12	13	6	nw.	Eugene Naylor.
Park River	Walsh	998	31	68.2	+2.0	97	14	32	31	45	2.34	+0.06	0.60	0	10	18	7	6	nw.	C. B. Wright.
Parshall	Mountrail	1,929	20	63.2	......	102	15	26	30	50	1.15	−0.68	0.42	0	8	12	17	2	nw.	C. E. Shubert.
Pembina	Pembina	789	61	......	......	......	......	......	......	......	2.26	0.00	1.02	0	11	16	3	12	nw.	E. H. Kruse.
Petersburg	Nelson	1,520	5	......	......	......	......	......	......	......	3.89	......	1.01	0	13	16	6	9	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	66.4	−1.9	106	6	31	28	53	1.69	−0.74	0.81	0	4	14	9	8	nw.	Wm. R. Dahl.
Portal	Burke	1,954	30	62.6	−1.6	98	7	32	31	46	1.78	−0.15	0.93	0	6	17	5	9	e.	R. G. Wegener.
Powers Lake	Burke	2,205	30	63.9	......	98	14	30	28	40	1.41	−0.08	0.70	0	4	17	12	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	19	67.2	−0.9	105	14	42	26†	41	1.75	+0.18	0.56	0	5	15	9	7	nw.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	......	......	......	......	......	......	......	1.82	......	0.33	0	13	6	18	7	nw.	W. B. Paterson.
Ryder	Ward	2,108	6	......	......	......	......	......	......	......	1.72	......	1.09	0	5	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	66.0	......	105	14	29	30	52	1.31	......	0.44	0	9	16	8	7	w.	H. J. Bugge.
Sharon	Steele	1,516	11	64.6	......	96	14	34	28	34	3.92	+1.87	1.91	0	12	14	11	6	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	......	......	......	......	......	......	......	1.07	−0.56	0.35	0	5	15	15	1	nw.	H. J. Giffey.
Steele	Kidder	1,857	41	67.4	+0.7	106	14	30	28	45	1.07	−1.30	0.34	0	6	12	15	4	nw.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	......	......	......	......	......	......	......	1.57	......	0.60	0	10	16	11	4	nw.	G. N. Pilgard.
Tioga	Williams	2,279	6	......	......	......	......	......	......	......	0.55	......	0.18	0	4	24	5	2	nw.	Anton Carlson.
Towner	McHenry	1,482	33	64.5	−0.9	96	14	35	28†	42	2.20	+0.31	0.50	0	11	18	8	5	nw.	J. A. Gilje.
Trotters	Golden Valley	......	9	......	......	......	......	......	......	......	1.66	......	0.99	0	4	22	3	6	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	67.1	+0.7	105	11†	34	28†	50	1.40	−0.95	0.48	0	10	21	0	10	e.	M. A. Slettum.
Tuttle	Kidder	1,936	27	......	......	......	......	......	......	......	0.74	−1.22	0.35	0	6	15	13	3	nw.	Adam Leno.
Valley City	Barnes	1,245	29	68.8	+2.0	100	14	33	28†	48	4.54	+2.47	1.40	0	13	10	18	3	nw.	I. C. Robertson.
Velva	McHenry	1,511	8	65.0	......	96	14	33	28	40	2.67	......	0.77	0	9	8	17	6	nw.	Oscar Anderson.
Wahpeton	Richland	962	43	72.0	+4.1	102	15	36	28	40	3.25	+0.50	1.04	0	9	24	0	7	nw.	C. G Lnick.
Washburn	McLean	1,731	34	66.3	−1.1	100	14	32	28	42	1.35	−0.08	0.33	0	7	15	5	11	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	64.4	−0.3	94	23	35	31	43	1.97	−0.07	0.67	0	12	15	10	6	nw.	D. W. Drake.
Williston	Williams	1,878	56	66.8	+0.7	103	10	37	30	42	1.09	−0.38	0.41	0	7	19	9	3	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	62.8	−0.8	95	14	33	28	43	3.52	+1.52	1.45	0	12	14	12	5	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	6	67.0^{d}	+1.2	104^{d}	14	27^{d}	28	52^{d}	0.85	−1.26	0.30	0	5	11	3	17	ne.	E. W. Davis.
Zap	Mercer	1,838	20	......	......	......	......	......	......	......	0.84	−0.98	0.28	0	7	4	6	21	......	R. A. Norton.
Moorhead, Minn.	Clay	935	54	68.6	+2.5	102	15	39	28	38	4.59	+1.70	3.43	0	13	12	11	8	s.	U. S. Weather Bureau.
Averages	......	......	......	66.2	0.0	109	14	26	28†	56	2.34	+0.30	3.43	0	8	16	9	6	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora.

Daily Precipitation for August 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri								.38							T.	T.	T.	T.	.64				.40									1.42
Amenia	Red	T.	.30			.12	T.	.72				T.				T.	1.10	.15		1.10	.15				T.		T.			T.			3.64
Arnegard (near)	Missouri	T.										T.							T.	.40	T.			.03					T.				0.43
Ashley	Missouri		.18															T.		.82							.54						1.54
Beach	Lit. Missouri								.01								.15		.06	.93			.01	.06									1.22
Berthold Agency	Missouri	.04							.46										.18	.28													0.96
Bismarck ***	Missouri	.48				.03		T.	.04			T.				T.	.38	T.	.01	.11	.01	T		T.	T.	.02	T.		.04	.02			1.14
Bottineau	Mouse	.03	.64	.02					.17			.36					T.		.40	.02	.17				.72				.18	.05			2.76
Bowman	Grand	.76			T.							T.				T.	.62	.02		.30				.03									1.73
Cando	Devils Lake	.37	.34		.01	.01			.06	.46		.11	.13				.46	.08	.14	.08	.10				.11					.15	.02		2.63
Carrington‖‖	James	.60				.48	.30					.03					T.	T.	.02	.09				.03					.03				1.58
Carson	Heart								.12								.82	.08			.12												1.14
Cavalier	Red	.17	.88			.23	.09	.01	T.	.04		.01	.08				.73	.04		.02	.01				.11					.06			2.48
Cooperstown	Sheyenne	.44	.35			.85	T	.28					.16				.25			.38	.07				.07				T.	.19	.03		3.07
Corinth	Missouri	.17			.04							1.50						.04	.13	.18				.18					.16				2.40
Courtenay	James		.72				.43	.15					.04					.03			.40			T.					T.	.05	.01		1.83
Crosby	Mouse	.03			T.							.12								.28	.03				.13					.05			0.64
Devils Lake ***	Devils Lake	.96	.02			.34	.01	.65	.02	.76		.09				.20	.67		.16	.04					.21	T.			.10	.29	T.		4.52
Dickinson‖‖	Heart	.17				T.				.54			.02				.10	.21	.01	.22	.49			T.	.07	T.				T.			1.83
Dogden Butte	Mouse	.22	.34			.01			.04	.18		.03					.55	.08	.10	.34	.27				.27					.10			2.53
Drake‖‖	Mouse	.06	.54				T.	.86	.17	.07			T.				.05	.63	.06		.55				.09	T.				.10			3.18
Dunn Center	Knife	.15	.12																.22	.11	.46												1.06
Dunseith	Mouse		.54					.02	.12			.68	.05				.04		.46	.03	.22				.79				.05	.09			3.09
Eckman	Mouse	.03	.13				.06	.54				.20					T.		.18	.09	.20				.76				.06	.08			2.33
Edgeley	James		.79														.43			1.59													2.81
Edmore	Devils Lake	.33	1.05			.12	T.	.73		.05	.25	.19				.14	.80		.28	.06					.66				.07	T.			4.73
Ellendale	James	.18	.67															2.12		1.78			T.		T.		.05						4.80
Energy	Missouri	.13				.18		.25		.05		T.					.45			.42					.10					T.			1.58
Fairfield	Knife																.12			.90				.30									1.32
Fessenden‖‖	James	.18	.52			.23			.12	T.			.03				.50	.45	.12	.05	.11	.01			.05					.06			2.43
Forman	Sheyenne	T.	.41						.11									2.16		.40	.80						.07			T.			3.95
Fort Yates	Missouri					.24										.25	T.			.06		T.			T.								0.55
Foxholm (near)	Mouse	.01	.11			T.	T.	T.	.01	T.		.22				T.	.01		.08	.10	.11			T.	.58				.03	.14			1.40
Fryburg	Heart				.17											.10				.87	.15					.90			T.				2.19
Fullerton	James	.07	.70					.15										1.80		3.74			.11		T.		.07			T.			6.64
Gackle	James	.13	.44			.15														.35			.67		.01								1.75
Garrison	Missouri	.18	.45			.06			.05	.22							.03	.10	.05	.06	.27				.23					T.			1.70
Grafton	Red	.09	.23			.15			1.05	.03		T.	.09				.35	.09	T.	.05					.26					T.			2.39
Grand Forks ***	Red	.10	.10			.51	T	.46	.30	.01		.05				T.	1.86	.16	T.	.70	.03				.88				.01	.15			5.32
Granville	Mouse	.14	.15			T.	.32	.04		1.26		T.					.12		.12	.10	.22					T.				.19			2.66
Hankinson	Red	.90					.29										.31	.90		.89		.29		.04	.22	.19				.46			4.49
Hannah	Pembina	.04	.24			.07		T.	.05	T.		.40					.28	.10	.41	.02	.02			T.	.21					.20			2.04
Hansboro	Devils Lake	.04	.53			.10			.22			.70					.28		.17	.03					.73					.15			2.95
Hettinger	Grand	.03				.41		T.									.89	.02		.19													1.54
Hillsboro	Red	.10	.13			.70		.18	.05				.13					1.25	.21	.70	.23			.35						.10			4.13
Howard (near)	Missouri	T.	T.			.04			T.			.05					.01	T.			.18			T.			T.		T.				0.28
Jamestown	James	.36				.43	1.60		.55								T	.11		.20	.52					T	.09						3.86
Kenmare	Mouse	.08				.11				.09		.48					.05		.27	.09	.17				.05					.08			1.47
Langdon	Pembina	.06	.60			.07	.07		.12				.52				.68	.84	.58											.12	.08		3.74
Larimore	Red	.18	.23			.64			.52	.13							.50	.05		T.	.15				.96					.35			3.71
Linton	Missouri	.30	.14			.15				T.							.11			.12				.04	.01		T.						0.87
Lisbon	Sheyenne		.35					.05	.15									.59	.38	.13	2.38		.08			.01	.06			.01	.03		4.22
McClusky	Missouri	.16	.19			.23	T.		.04	.17							1.35	.08	.02	.26	.04				.08								2.62
McLeod	Sheyenne		.10			.22		T.	.16									.93			1.70		.02				.14			.17			3.44
Maddock	Sheyenne	1.12	.92			.43		.17	.20	.03			.13				1.42	.33	.10	.09	.14				.07		T.		T.	.46			5.61
Mandan‖‖	Missouri	.48			.03				.04							.42	.10	.01	.09	.16			T.	T.		T.			.01				1.34
Manfred	James	.55	.13			.35				.05		.01					1.35	.13	.20	.08	.15				.03				T.	.11			3.14
Marmarth	Lit. Missouri	.05			.15											T.	.25			.33				T.	T.								0.78
Mary	Lit. Missouri											.08				T.			.16	.65	.11			.12									1.12
Max‖‖	Missouri	.20	.10			.02			.70	.14							.10	.14	.04	.08	.29				.07					.05			1.93
Mayville	Red	.28	.34			.60			.11				.12					1.62		.60	.90									.13			4.70
Minot	Mouse	.03	.44	T.								T.	.09					T.	.08	.16	.23				.06					.12			1.21
Mohall	Mouse	.05				T.		T.	.01	.05		.50					.03		.30	.15	.27			T.	.40				T.	.11			1.87
Mott	Cannon Ball	.01				.07			.38								.74	.02		.07													1.29
Napoleon‖‖	Missouri		.46				.09										.08	.02	.01	.01	.16		.15			T.	.36						1.34
New England	Cannon Ball								.26							.26	.23		.24	.33			.01	.11									1.44
New Salem	Heart										.21							.83	.02		.27	.22				.22					T.		1.77
Oakes	James		.55						.03									2.62		2.43	.15		.03				.05						5.86
Park River	Red	.60						.46	.02		.10	.06				.17	.43			.04				.41					.05				2.34
Parshall	Missouri	.42			.12			T.	T.			T.				T.	.01		.22	.04	.24			.08					.02				1.15
Pembina	Red	.09	.28			.28			.07	.02	.14	.06					1.02		T.	.04				.12						.14			2.26
Petersburg	Red	.16	.40			.81			1.01	.10			.04				.15	.05		.20	.02				.69					.21	.02		3.86
Pettibone	James	.34					.81	T.												.30			.24										1.69
Portal‖‖	Mouse		.24			.04							.93						.30		.15				.12								1.78
Powers Lake	Missouri											.70						.32		.22									.17				1.41
Richardton	Heart	.30							.30							T.	.45			.56	.14			T.	T.				T.				1.75
Rugby [near]	Mouse	.24	.18		.01	.04				.08		.11				.20			.05	.26	.14			.05					.13	.33	T.		1.82
Ryder	Missouri	.05							1.09										.25	.24									.09				1.72
Sanish‖‖	Missouri	.05	.27			.44	T.			.03									.12	.08	.23				.03					.06			1.31
Sharon	Red	.29	.37			1.91	T.		.01			T.	.18			T.	.21	.05	T.	.39	.05				.18				T.	.20	.08		3.92
Stanton	Missouri	T.								.21		T.					.28	.07		.35	.16												1.07
Steele	Missouri	T.	.34			.11		T.	.07								.34			.16					T.					.05			1.07
Tagus	Mouse	.18				.09	.01		T.			.26				T.	.01		.12	.08	.07			T.	.60				.15	T.			1.57
Tioga	Missouri				.14												.07	.16		.18													0.55
Towner	Mouse	.14	.15							.50		T.					.14	.25	.08	.08	.42				.05		T.		.01	.38	T.		2.20
Trotters	Lit. Missouri				.12												T.		.38	.99				.17									1.66
Turtle Lake	Missouri	.01	.05			.11	.12		.08	.13							.48			.27	.09				.06					T.			1.40
Tuttle	Missouri	.02	.12			.19				T.							.35	T.		.05					T.					.01			0.74
Valley City	Sheyenne	.05	.39			1.15		.35	.32				.02					1.40	.09	.44	.05		.17		.04		.07			T.			4.54
Velva	Mouse	.77						.40		.74		.03					.13	T.	.09	.21	.15				T.				T.	.15			2.67
Wahpeton	Red		.27						.45									1.04	.05		.60		.08		.42		.15			.19			3.25
Washburn	Missouri	T.	.06					.15		.33		T.					.11	.33		.08	.29				T.								1.35
Westhope	Mouse	.05	.05			.08		T.	.03	.07		.67			.03	T.	T.		.28	.13	.21				.14	T.			.23				1.97
Williston ***	Missouri	T.	T.		.06		T.					.02	T.				.11	T.	.18	.30				.41			T.		.01				1.09
Willow City	Mouse	.20	1.45				.14	.11		T.	.04	.07			T.	T.	.05		.24		.30			T.	.76				.07	.09			3.52
Wishek‖‖	Missouri		.20					.06												.24					.05		.30						0.85
Zap	Knife	.17							.21							.08	.05		.02	.28				.03									0.84
Moorhead, Minn ***	Red	.03	.22	T.		T.	.32	T.	.05	T.		.03					T.	.41	.01	3.41	.02	.01			.03		.03			.02			4.59

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	92	85	84	89	90	94	92	88	89	90	92	80	100	100	75	65	76	80	70	76	82	80	85	78	80	72	64	70	68	69	68	81.4
	Minimum	57	67	49	52	60	60	65	65	68	70	57	52	54	71	60	52	55	60	56	46	48	52	54	48	52	49	34	40	38	36	34	53.6
Arnegard (near)	Maximum	82	79	77	90	81	84	102	92	85	108	86	76	95	103	85	63	64	71	65	68	83	93	96	78	82	65	58	65	63	58	72	79.6
	Minimum	60	48	47	53	52	50	49	52	51	62	64	52	51	68	56	47	47	52	48	42	42	59	62	59	42	32	38	35	30	41	42	49.3
Ashley	Maximum	86	80	80	89	86	90	95	87	88	93	89	80	89	103	102	76	69	88	83	72	77	86	90	89	81	80	66	68	67	68	70	82.8
	Minimum	63	57	53	54	67	56	60	58	57	48	65	51	47	59	72	56	49	55	54	49	49	59	66	55	44	44	40	31	45	35	37	52.7
Beach	Maximum	84	77	86	93	90	91	96	96	85	103	85	80	95	100	78	65	63	75	71	72	85	89	96	78	86	68	64	75	66	70	72	81.7
	Minimum	63	48	48	56	63	58	56	58	59	61	59	56	53	61	60	51	48	57	54	44	52	54	66	63	44	38	39	43	45	35	42	52.7
Berthold Agency	Maximum	75	78	81	88	80	95	102	94	83	100	85	82	93	100	81	68	72	80	66	72	85	91	100	91	90	66	61	71	67	73	70	81.9
	Minimum	65	51	49	50	63	47	47	54	53	55	60	50	48	64	48	46	40	56	53	43	50	48	63	64	39	40	36	30	45	28	34	49.0
Bismarck	Maximum	78	80	82	90	88	98	99	92	83	99	80	79	90	104	80	62	73	85	67	73	87	90	97	85	86	68	64	72	63	69	71	81.7
	Minimum	64	57	55	55	64	56	60	63	61	54	59	55	50	68	62	48	47	57	56	51	53	61	66	60	46	46	43	33	46	41	42	54.2
Bottineau	Maximum	82	73	72	71	81	88	93	88	77	90	89	76	86	93	93	86	72	70	62	69	79	85	91	86	82	72	62	69	64	67	65	78.5
	Minimum	57	50	49	56	62	61	55	59	55	52	55	45	56	59	54	54	51	54	48	50	51	55	62	62	42	40	37	35	40	35	40	51.0
Bowman	Maximum	85	78	87	93	85	92	98	97	83	103	85	80	94	102	90	60	68	79	72	75	86	89	96	82	90	71	66	78	61	68	75	82.8
	Minimum	60	49	49	55	65	60	55	67	55	56	55	49	47	56	52	47	47	54	48	39	50	52	65	63	40	38	38	45	40	50	35	51.0
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carrington §§	Maximum	69	79	75	83	84	92	88	88	86	92	76	79	88	97	84	60	72	78	64	74	82	85	88	78	82	76	74	76	71	72	71	79.5
	Minimum	56	60	61	61	60	59	58	60	58	55	52	55	56	59	52	46	48	54	52	46	48	56	66	52	46	42	38	46	34	35	42	52.0
Carson	Maximum	89	77	84	87	87	101	105	95	88	89	82	83	79	104	81	65	73	85	71	77	93	92	90	89	89	70	68	75	62	76	75	83.7
	Minimum	61	48	48	55	66	62	65	60	55	55	61	48	50	66	63	47	46	56	54	46	54	58	65	60	45	38	35	40	43	36	40	52.5
Crosby	Maximum	74	83	86	85	83	89	97	92	75	101	86	79	94	99	68	54	68	72	56	71	88	91	96	75	85	67	64	63	66	70	72	79.0
	Minimum	51	49	49	54	50	51	49	50	52	51	50	49	53	54	55	48	45	48	47	45	45	49	52	56	55	37	33	38	37	37	34	47.5
Devils Lake	Maximum	69	76	74	80	84	86	91	85	80	85	73	77	85	97	81	59	70	72	59	70	77	83	86	75	81	64	60	66	62	65	63	75.3
	Minimum	58	58	54	52	65	54	62	59	61	56	56	51	55	61	59	49	48	56	52	53	51	55	63	55	49	45	40	38	44	42	37	52.8
Dickinson §§	Maximum	87	79	81	91	85	94	101	98	82	103	73	80	94	103	72	53	67	80	58	72	84	89	98	76	89	67	64	71	62	70	72	80.6
	Minimum	60	45	47	52	61	54	54	59	54	55	59	52	46	52	62	51	44	45	55	44	44	49	54	67	39	39	39	33	42	30	33	49.0
Drake §§	Maximum	71	76	74	80	83	88	88	84	77	92	71	78	88	101	77	54	68	77	57	71	80	84	91	75	82	66	61	69	62	68	65	76.1
	Minimum	58	52	52	52	62	54	55	59	58	52	58	51	53	59	57	52	44	49	51	52	50	53	57	66	46	45	40	39	43	39	37	51.5
Dunn Center	Maximum	83	76	80	88	83	91	98	92	82	101	75	77	91	100	72	63	67	75	57	70	82	87	96	74	87	67	64	71	62	57	80	79.0
	Minimum	61	48	49	51	66	49	48	50	59	52	70	53	46	58	63	54	43	49	55	45	48	52	59	64	47	39	38	34	42	31	34	50.2
Dunseith	Maximum	78	71	69	75	81	86	92	82	76	87	82	73	85	94	93	65	69	68	68	69	77	84	88	83	78	74	58	61	61	65	65	76.0
	Minimum	54	48	50	50	59	53	52	61	58	54	54	49	51	59	61	49	42	51	50	49	48	53	61	64	43	37	38	36	38	39	38	50.0
Edgeley	Maximum	88	86	84	81	85	87	89	88	85	88	85	87	103	99	87	85	71	86	86	82	85	82	79	74	76	80	74	64	67	66	66	82.1
	Minimum	60	64	55	55	68	67	67	65	56	57	56	56	51	71	60	51	52	56	54	45	50	60	56	51	51	54	39	40	31	38	34	53.9
Ellendale	Maximum	89	82	83	89	88	93	95	87	91	95	89	81	87	102	101	76	60	87	61	70	80	82	87	78	78	68	64	67	62	70	62	80.8
	Minimum	61	60	58	56	72	62	63	64	60	53	66	55	56	54	74	58	51	57	55	52	50	61	68	69	49	48	44	35	45	40	41	56.0
Fessenden §§	Maximum	65	76	75	81	85	90	90	89	81	94	75	80	88	103	81	52	70	78	58	71	81	86	91	76	83	68	82	70	63	70	69	78.1
	Minimum	58	53	52	49	63	52	55	59	60	50	58	49	49	60	65	50	45	50	54	53	46	54	61	70	44	43	38	34	40	36	34	51.1
Foxholm (near)	Maximum	75	68	71	75	76	93	87	86	76	88	87	71	82	97	90	57	65	69	67	66	80	80	89	88	71	70	59	56	60	59	64	74.9
	Minimum	56	48	49	50	58	50	53	54	55	55	53	49	53	65	57	45	45	50	46	45	48	48	58	60	44	39	38	35	41	38	31	48.9
Fullerton	Maximum	88	82	81	89	89	93	98	88	91	96	90	80	90	102	103	76	63	88	81	72	79	84	87	78	78	73	63	67	61	70	66	82.1
	Minimum	62	61	57	54	71	60	61	63	60	49	65	53	54	53	72	57	51	59	56	51	49	60	67	69	48	48	44	36	45	39	39	55.3
Garrison	Maximum	75	73	78	84	84	89	97	89	83	99	72	80	93	105	75	55	70	81	56	73	86	89	97	87	76	74	69	72	66	73	75	79.8
	Minimum	60	50	52	54	65	52	55	57	58	54	60	54	50	59	62	53	43	47	53	46	44	55	61	67	66	34	39	34	42	33	38	51.5
Grafton	Maximum	86	80	79	83	84	91	94	92	89	86	86	85	88	98	97	75	69	72	71	72	78	85	88	87	85	84	82	66	65	66	64	81.5
	Minimum	60	57	55	50	62	58	63	62	66	51	61	54	53	58	74	52	50	58	55	56	44	53	63	63	48	46	44	35	47	38	32	53.8
Grand Forks	Maximum	72	80	76	81	79	90	93	87	87	86	81	79	87	98	94	65	63	75	61	71	75	82	85	74	79	67	60	65	63	67	62	76.9
	Minimum	59	61	56	51	66	61	62	65	60	54	60	54	51	60	65	51	51	59	57	54	50	57	67	58	49	49	40	37	44	39	32	54.3
Granville	Maximum	72	74	75	80	85	91	91	87	80	92	72	78	88	99	75	63	71	68	62	72	82	85	95	84	84	66	63	69	64	70	68	77.6
	Minimum	58	51	52	62	60	48	53	55	55	52	55	50	51	60	55	50	43	53	48	51	48	50	62	52	43	41	38	34	45	37	33	49.8
Hansboro	Maximum	68	75	70	75	85	90	98	83	78	88	78	76	86	95	79	66	70	68	68	72	79	88	87	81	80	68	58	62	64	65	66	76.3
	Minimum	55	56	50	48	54	47	49	57	56	49	56	50	54	59	60	49	42	50	53	50	44	50	58	65	43	42	38	35	40	36	36	49.4
Hettinger	Maximum	90	82	89	97	88	96	100	98	88	103	93	81	94	104	95	66	71	83	73	75	90	89	97	90	89	86	73	63	77	72	69	85.8
	Minimum	63	47	47	58	66	60	62	65	55	58	65	49	46	65	64	49	54	58	52	43	45	52	67	63	39	40	41	43	42	29	42	52.5
Hillsboro	Maximum	86	80	80	85	82	94	92	92	93	91	89	81	89	100	99	79	62	77	77	71	77	85	87	83	82	79	65	69	63	70	73	81.7
	Minimum	60	62	57	51	66	63	59	61	67	53	54	54	55	57	72	58	52	59	58	54	47	57	67	50	51	50	44	38	48	39	36	54.9
Howard (near)	Maximum	81	74	81	86	83	90	96	93	83	103	89	79	95	100	82	63	68	70	72	71	87	92	87	76	87	68	63	68	68	72	68	80.5
	Minimum	59	50	46	54	54	56	54	51	42	60	54	57	55	54	52	50	42	44	44	40	54	53	64	57	45	35	35	48	46	38	35	49.3
Jamestown	Maximum	82	81	75	87	88	94	92	83	85	92	84	80	87	101	90	66	68	85	59	70	80	85	89	80	83	68	63	71	63	71	75	79.9
	Minimum	64	59	51	50	60	57	58	63	65	53	59	52	52	57	66	55	48	49	56	51	47	52	63	69	45	45	42	32	37	35	39	52.6
Kenmare	Maximum	85	75	78	83	85	92	97	94	88	98	68	77	88	99	97	66	68	72	58	71	84	88	95	75	85	82	64	66	67	70	72	80.2
	Minimum	55	51	53	56	60	53	55	53	54	60	54	54	57	69	59	46	48	49	51	46	52	54	61	59	49	43	38	38	41	41	26	51.5
Langdon §§	Maximum	60	80	80	82	87	92	100	86	85	88	80	86	92	102	86	58	68	60	58	67	80	85	83	78	83	67	60	66	68	65	63	77.3
	Minimum	55	55	50	58	61	50	54	58	58	58	56	50	54	55	68	54	46	48	52	48	48	52	55	63	43	43	39	34	40	37	33	50.8
Larimore	Maximum	82	75	75	81	83	87	90	86	84	86	81	78	85	96	93	74	66	75	71	68	78	81	86	82	77	73	62	66	61	67	63	77.8
	Minimum	58	62	54	47	62	56	60	61	66	50	63	52	52	56	70	52	48	57	56	53	49	54	61	62	47	46	43	35	47	38	34	53.3
Linton	Maximum	89	82	84	95	93	100	101	95	90	101	96	84	95	109	103	80	90	88	89	82	95	94	98	90	86	78	69	74	65	74	75	88.5
	Minimum	65	52	47	58	69	55	63	58	55	48	54	48	43	66	65	53	46	45	59	44	56	61	58	69	36	41	36	26	44	28	39	51.2
Lisbon §§	Maximum	85	82	81	85	87	93	96	86	89	91	90	79	87	101	100	75	68	85	60	71	78	83	89	79	78	67	62	66	61	68	71	80.4
	Minimum	62	64	56	52	68	63	61	66	64	51	57	54	50	55	62	63	52	53	59	54	47	52	62	69	48	50	44	35	39	37	41	54.5
McClusky	Maximum	80	80	75	82	83	87	88	85	80	90	91	85	86	100	92	72	69	77	76	70	81	85	92	90	81	78	75	69	63	70	69	80.7
	Minimum	51	49	48	52	62	54	59	52	51	55	56	53	50	62	55	46	42	55	52	50	43	57	61	68	44	43	44	32	49	35	35	50.5
Maddock	Maximum	86	76	73	80	83	88	89	87	83	90	89	76	88	100	89	71	69	79	74	69	80	86	91	78	82	79	62	68	62	68	64	79.3
	Minimum	57	54	52	51	63	49	53	56	59	49	56	50	49	58	60	49	45	55	51	56	45	52	61	64	45	43	39	33	44	39	36	50.7
Marmarth	Maximum	88	87	88	96	85	93	99	98	88	105	98	82	95	102	96	61	67	70	72	71	87	92	98	87	91	87	68	70	70	73	70	85.0
	Minimum	62	47	48	65	60	61	55	64	57	62	52	52	45	60	61	52	47	50	56	40	47	52	68	65	40	42	38	45	45	31	48	52.2
Minot	Maximum	74	74	77	81	84	93	93	87	82	94	69	78	89	99	78	57	71	76	57	74	82	87	95	76	85	67	59	69	66	72	67	77.8
	Minimum	59	50	51	51	61	50	51	54	58	53	63	52	49	62	60	50	48	51	48	46	45	52	54	59	40	41	40	31	43	34	32	49.6
Mohall	Maximum	68	74	76	79	83	92	91	91	87	96	93	71	89	100	99	68	70	75	70	71	85	88	97	91	83	82	62	61	67	68	70	80.5
	Minimum	59	50	52	49	61	48	71	56	56	40	56	55	53	60	64	42	41	51	48	47	45	52	61	61	44	40	39	38	41	38	34	50.1
Mott	Maximum	93	87	90	97	91	98	104	98	82	102	87	82	94	103	85	69	69	84	79	77	91	90	98	92	89	75	66	75	64	73	73	85.7
	Minimum	60	48	60	55	65	53	58	64	56	54	65	50	47	65	59	47	44	57	45	43	53	53	64	58	39	41	38	34	43	30	35	51.1
Napoleon §§	Maximum	83	78	79	90	87	96	100	94	88	97	81	82	92	105	86	62	75	87	64	74	84	90	93	81	85	69	65	72	65	73	73	82.3
	Minimum	62	53	50	52	65	54	58	56	54	46	60	46	48	64	65	53	45	55	54	49	48	58	66	67	40	42	37	29	44	35	37	51.4
New England §§	Maximum	86	94	92	91	91	100	102	100	95	104	92	87	95	104	75	54	64	83	56	74	86	90	99	90	87	71	68	75	65	74	75	84.5
	Minimum	47	52	51	56	52	58	65	57	54	63	54	49	59	62	51	45	48	48	45	48	60	65	62	54	41	40	40	46	31	40	41	51.1
New Salem	Maximum	84	81	82	92	91	101	101	103	98	89	101	102	91	95	105	93	72	69	85	83	75	88	100	102	93	85	84	64	73	72	71	87.9
	Minimum	62	50	51	51	67	54	65	56	57	58	52	62	49	50	64	62	46	45	55	51	47	47	56	62	64	46	41	40	36	44	35	52.4
Oakes	Maximum	89	84	83	88	90	96	98	90	94	97	94	84	92	102	104	84	62	88	82	73	82	84	89	81	80	69	66	69	63	74	67	83.8
	Minimum	62	62	54	56	72	63	63	67	60	48	69	52	50	56	75	62	52	58	55	52	47	60	67	70	48	48	43	33	48	38	42	55.9
Park River	Maximum	70	78	75	81	84	88	92	87	85	85	76	80	87	97	90	61	70	72	68	71	78	84	86	83	81	67	61	64	64	66	64	83.7
	Minimum	57	57	55	50	62	57	62	61	63	52	61	54	54	52	58	52	49	52	50	54	49	51	57	62	58	47	44	37	41	41	32	52.6
Sharon	Maximum	73	76	73	82	81	85	87	85	85	84	84	77	84	96	88	66	64	76	63	70	74	81	85	76	79	68	63	68	62	68	62	76.3
	Minimum	57	60	52	53	62	62	58	62	64	53	58	50	50	65	66	50	47	56	54	52	47	54	62	61	46	45	40	34	46	36	38	52.9
Steele	Maximum	77	79	78	84	86	97	99	88	83	99	80	78	90	106	98	68	73	81	74	72	86	90	95	85	85	71	63	70	63	71	70	81.9
	Minimum	62	54	51	53	68	52	58	59	61	67	60	49	48	67	68	48	46	57	55	50	49	60	65	59	41	48	37	30	46	35	35	52.9
Towner	Maximum	78	77	76	80	85	90	92	89	89	88	75	79	88	96	75	70	70	74	73	72	80	86	91	85	82	75	68	68	66	68	65	79.0
	Minimum	57	50	51	50	62	48	52	57	59	53	52	48	50	61	57	50	44	53	48	52	49	49	63	63	44	40	38	35	44	36	35	50.0
Valley City	Maximum	86	81	77	87	86	93	93	91	89	98	97	83	88	100	99	92	64	87	90	72	82	85	88	91	82	86	70	74	72	75	71	81.8
	Minimum	61	60	51	50	64	61	59	60	62	50	58	51	47	55	73	56	50	56	55	52	44	48	64	62	44	47	42	33	46	33	42	52.8
Wahpeton	Maximum	93	85	82	85	90	95	98	97	95	93	95	87	88	100	102	101	83	91	92	74	78	90	89	87	81	80	70	66	67	70	71	86.3
	Minimum	60	64	57	52	72	63	67	66	68	53	70	53	55	60	73	62	54	62	61	55	49	61	66	64	51	54	46	36	48	39	44	57.6
Westhope	Maximum	75	75	74	80	83	90	92	84	87	90	65	77	87	93	83	84	73	71	70	71	80	89	94	86	84	80	63	64	66	70	67	78.9
	Minimum	58	50	51	49	62	48	49	58	50	54	52	49	54	60	58	45	51	54	49	47	47	55	62	62	44	39	37	36	42	37	35	49.8
Williston	Maximum	83	74	80	88	82	90	96	95	85	103	88	79	94	99	72	58	68	75	59	71	88	91	96	75	86	66	64	70	64	70	69	79.9
	Minimum	59	54	51	59	62	57	54	55	56	64	59	60	56	70	56	49	51	57	52	52	57	55	65	56	49	42	44	41	45	37	41	53.7
Moorhead, Minn	Maximum	83	83	77	81	89	93	94	86	90	90	90	80	89	100	102	76	63	85	66	70	76	83	86	76	79	67	62	66	60	67	63	79.8
	Minimum	63	65	58	55	71	65	65	68	67	57	59	56	57	62	67	55	54	61	57	55	49	61	67	62	53	53	46	39	48	42	39	57.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 9-26-35—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

UNIVERSITY OF ILLINOIS

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLIV Bismarck, N. D., September 1935 No. 9

GENERAL SUMMARY

The temperature averaged slightly above the normal, with unusually warm weather from the 13th to the 24th. Readings were above 100° in the south-central sections of the State on the 15th. Killing frost occurred at all stations between the 25th and 27th. The precipitation averaged considerably below normal. This was the third driest September since records began in 1892 and only the northeast section of the State received more than an inch of moisture. A few light dust storms were reported on the 15th, 16th, and 22d. September was an excellent month for outdoor work, but due to dry soil little fall plowing was accomplished in the central and western sections.

TEMPERATURE

The mean temperature for the State was 57.2°, or 0.8° above the 44 year average, and 4.8° higher than the mean for September 1934. The highest mean reported was 61.8° at Wahpeton, Richland County; the lowest was 52.8° at Edmore, Ramsey County and Hansboro, Towner County. The highest temperature reported was 105° at Steele, Kidder County on the 15th; the lowest was 16° at Portal, Burke County on the 26th and at Wishek, McIntosh County on the 27th. The greatest monthly range of temperature was 86° at Wishek, McIntosh County; the least was 54° at Foxholm, Ward County. The greatest daily range of temperature was 65° at Fort Yates, Sioux County on the 15th.

PRECIPITATION

The average precipitation for the State was 0.44 inch, or 1.14 inches below the 44 year average, and 0.52 inch less than the average for September 1934. The greatest monthly amount reported was 2.10 inches at Hannah, Cavalier County; there was none at Berthold Agency, McLean County, Crosby, Divide County, and Tioga, Williams County. The greatest amount recorded in any 24 consecutive hours was 0.97 inch at Hansboro, Towner County on the 24th. The average number of days with 0.01 inch or more of precipitation was 3.

MISCELLANEOUS PHENOMENA

Auroras: Bismarck, 23d, 25th, 30th; Corinth, Grand Forks, 30th; Devils Lake, 4th, 18th, 25th, 26th; Eckman, Willow City, 26th; Foxholm, 4th, 6th, 8th, 17th, 25th, 26th, 27th, 29th, 30th; Howard, 5th, 6th, 11th, 15th, 16th, 17th, 18th, 20th, 25th; Moorhead, 24th; Oakes, 10th, 24th, 25th; Parshall, 27th; Petersburg, 25th, 30th; Rugby, 1st; Tagus, 4th, 5th, 8th, 19th, 20th, 26th, 27th, 30th; Trotters, 29th, 30th; Tuttle, 5th, 27th; Williston, 10th, 16th.

Fog: Beach, Trotters, Williston, 26th; Bismarck, 7th, 8th, 9th; Cavalier, Ryder, 25th; Cooperstown, Edmore, Grafton, 14th; Crosby, New Salem, Parshall, Steele, Velva, 7th; Devils Lake, 7th, 9th, 13th, 14th, 24th, 25th; Eckman, Moorhead, 7th, 14th; Foxholm, Gackle, 12th; Grand Forks, Sharon, 13th, 14th; Granville, Pembina, 7th, 13th; Howard, 8th; Langdon, Rugby, Tagus, 13th; Pettibone, 6th, 13th; Richardton, 26th; Tuttle, 7th, 13th, 26th.

Hail: Sharon, 19th; Westhope, 19th, 26th, 27th.

Halos, Lunar: Bismarck, 20th; Eckman, 12th; Pembina, 9th, 12th; Williston, 10th, 11th, 13th.

Halos, Solar: Devils Lake, 27th; Moorhead, 20th, 23d, 29th; Sharon, 19th; Tagus, 30th; Williston, 6th, 27th.

Thunderstorms: Devils Lake, 15th; Dogden Butte, 13th, 24th; Eckman, Fullerton, McLeod, Oakes, Tagus, 25th; Edmore, 15th, 24th; Grand Forks, 3d; Hankinson, 24th; Moorhead, 11th, 12th, 25th, 30th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck........	29.96	30.51	26	29.50	15	8.9	31	nw.	25	73	37	40	65
Devils Lake.....	29.97	30.50	26	29.54	29	9.3	30	nw.	24	83	45	59	67
Grand Forks....	29.94	30.43	26	29.52	29	......	26	nw.	25	87	....	62	....
Williston........	29.97	30.52	26	29.54	15	8.2	30	w.	16	78	39	36	64
Moorhead, Minn	29.97	30.50	27	29.50	30	8.6	26	n.	30	82	44	51	71
Averages & ext's	29.96	30.52	26	29.50	15†	8.8	31	nw.	25	81	41	50	67

† And other dates.

COMPARATIVE DATA FOR SEPTEMBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	59.2	+2.8	101	24	0.84	−0.74	2.23	0.11	0	4	16	7	7
1893.	57.1	+0.7	102	8	0.81	−0.77	2.01	T.	0.1	4	18	7	5
1894.	58.2	+1.8	104	18	1.38	−0.20	5.47	0.07	0	5	15	7	8
1895.	56.6	+0.2	100	12	0.77	−0.81	1.81	T.	0	4	12	12	6
1896.	53.0	−3.4	98	11	1.83	+0.25	3.59	0.12	0	6	12	8	10
1897.	64.1	+7.7	109	18	0.28	−1.30	0.92	0.00	0	2	20	7	3
1898.	56.8	+0.4	98	10	1.25	−0.33	3.40	0.15	0	4	14	9	7
1899.	55.0	−1.4	101	11	0.58	−1.00	1.76	0.01	T.	3	17	9	4
1900.	54.6	−1.8	98	17	4.95	+3.37	9.72	1.41	T.	8	12	7	11
1901.	53.6	−2.8	100	12	2.01	+0.43	5.66	0.53	T.	7	10	8	12
1902.	53.6	−2.8	95	15	0.73	−0.85	2.08	T.	0	4	16	8	6
1903.	51.6	−4.8	90	18	2.99	+1.41	5.61	1.56	0.7	7	12	6	12
1904.	54.7	−1.7	96	18	1.65	+0.07	6.44	T.	0	5	14	7	9
1905.	59.8	+3.4	104	23	1.63	+0.05	7.17	0.22	0	5	16	8	6
1906.	62.8	+6.4	109	20	1.20	−0.38	3.19	0.01	0	4	19	6	5
1907.	52.1	−4.3	96	9	1.39	−0.19	4.02	0.28	T.	6	14	8	8
1908.	60.7	+4.3	104	16	1.11	−0.47	2.76	0.19	0.2	4	17	7	6
1909.	59.0	+2.6	93	24	0.86	−0.72	2.04	0.00	0	4	16	8	6
1910.	55.3	−1.1	99	18	1.96	+0.38	4.48	0.03	0.1	4	14	7	9
1911.	54.9	−1.5	95	21	2.49	+0.91	4.98	0.89	T.	8	12	8	10
1912.	51.5	−4.9	124	18	2.68	+1.10	7.67	0.89	0	10	11	6	13
1913.	57.2	+0.8	108	8	1.75	+0.17	4.98	0.64	0.4	6	16	8	6
1914.	59.3	+2.9	98	25	1.06	−0.52	3.14	0.28	0	5	16	8	6
1915.	54.6	−1.8	104	23	2.39	+0.81	5.03	1.27	0	9	10	8	12
1916.	55.1	−1.3	99	15	1.62	+0.04	5.64	0.03	T.	6	14	9	7
1917.	56.4	0.0	97	16	1.08	−0.50	3.79	0.05	0	5	12	9	9
1918.	51.9	−4.5	93	11	0.39	−1.19	1.43	0.00	T.	3	15	9	6
1919.	58.6	+2.2	100	20	0.92	−0.66	3.18	0.06	0.3	5	12	10	8
1920.	59.0	+2.6	99	19	2.26	+0.68	7.38	0.46	T.	8	15	9	6
1921.	57.0	+0.6	101	25	3.30	+1.72	6.83	1.37	T.	12	12	10	8
1922.	59.8	+3.4	104	23	2.16	+0.58	6.94	0.15	0	6	16	8	6
1923.	60.1	+3.7	99	15	2.39	+0.81	5.80	0.23	0	6	14	8	8
1924.	55.0	−1.4	98	20	2.31	+0.73	5.12	T.	T.	7	15	7	8
1925.	58.1	+1.7	103	20	2.74	+1.16	7.26	0.46	T.	8	12	8	10
1926.	52.3	−4.1	95	9	2.42	+0.84	5.00	0.39	0.5	9	11	9	10
1927.	56.8	+0.4	101	10	0.93	−0.65	4.46	0.00	T.	3	16	9	5
1928.	53.9	−2.5	95	12	0.93	−0.65	4.89	T.	T.	5	17	7	6
1929.	52.7	−3.7	105	12	1.65	+0.07	4.31	0.21	0	5	11	9	10
1930.	56.2	−0.2	98	10	1.02	−0.56	3.18	0.00	0	4	16	9	5
1931.	61.4	+5.0	107	27	2.14	+0.56	4.63	0.35	T.	6	18	7	5
1932.	56.8	+0.4	102	22	0.64	−0.94	2.26	T.	0	3	18	8	4
1933.	60.9	+4.5	101	22	0.79	−0.79	2.71	0.20	0	4	16	8	6
1934.	52.4	−4.0	95	9	0.96	−0.62	2.22	0.13	2.0	7	11	9	10
1935.	57.2	+0.8	105	16	0.44	−1.14	2.10	0.00	0	3	15	9	6
Per..	56.4	....	124	8	1.58	....	9.72	0.00	0.1	6	14	8	8

Climatological Data for September 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr. Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Precipitation, in inches Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	Number of days With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Alpha	Golden Valley		9								0.21		0.16	0	2	28	2	0	nw.	H. A. Bury.
Amenia	Cass	954	39	56.6	−0.7	84	23	23	26	42	0.10	−2.01	0.10	0	1	15	7	8	n.	I Idso.
Arnegard (near)	McKenzie	2,238	22	57.4	+1.1	87	14†	23	25	47	0.40	−1.03	0.25	0	2	23	4	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	59.2	+1.9	93	15	20	27	45	0.36	−1.09	0.17	0	3	23	4	3	se.	H. D. Piper.
Beach	Golden Valley	2,759	29	58.6	+2.2	90	14	28	26†	45	0.08	−1.24	0.08	0	1	10	14	6	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	55.6	−1.3	94	22	18	27	53	0.00	−1.46	0.00	0	0	21	1	8	e.	C. L. Hall.
Bismarck	Burleigh	1,674	60	60.2	+2.1	98	15	27	27	44	0.38	−0.85	0.24	0	4	11	13	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	56.0	+1.1	84	23	22	26	43	1.33	−0.29	0.69	0	7	17	8	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	59.0	+2.2	92	22	28	26	51	0.02	−1.18	0.02	0	1	24	5	1	nw.	George Larsen.
Cando	Towner	1,488	34								0.77	−0.85	0.36	0	10	16	8	6	nw.	A. J. Swanson.
Carrington	Foster	1,579	37	59.2	+2.6	93	15	26	25	46	0.66	−0.88	0.46	0	2	17	0	13	w.	L. A. Swanson.
Carson	Grant	2,500	23	60.0	+3.6	98	15	24	26	43	0.13	−1.61	0.13	0	1	23	6	1	nw.	J. W. Evens.
Cavalier	Pembina	894	25	54.6		85	16	30	27	43	1.70	−0.24	0.38	0	12	8	4	18	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	56.4.		87	16	23	26†	40	0.95	−0.84	0.43	0	7	20	6	4	nw.	Theo. Marquardt.
Corinth	Williams	2,180	7								0.11		0.08	0	2	14	10	6	nw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6								0.62		0.39	0	5	20	9	1	nw.	Geo. E. Berg.
Crosby	Divide	1,954	28	54.3	+0.2	88	22	23	27	54	0.00	−1.40	0.00	0	0	13	8	9	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	55.4	−0.5	87	16	25	26	38	0.80	−0.83	0.30	0	7	7	11	12	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	56.2	+0.2	93	22	21	27	53	0.07	−1.12	0.07	0	1	14	9	7	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	57.2		92	15	27	27	42	0.56	−0.66	0.25	0	7	16	6	8	nw.	R. L. Williams.
Drake	McHenry	1,634	6	56.2		92	15	26	26	47	0.48		0.17	0	4	14	10	6	nw.	Peter Anton.
Dunn Center	Dunn	2,191	36	55.7	−0.5	91	22	22	26	51	0.00	−1.33	0.00	0	0	18	7	5	nw.	W. F. Moede.
Dunseith	Rolette	1,682	39	54.2	−0.2	84	16	21	26	42	0.44	−1.27	0.16	0	5	10	13	7	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	56.0	+0.8	90	22	23	26	53	0.88	−0.52	0.65	0	5	10	17	3	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	60.0	+2.4	92	15	19	27	43	0.05	−1.77	0.05	0	1	12	18	0	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	52.8		86	16	24	27	46	1.27	+0.19	0.38	0	12	11	11	8	nw.	E. D. Warner.
Ellendale	Dickey	1,457	40	59.4	+1.0	94	15	25	27	46	0.19	−1.83	0.14	0	2	19	9	2	nw.	J. E. Demmer.
Energy‡‡	McLean	1,750	23	58.0		96	15	23	27	51	0.20	−1.27	0.10	0	2	5	20	5	nw.	H. S. Solenberger.
Fairfield	Billings		6								0.04		0.04	0	1	19	8	3	nw.	F. R. Hecker.
Fessenden	Wells	1,610	23	56.6	+0.9	95	15	24	26	51	0.44	−1.35	0.21	0	3	14	13	3	sw.	T. D. Monsen.
Forman	Sargent	1,249	42								0.17	−1.77	0.17	0	1	26	2	2	sw.	Helge Dyste.
Fort Yates	Sioux	1,670	35	59.0	−0.8	103	15	21	27	65	0.56	−0.59	0.36	0	2	18	9	3	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	53.6		78	13†	24	26	39	0.34	−1.16	0.27	0	2	12	9	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17								0.20	−1.49	0.11	0	2	22	7	1	nw.	Verne King.
Fullerton	Dickey	1,439	37	58.8	+1.6	93	15	23	27	43	0.32	−1.84	0.18	0	2	17	9	4	ne.	F. O. Alin.
Gackle	Logan	1,951	5	58.4		94	15	26	27	37	0.52		0.43	0	2	13	15	2	se.	A. H. Haut.
Garrison	McLean	1,901	58	57.4	+2.5	97	16	24	27	52	0.20	−1.24	0.10	0	3	14	14	2	nw.	W. F. Robinson.
Grafton	Walsh	827	43	56.4	+0.1	87	16	28	27	45	0.92	−1.14	0.36	0	6	12	10	8	n.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	44	55.5	−0.9	85	16	27	27	40	0.75	−1.10	0.37	0	6	6	17	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	56.7	+1.9	92	15	22	26	54	0.32	−1.17	0.10	0	5	13	12	5	nw.	W. A. Christianson.
Hankinson	Richland	1,068	6	59.9		92	24	26	26	48	0.33		0.28	0	3	22	4	4	nw.	R. G. Stock.
Hannah	Cavalier	1,568	43	53.4		86	16	27	26†	43	2.10	−0.11	0.43	0	11	5	19	6	nw.	James Muir.
Hansboro	Towner	1,597	27	52.8	−0.7	89	23	23	30	45	0.97	−1.03	0.97	0	1	12	12	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	28	59.5	+1.9	91	22	22	25	48	0.09	−1.41	0.09	0	1	27	3	0	nw.	Glenn Brokaw.
Hillsboro	Traill	901	29	57.6	−1.0	83	15†	25	27	43	0.65	−1.57	0.43	0	5	16	9	5	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	28	57.0	+2.7	88	22	18	26	45	0.04	−1.50	0.02	0	2	11	13	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	43	56.9	+0.4	91	15	20	27	50	0.58	−1.15	0.50	0	3	16	12	2	w.	S. Calvelage.
Kenmare	Ward	1,799	4	57.4		87	15†	25	26	44	0.07		0.07	0	1	13	9	8	nw.	R. Costello.
Langdon	Cavalier	1,615	39	53.2	+0.9	87	15	25	27	45	1.69	−0.60	0.60	0	9	21	1	8	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	55.0	−0.3	82	16	25	27	43	0.99	−1.09	0.50	0	4	19	3	8	nw.	Mabel Walsh.
Linton	Emmons	1,711	18	60.6	+2.1	101	15	17	27	53	0.33	−1.45	0.20	0	3	12	16	2	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	57.2	−0.3	89	16	21	27	45	0.25	−1.92	0.18	0	4	14	13	3	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	17	57.8		91	15	24	27	46	0.15	−1.16	0.09	0	2	19	6	5	nw.	Edw. Tapley.
McLeod	Ransom	1,075	24	58.6	−0.4	93	20	20	27	47	0.36	−2.00	0.26	0	2	22	3	5	se.	J. G. Carlson.
Maddock	Benson	1,604	20	56.9	+1.2	89	16	24	26	51	0.51	−1.52	0.18	0	5	8	11	11	nw.	A. T. Felland.
Mandan	Morton	1,750	21	60.2	+2.8	98	15	27	27	45	0.22	−1.24	0.13	0	2	11	6	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32								0.71	−0.86	0.40	0	5	13	9	8		P. B. Anderson.
Marmarth	Slope	2,714	26	59.0	+2.5	91	22	30	27	51	0.22	−1.13	0.20	0	3	15	6	9	nw.	S. P. Grane.
Mary	McKenzie		6								0.10		0.10	0	1	19	4	7	nw.	Fred Hartman.
Max	McLean	2,093	6	54.7		93	15	20	30	53	0.15		0.10	0	2	19	3	8	nw.	A. W. Rice.
Mayville	Traill	975	39	58.8	+1.4	87	16†	26	27	45	0.59	−1.61	0.33	0	5	13	12	5	n.	H. B. Addicott.
Minot	Ward	1,557	39	55.6	−0.3	91	23	26	27	50	0.30	−1.31	0.15	0	3	10	15	5	w.	Mark M. Chatfield.
Mohall	Renville	1,646	41	57.0	+3.0	90	15	20	26	54	0.29	−1.26	0.09	0	5	10	14	6	nw.	John Behan.
Mott	Hettinger	2,424	28	59.4	+2.8	94	15	22	26	51	0.06	−1.42	0.06	0	1	13	13	4	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	43	59.7	+3.0	100	15	19	27	48	0.49	−0.95	0.35	0	3	24	3	3	nw.	C. J Hoof.
New England	Hettinger	2,400	41	59.2	+2.8	94	15	22	26	51	0.08	−1.20	0.06	0	2	12	13	5		F. S. Sleight.
New Salem	Morton	2,163	31	60.3	+2.8	98	15	25	26	47	T.	−1.37	T.	0	0	20	10	0	nw.	J. Christiansen.
Oakes	Dickey	1,318	6	60.3		96	15	21	27	48	0.19		0.16	0	2	12	14	4	nw.	Eugene Naylor.
Park River	Walsh	998	31																	C. B. Wright.
Parshall	Mountrail	1,929	20	54.0		89	23	19	27	52	0.21	−1.35	0.17	0	2	12	16	2	se.	C. E. Shubert.
Pembina	Pembina	789	61								1.85	−0.15	0.52	0	11	12	7	11	nw.	E. N. Russell.
Petersburg	Nelson	1,520	5								0.66		0.35	0	5	15	12	3	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	58.4	+3.2	98	15	23	27	58	1.43	−0.13	0.70	0	3	12	8	10	se.	Wm. R. Dahl.
Portal	Burke	1,954	30	54.4	0.0	87	22	16	26	48	0.10	−1.37	0.10	0	1	16	2	12	w.	R. G. Wegener.
Powers Lake	Burke	2,205	30	55.2		90	24	26	26	48	0.42	−0.85	0.23	0	2	17	10	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	19	59.6	+2.8	93	22	29	26	43	0.06	−1.29	0.06	0	1	12	10	8	nw.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6								0.44		0.20	0	4	9	15	6	sw.	W. B. Paterson.
Ryder	Ward	2,108	6								0.24		0.13	0	3	17	3	10	nw.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	57.0		91	22	19	27	53	0.14		0.14	0	1	13	15	2	w.	H. J. Bugge.
Sharon	Steele	1,516	11	55.8		86	16	23	27	38	1.11	−0.89	0.43	0	7	15	5	10	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11								T.	−1.06	T.	0	0	16	13	1	nw.	H. J. Giffey.
Steele	Kidder	1,857	41	59.2	+2.3	105	15	22	27	50	0.59	−0.86	0.30	0	4	14	8	8	nw.	R. S. Armstrong.
Tagus	Mountrail	2,179	6								0.16		0.08	0	3	17	8	5	w.	G. N. Pilgard.
Tioga	Williams	2,279	6								0.00		0.00	0	0	17	11	2	nw.	Anton Carlson.
Towner	McHenry	1,482	33	55.5	−0.7	89	16†	22	26	49	0.41	−1.36	0.15	0	5	14	8	8	nw.	J. A. Gilje.
Trotters	Golden Valley		9								0.11		0.10	0	2	15	7	8	se.	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	59.1	+2.8	98	15	25	26	46	0.33	−0.97	0.14	0	5	17	0	13	nw.	M. A. Slettum.
Tuttle	Kidder	1,936	27								0.71	−0.73	0.37	0	4	15	15	0	nw.	Adam Leno.
Valley City	Barnes	1,245	29	57.8	−0.4	87	15†	18	27	45	0.21	−1.74	0.19	0	2	22	7	1	w.	I. C. Robertson.
Velva	McHenry	1,511	8	57.3		90	15	26	27	48	0.42		0.11	0	5	6	17	7	nw.	Oscar Anderson.
Wahpeton	Richland	962	43	61.8	+2.6	93	24	23	27	44	0.58	−1.68	0.35	0	4	24	0	6	se.	C. G. Luick.
Washburn	McLean	1,731	34	58.8	+0.3	96	15	27	27	50	0.30	−0.96	0.25	0	3	18	2	10	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	55.2	+0.3	86	16	20	26	48	0.26	−1.09	0.09	0	5	12	12	6	nw.	J. H. Munn.
Williston	Williams	1,878	56	58.2	+1.6	87	22	26	26	45	0.20	−0.89	0.17	0	2	14	11	5	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	54.1	−0.1	88	16	20	27	52	0.20	−1.52	0.09	0	3	18	11	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	6	56.0^{d}	+0.4	102^{d}	15	16^{d}	27	53^{d}	0.38	−0.97	0.20	0	3	15	3	12	nw.	E. W. Davis.
Zap	Mercer	1,838	20								0.14	−1.09	0.14	0	1	25	4	1		R. A. Norton.
Moorhead, Minn.	Clay	935	54	58.6	+0.4	85	24	28	27	37	0.55	−1.67	0.20	0	5	7	15	8	s.	U. S. Weather Bureau.
Averages				57.2	+0.8	105	15	16	26†	65	0.44	−1.21	0.97	0	3	15	9	6	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora.

Daily Precipitation for September 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																								.05	.16							0.21
Amenia	Red			T.	T.													.10						T.									0.10
Arnegard (near)	Missouri		.25	T.																					.15								0.40
Ashley	Missouri			.17				.04																		.15							0.36
Beach	Lit. Missouri		T.																T.							.08							0.08
Berthold Agency	Missouri																																0.00
Bismarck ***	Missouri		.13	.01			T.									T.		T.	T						.16	.08							0.38
Bottineau	Mouse		.15	.22			.08	.08				.09		.02												.69							1.33
Bowman	Grand		T.																						.02								0.02
Cando	Devils Lake		.02	.04	.06		.01					.01		.01	.01										.36	.24			.01				0.77
Carrington‖‖	James		.20																						.46								0.66
Carson	Heart																									.13							0.13
Cavalier	Red		.06	.24	.02		.04	.24				.33	.05	.02		.05		.01							.38	.26							1.70
Cooperstown	Sheyenne		T.	.43	.15		T.	.05		T.			.05	.02												.20				.05			0.95
Corinth	Missouri			.08																			.03										0.11
Courtenay	James			.39			.02							.03		T.										.15			.03				0.62
Crosby	Mouse																																0.00
Devils Lake ***	Devils Lake		.23	.13			.07		T.			T.	T.	T.		T.	T.			T.					.09	.23			.01	.04			0.80
Dickinson‖‖	Heart			T.	T.			T.									T.			T.					T.	.07							0.07
Dogden Butte	Mouse		.07	.01			.25							.01			T.								.09	.06	.07			T.			0.56
Drake‖‖	Mouse			.08	T.			.17																	.10	.13	T.			T.			0.48
Dunn Center	Knife																																0.00
Dunseith	Mouse		.08	.16			.02					.12		.06												T.							0.44
Eckman	Mouse		.11	.04			.06					.02													T.	.65							0.88
Edgeley	James																									.05							0.05
Edmore	Devils Lake		.38	.02	.06		.04	.01				.03		.05	.01	.01		T.		T.					.27	.35			.05		T.		1.27
Ellendale	James			.05																						.14							0.19
Energy	Missouri		.10	T.																					T.	.10							0.20
Fairfield	Knife																									.04							0.04
Fessenden‖‖	James			.19																					.04	.21							0.44
Forman	Sheyenne				T.																					.17							0.17
Fort Yates	Missouri		.20																					.36									0.56
Foxholm (near)	Mouse		.07	T.			T.					T.		T.			T.								T.	.27							0.34
Fryburg	Heart		T.																						.09	.11							0.20
Fullerton	James			.18	T.																					.14							0.32
Gackle	James			.43								.09																					0.52
Garrison	Missouri			.10													T.								.05	.05							0.20
Grafton	Red		.30	.10				.06				.05		T.											T.	.36				.05			0.92
Grand Forks ***	Red		.37	.12			T.	.04				T.	T				T.	T.		.02					.01	.19				T.	T.		0.75
Granville	Mouse		.10	.05			.05					T.		T.			T.								.08	.04							0.32
Hankinson	Red		.03																						.28				.02				0.33
Hannah	Pembina		.04	.17	.08		.10	.12				.38		T.			.37		T.		.07				.32	.43				.02			2.10
Hansboro	Devils Lake																								.97								0.97
Hettinger	Grand		T.																							.09							0.09
Hillsboro	Red			.43	.05														.05		.09					.03							0.65
Howard (near)	Missouri		.02	.02								T.					T.							T.		T.			T.				0.04
Jamestown	James			.50			.03																			.05							0.58
Kenmare	Mouse		.07	T.																													0.07
Langdon	Pembina			.12	.10			.20				T.	.14		.10	.12									.28	.60				.03			1.69
Larimore	Red			.50									.11												.07	.31							0.99
Linton	Missouri		T.	.09				.04																		.20							0.33
Lisbon	Sheyenne			.05	.01								.01													.18							0.25
McClusky	Missouri		.09					.06																	T.								0.15
McLeod	Sheyenne		.10																							.26							0.36
Maddock	Sheyenne	T.	T.	.18	.07		T.						T.			.06				T.					.05	.15				T.			0.51
Mandan‖‖	Missouri		.09												T.										.13								0.22
Manfred	James		.40	.08			.08																		.03	.12							0.71
Marmarth	Lit. Missouri	.01	.01																						T.	.20							0.22
Mary	Lit. Missouri																									.10							0.10
Max‖‖	Missouri		.10																					T.	.05								0.15
Mayville	Red			.33	.17									T.	.01						.01	T.			T.	.07				T.			0.59
Minot	Mouse			.12				.03							T.											.15							0.30
Mohall	Mouse		.09	.08			T.					.05		.01			T.			T.					T	.06							0.29
Mott	Cannon Ball																									.06							0.06
Napoleon‖‖	Missouri			.35				.02																		.12							0.49
New England	Cannon Ball		.02																							.06							0.08
New Salem	Heart		T.	T.																						T.							T.
Oakes	James			.03																						.16							0.19
Park River	Red																																......
Parshall	Missouri		.17				T.																		.04								0.21
Pembina	Red		.27	.10			.06	.18				.32	.05	.04	.01					.07					.52	.23							1.85
Petersburg	Red			.22	.05		T.	.02				T.				T.									T.	.35				.02			0.66
Pettibone	James	.28		.45												T.								T.	.70								1.43
Portal‖‖	Mouse			.10																													0.10
Powers Lake	Missouri											.19							.23														0.42
Richardton	Heart		T.	T.																						.06							0.06
Rugby [near]	Mouse		.08	.05	T.							T.		T.			T.								.11	.20							0.44
Ryder	Missouri	.13					T.							T.		.01	T.							.10		T.							0.24
Sanish‖‖	Missouri			.14																													0.14
Sharon	Red		.07	.43	.04		T.					T.	.15	.01				T.		.05	T.				T.	.36				T.			1.11
Stanton	Missouri			T.																				T.	T.								T
Steele	Missouri		.15	.10			.04																			.30							0.59
Tagus	Mouse		.08	T.			T.					.01		T.			T.									.07							0.16
Tioga	Missouri																																0.00
Towner	Mouse		.08	.07	T.		.01					T.													.10	.15							0.41
Trotters	Lit. Missouri		.01																							.10							0.11
Turtle Lake	Missouri		.06	.01			.14																		.06	.06							0.33
Tuttle	Missouri		.22	.03			.09																			.37							0.71
Valley City	Sheyenne			.02									.19	T.													T						0.21
Velva	Mouse		.11				.09							T.											.07	.06	.09						0.42
Wahpeton	Red			.15	.06																					.35				.02			0.58
Washburn	Missouri			T.				.25																	.03	.02							0.30
Westhope	Mouse		.09	.02			.02	T.				.05					T.								T.	.08			T.				0.26
Williston ***	Missouri		.17	T			T.					T.		T.											.03								0.20
Willow City	Mouse		.08	.09			T.					T.		T.			T.									.03							0.20
Wishek‖‖	Missouri			.20				.06																		.12							0.38
Zap	Knife																									.14							0.14
Moorhead, Minn ***	Red		.10	.09			T.	T.	T.			.11	.09	T.		T.			T.	T.					T.	.16			T.	T.			0.55

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	66	74	74	72	70	74	70	69	71	74	76	78	76	80	78	78	76	78	80	79	82	80	84	62	70	55	60	65	70	80	....	73.4
	Minimum	33	42	40	40	31	32	33	38	38	36	38	40	42	44	46	44	46	44	45	46	47	49	50	45	28	23	29	36	42	44	....	39.7
Arnegard (near)	Maximum	76	68	63	67	79	67	70	75	82	78	68	68	79	87	78	87	82	72	82	83	80	72	72	54	58	61	76	75	70	79	....	73.6
	Minimum	36	50	41	40	32	45	34	42	40	46	43	39	50	46	50	47	49	42	35	40	46	45	48	40	23	24	42	43	41	36	....	41.2
Ashley	Maximum	71	74	70	64	71	71	67	77	72	78	78	68	83	82	93	89	85	79	78	74	87	86	88	83	75	53	60	66	77	75	....	75.8
	Minimum	37	45	49	42	34	41	44	32	31	45	45	45	49	40	61	50	48	44	40	48	43	42	46	50	48	27	20	44	45	43	....	42.6
Beach	Maximum	72	71	58	67	78	73	69	75	83	80	67	73	78	90	79	86	74	71	79	75	82	86	75	75	65	49	58	73	79	59	....	73.3
	Minimum	42	49	44	33	39	43	44	39	46	44	47	41	53	45	61	49	46	51	37	46	45	51	44	51	43	28	28	40	44	41	....	43.8
Berthold Agency	Maximum	78	75	53	54	77	72	71	76	84	79	63	66	83	88	92	91	71	66	79	62	84	94	76	69	63	46	60	68	67	61	....	72.3
	Minimum	40	50	43	46	28	41	31	31	36	45	47	40	50	34	55	38	44	38	30	38	39	45	38	46	43	21	18	29	48	39	....	39.0
Bismarck	Maximum	74	78	58	66	75	73	65	75	79	79	70	66	80	86	98	91	79	70	79	77	83	89	85	73	59	53	62	70	80	67	....	74.6
	Minimum	43	48	49	45	34	47	46	38	37	46	47	44	54	42	63	50	56	53	40	53	48	51	47	54	39	30	27	49	54	42	....	45.9
Bottineau	Maximum	73	76	57	61	70	68	68	65	75	80	76	74	64	76	83	76	76	76	78	73	75	82	84	73	64	51	61	65	80	67	....	71.6
	Minimum	40	50	42	41	38	45	34	37	35	38	44	45	46	40	45	42	39	37	35	47	41	47	48	52	41	22	23	42	40	34	....	40.3
Bowman	Maximum	72	80	58	69	80	71	69	73	84	84	74	79	81	89	86	89	78	77	81	77	85	92	84	77	62	51	58	71	78	64	....	75.8
	Minimum	45	42	46	30	39	48	40	36	39	44	49	44	41	44	54	41	46	44	44	43	40	41	46	44	41	28	31	42	46	45	....	42.1
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...	...	......
Carrington §§	Maximum	76	71	66	68	72	68	76	78	76	75	70	65	77	78	93	89	80	78	77	74	81	87	81	65	53	52	62	78	86	59	....	73.5
	Minimum	50	48	44	42	43	42	36	32	47	42	46	48	40	48	49	50	52	48	45	53	53	55	53	51	26	33	45	52	45	29	....	44.9
Carson	Maximum	65	70	57	70	77	77	71	78	83	86	80	63	65	88	98	90	83	85	72	88	85	90	86	75	70	65	60	66	80	64	....	76.2
	Minimum	40	42	49	40	40	42	37	38	40	46	40	43	50	50	55	50	45	50	46	50	48	55	50	52	48	24	28	34	43	40	....	43.8
Crosby	Maximum	78	61	58	72	78	68	72	68	84	73	52	68	78	87	82	82	72	70	79	78	80	88	63	75	48	54	65	74	80	79	....	72.2
	Minimum	32	34	34	31	36	36	31	30	43	42	38	42	36	33	43	45	37	30	32	33	34	44	45	44	44	24	23	34	44	41	....	36.4
Devils Lake	Maximum	73	74	59	60	68	69	61	70	70	69	57	62	63	75	81	87	77	70	74	71	76	80	75	61	53	49	59	62	77	58	....	68.0
	Minimum	39	52	46	42	37	40	47	40	34	46	44	43	46	40	54	49	48	49	40	44	46	42	51	50	35	25	30	40	43	40	....	42.7
Dickinson §§	Maximum	74	76	56	66	78	68	69	75	83	79	69	68	80	88	87	88	76	72	81	75	81	93	80	71	52	52	60	72	79	57	....	73.5
	Minimum	37	47	44	37	37	39	36	35	39	40	43	41	42	41	44	45	46	47	34	36	38	46	40	39	45	22	21	27	44	41	....	39.0
Drake§§	Maximum	75	74	59	64	71	65	65	69	77	71	61	65	79	80	92	89	79	71	79	74	78	88	77	63	50	51	61	67	79	57	....	71.0
	Minimum	39	46	45	45	38	40	42	42	33	37	45	38	39	44	46	48	50	50	43	42	42	41	45	47	47	26	28	31	43	44	....	41.5
Dunn Center	Maximum	72	67	63	65	73	67	66	73	81	75	63	62	75	83	82	84	73	69	77	73	78	91	76	68	48	52	55	72	78	56	....	70.6
	Minimum	37	47	42	41	33	45	39	40	44	45	45	44	44	38	48	47	45	51	33	37	37	40	40	44	46	22	24	39	45	41	....	40.8
Dunseith	Maximum	74	72	56	60	70	67	65	63	74	72	60	61	64	73	78	84	75	68	76	70	73	80	73	61	54	51	60	64	76	74	....	68.3
	Minimum	38	46	39	42	36	41	35	36	34	45	43	37	44	45	51	44	45	38	34	45	39	42	52	47	39	21	29	40	38	40	....	40.2
Edgeley	Maximum	76	70	79	77	77	69	72	72	74	72	78	79	78	72	92	84	85	74	70	75	84	79	80	83	69	69	60	60	78	78	....	75.5
	Minimum	31	41	50	32	35	44	55	29	45	42	40	41	45	40	60	62	47	58	55	55	53	38	65	49	48	26	19	47	37	42	....	44.4
Ellendale	Maximum	64	70	62	65	70	71	66	77	69	79	74	59	79	81	94	88	84	78	76	70	88	87	79	84	67	53	61	69	82	59	....	73.5
	Minimum	40	42	52	49	36	43	52	41	35	43	45	46	50	49	62	53	55	48	45	47	42	45	53	52	51	30	25	42	44	46	....	45.4
Fessenden §§	Maximum	76	78	60	63	73	74	64	73	76	73	66	61	75	81	95	80	82	79	75	75	80	88	79	66	51	52	62	66	80	67	....	72.3
	Minimum	33	46	44	46	30	35	48	39	31	45	43	41	42	40	49	44	50	48	43	42	43	37	50	47	47	24	26	31	38	43	....	40.8
Foxholm (near)	Maximum	74	64	54	63	60	59	60	61	66	66	55	64	78	75	76	76	69	65	66	66	69	78	77	63	59	47	61	63	76	76	....	66.2
	Minimum	37	51	41	40	34	43	36	42	34	44	43	38	47	38	52	45	44	40	38	40	49	39	47	45	40	24	30	44	50	38	....	41.1
Fullerton	Maximum	71	73	62	62	70	70	66	75	67	78	73	59	77	78	93	85	80	76	78	79	86	85	88	80	68	51	62	68	80	71	....	73.7
	Minimum	41	41	51	43	35	41	50	38	33	43	44	44	49	46	62	52	50	46	43	46	44	42	53	52	50	29	23	45	40	38	....	43.8
Garrison	Maximum	75	78	75	60	66	78	68	74	73	85	75	63	61	82	87	97	93	80	72	79	78	81	89	77	66	50	56	63	74	84	....	74.6
	Minimum	37	38	45	42	33	37	34	39	35	40	46	39	41	41	45	45	47	50	36	41	43	44	43	49	45	25	24	30	45	43	....	40.1
Grafton	Maximum	72	78	61	59	68	68	66	70	68	68	64	57	60	70	79	87	85	78	78	74	77	79	79	70	65	61	58	59	77	77	....	70.5
	Minimum	33	46	47	47	35	35	49	41	29	45	44	36	44	38	50	57	51	47	36	49	44	34	53	51	37	31	28	43	42	46	....	42.3
Grand Forks	Maximum	70	76	62	59	65	68	65	72	65	66	60	58	61	67	79	85	75	68	74	71	79	78	76	75	60	50	59	57	75	58	....	67.8
	Minimum	37	45	48	43	36	40	50	39	31	43	42	46	46	42	53	58	53	47	40	51	42	38	55	55	39	28	27	39	43	39	....	43.2
Granville	Maximum	79	72	60	65	74	60	68	70	80	70	60	68	80	82	92	90	80	72	78	72	85	90	78	68	64	54	63	82	78	74	....	73.6
	Minimum	34	52	43	42	31	37	34	40	32	42	44	36	48	37	55	44	43	42	35	40	44	36	44	47	40	22	24	40	43	44	....	39.8
Hansboro	Maximum	74	78	57	58	73	65	54	60	78	66	48	60	60	73	78	87	75	69	76	69	71	80	89	54	51	59	56	60	78	66	....	67.4
	Minimum	31	49	41	43	34	36	42	33	29	45	43	40	43	38	50	50	45	43	33	43	44	35	48	40	24	25	27	35	37	23	....	38.3
Hettinger	Maximum	73	82	59	68	78	74	71	70	81	84	76	69	84	89	90	90	79	78	82	78	86	91	86	80	65	52	60	72	80	63	....	76.3
	Minimum	47	45	49	34	37	45	47	35	35	42	48	43	49	46	63	44	48	48	41	46	38	48	42	49	22	23	35	43	44	46	....	42.7
Hillsboro	Maximum	76	77	63	59	65	66	66	64	66	66	66	58	63	71	83	83	83	75	76	73	80	81	79	82	68	51	60	60	79	76	....	70.7
	Minimum	35	37	50	47	36	37	49	45	32	45	41	50	47	44	54	59	59	50	40	50	43	38	54	56	50	28	25	43	43	48	....	44.5
Howard (near)	Maximum	74	64	55	65	76	68	69	70	85	75	65	63	79	84	86	84	72	72	68	78	80	88	84	77	62	52	51	77	81	74	....	72.6
	Minimum	46	48	42	42	35	38	35	39	43	43	40	44	52	56	58	46	39	32	38	40	42	46	56	46	40	18	24	40	41	40	....	41.5
Jamestown	Maximum	78	78	51	62	71	72	63	76	73	76	70	60	78	77	91	90	81	73	78	75	81	86	85	76	58	53	61	66	81	58	....	72.6
	Minimum	40	43	48	46	33	38	41	36	34	37	43	45	48	45	46	51	55	47	38	42	44	36	39	50	53	29	20	23	42	43	....	41.2
Kenmare	Maximum	77	73	58	68	76	69	69	68	80	81	68	65	80	83	87	84	76	70	76	77	81	87	69	68	64	56	62	71	80	51	....	72.5
	Minimum	42	53	42	40	35	41	38	42	41	44	45	41	51	39	53	48	48	42	40	41	49	44	46	46	37	25	30	46	42	40	....	42.4
Langdon§§	Maximum	76	78	57	60	73	66	66	65	73	66	50	59	73	78	87	78	73	76	80	70	74	80	71	56	52	53	55	58	77	51	....	67.7
	Minimum	34	43	40	42	32	33	40	36	28	34	43	39	40	41	48	45	40	40	41	43	44	38	47	45	48	26	25	27	35	42	....	38.6
Larimore	Maximum	70	76	60	60	66	70	67	75	66	68	61	57	60	64	80	82	77	70	75	70	78	78	74	71	60	49	58	59	75	66	....	68.1
	Minimum	35	43	46	46	33	36	49	40	29	48	39	44	46	40	50	55	53	46	35	45	42	35	48	49	45	27	25	41	40	45	....	41.8
Linton	Maximum	78	80	70	69	79	86	80	78	81	85	76	70	88	88	101	93	84	79	82	80	90	92	92	80	69	55	64	71	82	76	....	79.9
	Minimum	45	40	47	49	29	44	30	28	29	46	44	47	51	37	64	40	41	44	39	45	39	54	40	52	47	26	17	45	40	44	....	41.4
Lisbon §§	Maximum	65	69	71	62	63	70	70	68	74	67	75	72	61	65	77	89	84	81	75	78	74	83	83	86	82	63	51	61	66	81	....	72.2
	Minimum	39	45	50	45	33	37	44	39	35	38	43	45	49	47	50	54	50	44	39	42	39	38	49	50	53	28	21	27	45	47	....	42.2
McClusky	Maximum	74	75	59	62	73	67	65	70	76	75	67	67	78	80	91	89	85	74	77	75	78	86	77	69	68	52	69	75	78	75	....	73.5
	Minimum	38	47	48	45	35	39	44	40	32	43	43	37	58	38	58	43	45	50	38	43	45	45	44	46	44	25	24	41	47	41	....	42.2
Maddock	Maximum	75	74	59	63	73	71	63	72	75	74	72	61	70	79	87	89	85	74	75	74	81	87	82	71	59	50	61	67	78	78	....	72.7
	Minimum	34	47	45	45	33	36	47	40	28	45	43	40	46	38	55	46	46	48	43	42	44	36	45	47	43	24	26	40	38	43	....	41.1
Marmarth	Maximum	72	80	64	70	80	71	70	74	78	85	81	75	81	89	84	80	76	75	80	75	83	91	85	76	68	48	58	72	78	64	....	75.4
	Minimum	45	47	47	33	35	42	42	42	38	40	46	43	54	39	61	55	45	45	38	43	38	40	40	53	44	31	30	42	38	46	....	42.7
Minot	Maximum	78	73	59	66	76	68	69	71	81	69	59	66	73	82	84	78	78	65	70	76	78	87	91	71	59	59	68	72	68	73	....	72.2
	Minimum	35	51	43	43	30	33	38	37	34	41	45	41	42	36	46	41	43	41	34	38	42	43	41	42	35	31	26	31	44	41	....	38.9
Mohall	Maximum	78	76	58	68	75	73	68	67	82	81	64	66	81	81	90	89	79	73	77	76	80	89	85	69	65	55	64	70	81	52	....	73.4
	Minimum	35	53	44	41	33	40	36	41	32	46	44	41	49	41	41	44	45	40	31	49	45	35	50	46	44	20	21	45	47	42	....	40.6
Mott	Maximum	75	81	62	70	78	76	72	77	82	82	73	68	84	87	94	91	81	75	80	77	86	93	87	78	68	52	62	72	81	71	....	77.3
	Minimum	39	45	46	36	35	43	40	34	38	40	45	41	47	36	64	67	35	38	40	48	39	45	41	47	44	22	25	41	40	44	....	41.5
Napoleon §§	Maximum	78	78	58	65	77	78	61	79	78	81	73	62	85	87	100	90	82	75	81	78	87	91	91	77	57	51	63	69	81	57	....	75.7
	Minimum	39	46	48	42	34	41	43	34	30	50	43	45	49	42	61	45	52	44	41	48	45	47	59	49	49	30	19	44	47	45	....	43.7
New England§§	Maximum	78	88	62	68	70	71	79	72	84	82	74	75	74	87	94	91	81	75	80	77	86	93	87	78	68	52	62	72	81	71	....	77.1
	Minimum	45	47	40	34	36	36	39	36	46	47	44	46	41	36	60	60	35	38	40	48	39	45	41	47	44	22	25	41	40	44	....	41.4
New Salem	Maximum	76	84	61	67	77	73	69	71	74	79	75	70	82	90	98	94	81	73	80	73	83	91	84	75	68	55	62	70	81	76	....	76.4
	Minimum	34	49	45	46	41	41	40	43	47	47	43	40	48	43	58	54	51	52	43	44	44	45	50	46	45	25	27	46	49	40	....	44.2
Oakes	Maximum	72	73	67	65	73	71	72	80	71	79	74	63	80	80	96	88	85	88	81	79	89	89	90	85	71	52	63	70	84	64	....	76.5
	Minimum	42	43	51	43	32	43	52	38	33	45	45	47	48	45	61	51	49	44	40	47	41	42	55	53	50	28	21	46	42	46	....	44.1
Park River	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...	....	....	...	....	....	...	....	...	....	...	....	....	....	....	......
Sharon	Maximum	71	76	59	60	69	69	65	76	68	73	62	54	61	70	81	86	77	70	75	72	79	79	77	73	58	51	59	61	78	61	....	69.0
	Minimum	39	46	45	45	36	41	48	38	32	47	42	44	45	43	53	50	50	45	42	48	43	43	51	50	38	27	23	40	42	42	....	42.6
Steele	Maximum	78	77	60	64	77	78	62	75	80	79	70	63	82	85	105	92	86	73	83	76	83	89	89	70	57	51	60	68	80	75	....	75.6
	Minimum	36	43	45	43	35	40	45	32	30	45	44	45	49	41	60	43	52	47	43	48	45	45	54	45	40	29	22	45	48	42	....	42.7
Towner	Maximum	78	75	60	63	73	68	64	68	77	75	67	68	67	73	86	89	80	74	75	73	77	89	77	68	60	53	63	68	81	74	....	72.1
	Minimum	37	43	43	42	31	38	35	37	30	41	45	38	42	36	37	44	44	41	33	42	43	41	44	47	43	22	26	40	39	42	....	38.9
Valley City	Maximum	75	77	77	62	73	72	67	76	74	76	74	58	67	76	87	87	86	78	77	78	73	83	83	80	68	53	61	65	82	77	....	74.1
	Minimum	36	42	47	44	31	37	47	34	31	44	43	44	46	41	57	51	52	42	47	41	35	38	46	51	47	26	18	43	40	45	....	41.5
Wahpeton	Maximum	71	73	73	65	70	73	73	76	78	80	78	75	66	81	87	88	87	85	81	80	87	84	91	93	88	60	60	66	85	81	....	77.8
	Minimum	40	45	54	46	33	40	47	42	35	45	42	49	49	45	61	56	51	47	42	50	43	43	61	65	54	34	23	43	44	41	....	45.8
Westhope	Maximum	78	72	61	66	75	62	66	65	69	78	56	64	78	74	83	86	76	69	78	72	76	85	75	64	61	51	63	68	80	74	....	70.8
	Minimum	38	50	44	41	35	41	37	37	40	32	45	39	39	38	55	42	41	37	30	39	40	43	43	47	41	20	26	42	40	43	....	39.5
Williston	Maximum	76	66	55	68	77	68	68	71	83	78	61	66	79	87	82	86	74	70	79	75	81	87	70	73	54	52	63	75	81	64	....	72.3
	Minimum	45	52	46	40	37	49	37	41	46	46	47	44	54	42	56	49	49	40	36	41	47	51	48	52	36	26	29	49	49	40	...	44.1
Moorhead, Minn	Maximum	70	73	62	60	68	69	69	75	66	73	72	60	63	74	83	84	81	71	76	73	81	79	80	84	64	50	60	59	77	70	....	70.9
	Minimum	41	45	51	45	38	43	46	46	35	45	42	49	48	49	60	60	56	51	46	50	44	44	60	59	41	32	28	46	46	45	....	46.4

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 10-24-35—1050]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

Vol. XLIV Bismarck, N. D., October 1935 No. 10

GENERAL SUMMARY

The outstanding feature of the weather for October was the continued lack of moisture. Nineteen stations reported less than .01 inch of precipitation. It was the driest October since records began in 1892. In the eastern part of the State precipitation periods occurred near the middle and again near the end of the month. Snow and sleet fell at many stations on the 30th and 31st. The temperature averaged about normal, but sub-zero weather prevailed at some stations on the 30th and 31st. Light dust storms occurred on the 14th, 15th, 17th, and 19th and a few stations reported moderate to severe storms on the 2d. It was a favorable month for outdoor work, but it was too dry for fall plowing.

TEMPERATURE

The mean temperature for the State was 43.5°, or 0.1° below the 44 year average, and 5.5° lower than the mean for October 1934. The highest mean reported was 47.7° at Wahpeton, Richland County; the lowest was 38.2° at Langdon, Cavalier County. The highest temperature reported was 86° at Mott, Hettinger County on the 15th; the lowest was -10° at Howard, Williams County on the 30th and 31st. The greatest monthly range of temperature was 89° at McClusky, Sheridan County; the least was 61° at Amenia, Cass County, Cavalier, Pembina County, and Larimore, Grand Forks County. The greatest daily range of temperature was 60° at Fort Yates, Sioux County on the 1st.

PRECIPITATION

The average precipitation for the State was 0.16 inch, or 0.90 inch below the 44 year average, and 0.85 inch less than the average for October 1934. The greatest monthly amount reported was 0.95 inch at Moorhead, Clay County, Minnesota; there was none at four stations. The greatest amount recorded in any 24 consecutive hours was 0.60 inch at McLeod, Ransom County on the 13th. The average number of days with 0.01 inch or more of precipitation was 2. The average snowfall was 0.7 inch.

MISCELLANEOUS PHENOMENA

Auroras: Carson, Tagus, 1st; Devils Lake, 21st, 31st; Foxholm, 16th, 21st, 22d, 30th, 31st; Howard, 30th; Oakes, Trotters, 21st; Pettibone, 23d, 27th; Sharon, Willow City, 24th; Steele, 1st, 24th; Towner, 22d, 24th; Tuttle, 21st, 24th; Williston, 1st, 7th, 21st, 23d, 24th, 25th, 31st.

Fog: Bismarck, 11th, 29th, 30th; Carson, Courtenay, Mott, New Salem, Richardton, Steele, 29th; Corinth, 28th; Crosby, 21st; Devils Lake, 11th, 13th, 14th, 17th, 22d, 29th; Edmore, Langdon, Petersburg, Sharon, Valley City, 11th; Ellendale, 10th, 11th, 19th, 26th, 27th, 29th; Grand Forks, 11th, 13th, 14th; Moorhead, 11th, 14th; Oakes, 11th, 13th, 26th; Pembina, 13th; Pettibone, 10th, 13th, 29th.

Halos, Lunar: Corinth, Velva, 9th; Oakes, 14th, 15th; Tagus, 8th, 9th; Williston, 7th, 8th, 9th, 10th, 14th.

Halos, Solar: Devils Lake, 1st, 2d, 3d; Dogden Butte, 27th; Grand Forks, Petersburg, Sharon, 31st; Oakes, 16th; Williston, 2d, 14th, 27th.

Sleet: Arnegard, Dogden Butte, Drake, Dunseith, Eckman, Foxholm, Hansboro, Marmarth, New England, Parshall, Tagus, Towner, 29th; Cavalier, Courtenay, Crosby, Devils Lake, Edmore, Gackle, Grafton, Hankinson, Howard, McClusky, Napoleon, Pembina, Petersburg, Pettibone, Sharon, Tuttle, 30th; Hannah, Rugby, 29th, 30th; Maddock, 10th; Moorhead, 31st; Steele, 30th, 31st.

Thunderstorms: Devils Lake, Stanton, Velva, Willow City, 15th; Dogden Butte, Towner, 16th; Hankinson, 30th; McLeod, Moorhead, 13th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.04	30.55	5	29.36	15	9.4	30	se.	15	67	38	42	64
Devils Lake	30.04	30.62	5	29.70	29	10.3	31	nw.	2	75	50	55	59
Grand Forks	30.01	30.55	5	29.50	8	......	38	se.	15	68	....	51	....
Williston	30.04	30.46	9	29.36	15	8.6	27	w.	18	74	42	45	71
Moorhead, Minn	30.05	30.60	6	29.54	20	10.3	27	se.	15	75	50	54	61
Averages & ext's	30.04	30.62	5	29.36	15	9.6	38	se.	15	72	45	49	64

† And other dates.

COMPARATIVE DATA FOR OCTOBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	47.2	+3.6	95	7	0.58	−0.48	2.89	0.06	T.	3	15	8	8
1893.	40.6	−3.0	79	0	1.05	−0.01	1.70	0.37	0.9	5	11	11	9
1894.	43.0	−0.6	77	16	1.66	+0.60	3.17	0.35	0.0	6	14	8	9
1895.	40.5	−3.1	85	−12	0.25	−0.81	0.65	T.	0.0	2	16	8	7
1896.	40 2	−3.4	88	5	0.78	−0.28	2.73	T.	0.0	3	14	8	9
1897.	45.9	+2.3	93	6	0.77	−0.29	2.50	0.00	0.8	4	13	9	9
1898.	38.8	−4.8	84	8	2.23	+1.17	6.20	0.30	4.7	6	8	8	15
1899.	42.1	−1.5	86	7	1.18	+0.12	2.30	T.	1.3	5	11	8	12
1900.	48.2	+4.6	87	14	1.54	+0.48	3.03	0.26	T.	6	15	4	12
1901.	47.5	+3.9	88	11	1.61	+0.55	3.83	T.	T.	5	17	7	7
1902.	43.7	+0.1	87	10	1.28	+0.22	5.17	0.10	0.7	4	16	6	9
1903.	47.0	+3.4	81	11	0.94	−0.12	3.66	T.	0.2	3	19	5	7
1904.	46.6	+3.0	87	10	1.03	−0.03	2.81	T.	T.	5	12	7	12
1905.	40.3	−3.3	93	0	0.44	−0.62	1.57	T.	1.2	5	8	12	11
1906.	45.0	+1.4	89	0	0.57	−0.49	1.67	0.06	1.4	4	14	9	8
1907.	44.4	+0.8	88	4	0.70	−0.36	2.27	0.00	0.2	3	21	5	5
1908.	43.0	−0.6	86	8	1.58	+0.52	4.01	0.33	0.7	6	11	7	13
1909.	43.1	−0.5	97	0	0.64	−0.42	1.98	T.	0.9	3	14	8	9
1910.	48.2	+4.6	95	0	0.54	−0.52	1.55	T.	0.1	3	16	8	7
1911.	42.5	−1.1	86	−10	1.32	+0.26	2.48	T.	0.5	6	11	8	12
1912.	44.4	+0.8	90	0	0.94	−0.12	3.45	T.	3.5	4	16	6	9
1913.	39.3	−4.3	90	− 2	1.63	+0.57	3.95	0.52	0.7	4	12	9	10
1914.	50.0	+6.4	97	0	0.98	−0.08	2.05	0.07	T.	4	16	8	7
1915.	46.6	+3.0	87	10	1.04	−0.02	3.63	T.	0.2	4	17	8	6
1916.	40.0	−3.6	85	− 2	0.69	−0.37	2.06	T.	2.0	4	12	8	11
1917.	34.7	−8.9	82	− 4	0.77	−0.29	2.15	0.04	6.4	5	8	11	12
1918.	46.2	+2.6	90	4	0.54	−0.52	1.91	0.00	0.8	4	14	8	9
1919.	33.5	−10.1	84	−18	1.08	+0.02	3.63	0.15	9.3	6	11	9	11
1920.	49.3	+5.7	95	6	0.46	−0.60	1.51	0.00	0.1	3	16	8	7
1921	47.3	+3.7	88	16	0.73	−0.33	2.75	0.00	T.	4	16	8	7
1922.	45.7	+2.1	98	8	0.57	−0.49	1.78	0.00	2.3	3	15	7	9
1923.	44.0	+0.4	84	− 8	0.88	−0.18	2.70	T.	0.5	4	14	7	10
1924.	50.3	+6.7	86	19	2.43	+1.37	5.74	0.97	0.3	7	17	5	9
1925.	33.3	−10.3	66	−16	0.78	−0.28	2.53	0.05	3.7	6	8	9	14
1926.	42.6	−1.0	85	4	1.49	+0.43	5.06	T.	1.0	6	10	10	11
1927.	47.0	+3.4	88	12	1.39	+0.33	3.30	0.09	1.0	5	14	8	9
1928.	43.5	−0.1	85	3	0.41	−0.65	1.89	0.00	0.6	2	15	8	8
1929.	46.8	+3.2	88	10	1.85	+0.79	4.75	0.28	5.1	6	17	5	9
1930.	40.8	−2.8	86	0	1.81	+0.75	3.49	0.40	0.3	7	10	9	12
1931.	47.7	+4.1	90	10	1.39	+0.33	3.94	T.	0.2	6	15	6	10
1932.	38.3	−5.3	90	− 3	2.31	+1.25	4.11	0.66	9.1	8	9	7	15
1933.	41.5	−2.1	88	5	0.53	−0.53	1.33	0.00	1.7	4	14	8	9
1934.	49.0	+5.4	94	5	1.01	−0.05	4.39	0.00	0.1	3	14	8	9
1935.	43.5	−0.1	86	−10	0.16	−0.90	0.95	0.00	0.7	2	15	9	7
Per..	43.6	....	98	−18	1.06	....	6.20	0.00	1.5	4	14	8	9

Climatological Data for October 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	....	9	....	....	....	....	.....	....	.....	0.12	....	0.12	0.0	1	26	1	4	nw.	H. A. Bury.
Amenia	Cass	954	39	46.8	+2.2	76	1	15	31	38	0.07	−1.30	0.05	0.5	2	17	9	5	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	45.2	+2.3	73	7†	−3	31	47	0.12	−0.83	0.05	0.8	3	22	6	3	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	43.0	−1.1	75	8†	9	4†	48	0.10	−1.09	0.10	2.0	1	19	5	7	nw.	H. D. Piper.
Beach	Golden Valley	2,759	29	44.6	+1.0	76	1	−2	31	48	0.15	−0.83	0.13	T.	2	15	10	6	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	40.6	−4.0	70	18†	5	31	43	T.	−0.86	T.	T.	0	19	4	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	60	44.4	−0.5	83	15	8	31	48	T.	−0.94	T.	0.2	0	14	10	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	43.1	+2.1	78	7†	7	31	51	0.08	−0.95	0.07	0.1	2	18	8	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	44.8	+0.8	81	15	3	31	48	0.06	−0.92	0.05	0.1	2	24	3	4	nw.	George Larsen.
Cando	Towner	1,488	34	.....	....	....	....	.....	....	.....	0.11	−0.75	0.08	0.2	3	15	11	5	n.	A. J. Swanson.
Carrington	Foster	1,579	37	43.0	−0.8	83	8	8	31	51	0.07	−0.90	0.05	0.2	2	15	6	10	w.	L. A. Swanson.
Carson	Grant	2,500	23	43.1	−0.2	82	8	8	31	49	0.00	−1.00	0.00	0.0	0	20	6	5	nw.	J. W. Evens.
Cavalier	Pembina	894	25	43.7	....	75	7†	14	22	47	0.45	−0.64	0.35	T.	3	8	8	15	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	44.4	....	80	19	12	22†	45	0.42	−0.64	0.34	4.2	2	15	10	6	nw.	Theo. Marquardt.
Corinth	Williams	2,180	7	.....	....	....	....	.....	....	.....	0.07	....	0.04	0.3	2	5	16	10	n.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	.....	....	....	....	.....	....	.....	0.17	....	0.14	1.7	2	13	12	6	s.	Geo. E. Berg.
Crosby	Divide	1,954	28	40.4	−1.4	78	1†	−3	31	56	0.10	−0.78	0.08	0.5	2	8	11	12	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	41.8	−0.6	80	8	7	31	40	0.35	−0.90	0.30	0.2	5	7	10	14	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	41.8	−1.8	81	15	5	31	52	0.01	−0.86	0.01	T.	1	13	14	4	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	45.0	....	80	8	9	31	44	0.22	−0.98	0.14	T.	2	17	4	10	nw.	R. L. Williams.
Drake	McHenry	1,634	6	41.5	....	82	8	9	31	54	0.05	....	0.03	0.0	2	14	8	9	sw.	Peter Anton.
Dunn Center	Dunn	2,191	36	44.0	−0.4	76	7†	6	31	52	T.	−0.75	T.	0.0	0	14	7	10	w.	W. F. Moede.
Dunseith	Rolette	1,682	39	40.8	−0.6	76	8	2	31	46	T.	−0.91	T.	T.	0	7	17	7	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	42.6	+0.8	81	15	6	31	54	0.10	−0.83	0.05	0.5	3	12	12	7	sw.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	45.8	+0.5	78	7†	8	11	49	0.00	−1.03	0.00	0.0	0	7	21	3	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	41.2	....	77	8	8	22	50	0.27	−0.66	0.14	1.1	3	13	7	11	nw.	E. D. Warner.
Ellendale	Dickey	1,457	40	43.6	−2.0	77	15†	13	31	45	0.17	−1.00	0.17	1.5	1	20	4	7	s.	J. E. Demmer.
Energy ‡‡	McLean	1,750	23	43.9	....	84	15	9	22	50	T.	−0.82	T.	T.	0	12	17	2	nw.	H. S. Solenberger.
Fairfield	Billings	....	6	.....	....	....	....	.....	....	.....	0.08	....	0.08	0.8	1	22	4	5	nw.	F. R. Hecker.
Fessenden	Wells	1,610	23	42.0	−1.0	82	8	8	22	50	0.26	−0.65	0.18	0.3	4	18	5	8	sw.	T. D. Monsen.
Forman	Sargent	1,249	42	.....	....	....	....	.....	....	.....	0.06	−1.34	0.06	0.5	1	25	2	4	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	35	45.8	−0.6	85	1†	5	30	60	T.	−0.91	T.	T.	0	15	12	4	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	42.4	....	73	15	3	31	46	0.04	−1.06	0.03	T.	2	11	9	11	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	.....	....	....	....	.....	....	.....	0.05	−1.14	0.03	T.	2	24	4	3	nw.	Verne King.
Fullerton	Dickey	1,439	37	43.8	−1.0	78	15†	9	31	50	0.12	−1.30	0.12	1.2	1	14	10	7	nw.	F. O. Alin.
Gackle	Logan	1,951	5	44.6	....	79	8	10	31	41	0.08	....	0.08	2.0	1	15	12	4	sw.	A. H. Haut.
Garrison	McLean	1,901	58	42.4	−0.3	84	15	8	31	52	T.	−0.90	T.	T.	0	18	8	5	nw.	W. F. Robinson.
Grafton	Walsh	827	43	45.4	+3.3	74	7†	9	10	47	0.32	−0.69	0.23	2.7	2	13	10	8	sw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	44	42.4	−1.2	75	18	6	31	44	0.14	−1.13	0.11	1.5	3	6	13	12	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	43.7	+0.4	84	8	8	31	52	0.02	−0.93	0.02	T.	1	15	11	5	nw.	W. A. Christianson.
Hankinson	Richland	1,068	6	44.4	....	78	14	11	9	56	0.12	....	0.11	1.1	2	18	5	8	nw.	R. G. Stock.
Hannah	Cavalier	1,568	43	42.8	....	79	7	11	31	53	0.53	−0.54	0.43	0.0	3	11	12	8	sw.	James Muir.
Hansboro	Towner	1,597	27	40.8	+0.1	79	7	9	30	49	0.05	−1.12	0.05	0.5	1	16	8	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	28	45.0	−0.6	85	15	7	31	52	0.10	−0.71	0.10	0.0	1	24	7	0	nw.	Glenn Brokaw.
Hillsboro	Traill	901	29	44.4	−0.8	76	18	14	10	46	0.24	−0.96	0.20	2.0	2	13	9	9	nw.	H. F. Lund.
Howard ‡‡ (near)	Williams	2,275	28	42.5	+0.9	77	2†	−10	30†	45	0.28	−0.62	0.10	1.5	3	19	6	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	43	43.9	−0.6	82	7	9	11†	55	0.15	−0.97	0.15	2.0	1	16	10	5	nw.	S. Calvelage.
Kenmare	Ward	1,799	4	44.5	....	79	15	4	31	46	0.14	....	0.07	0.8	3	19	6	6	w.	R. Costello.
Langdon	Cavalier	1,615	39	38.2	−2.7	74	7†	9	22	47	0.40	−0.63	0.35	0	2	17	11	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	44.0	+0.1	73	8	12	10	41	0.20	−1.17	0.11	1.5	2	17	3	11	nw.	Mabel Walsh.
Linton	Emmons	1,711	18	44.8	+0.1	84	15	6	22	59	0.03	−1.01	0.03	2.0	1	18	7	6	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	45.3	+1.5	77	8†	13	10	45	0.28	−0.87	0.25	2.5	2	10	12	9	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	17	44.3	....	85	8	−4	31	52	T.	−0.99	T.	T.	0	15	10	6	nw.	Edw. Tapley.
McLeod	Ransom	1,075	24	45.4	−0.8	78	8	12	10	48	0.85	−0.55	0.60	2.5	2	16	8	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	20	44.4	+1.5	82	8	9	31	50	0.15	−0.78	0.15	T.	1	9	11	11	sw.	A. T. Felland.
Mandan	Morton	1,750	21	43.8	−0.2	83	15	10	31	48	T.	−0.84	T.	T.	0	17	1	13	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	.....	....	....	....	.....	....	.....	0.07	−0.90	0.06	T.	2	21	4	6	......	P. B. Anderson.
Marmarth	Slope	2,714	26	45.0	−0.5	78	1	2	31	51	0.10	−0.74	0.10	0.2	1	20	6	5	......	S. P. Grane.
Mary	McKenzie	....	6	.....	....	....	....	.....	....	.....	0.02	....	0.02	T.	1	19	4	8	nw.	Fred Hartman.
Max	McLean	2,093	6	42.0	....	84	15	5	31	55	T.	....	T.	0.0	0	12	8	11	nw.	A. W. Rice.
Mayville	Traill	975	39	47.0	+1.1	78	19	13	10	43	0.13	−1.07	0.07	1.0	4	8	18	5	n.	H. B. Addicott.
Minot	Ward	1,557	39	45.2	+1.9	82	15	7	31	50	0.05	−0.93	0.04	0.5	2	10	12	9	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	41	43.7	+2.0	82	15	5	31	50	T.	−1.04	T.	T.	0	9	17	5	nw.	John Behan.
Mott	Hettinger	2,424	28	44.2	+0.9	86	15	6	31	53	0.01	−1.06	0.01	T.	1	10	13	8	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	43	43.4	−0.3	84	8	0	31	52	0.15	−0.88	0.15	1.5	1	23	2	6	nw.	C. J. Hoof.
New England	Hettinger	2,400	41	45.2	+1.8	83	15	5	30	55	0.00	−0.70	0.00	0.0	0	15	9	7	nw.	F. S. Sleight.
New Salem	Morton	2,163	31	47.0	+2.2	85	8†	7	31	54	T.	−0.96	T.	T.	0	22	5	4	nw.	J. Christiansen.
Oakes	Dickey	1,318	6	45.1	....	80	15	13	22†	50	0.16	....	0.16	1.5	1	11	17	3	nw.	Eugene Naylor.
Park River	Walsh	998	31	41.9	−1.9	75	8	13	22†	52	0.28	−0.86	0.25	0.5	3	14	5	12	nw.	C. B. Wright.
Parshall	Mountrail	1,929	20	42.0	....	82	15	3	31	52	0.02	−0.67	0.02	0.2	1	15	10	6	sw.	C. E. Shubert.
Pembina	Pembina	789	61	.....	....	....	....	.....	....	.....	0.31	−1.12	0.27	0.5	2	15	3	13	nw.	E. N. Russell.
Petersburg	Nelson	1,520	5	.....	....	....	....	.....	....	.....	0.17	....	0.14	0.5	2	10	12	9	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	43.2	+1.4	81	8	0	31	48	0.10	−0.88	0.10	1.9	1	8	11	12	nw.	Wm. R. Dahl.
Portal	Burke	1,954	30	40.6	−0.8	79	7	−1	31	51	0.11	−0.64	0.11	T.	1	20	0	11	w.	R. G. Wegener.
Powers Lake	Burke	2,205	30	40.4	....	80	10	−4	31	44	0.55	−0.68	0.55	0	1	16	14	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	19	45.4	+2.0	81	15	4	31	43	T.	−0.74	T.	T.	0	16	8	7	w.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	.....	....	....	....	.....	....	.....	0.19	....	0.10	T.	2	17	10	4	s.	W. B. Paterson.
Ryder	Ward	2,108	6	.....	....	....	....	.....	....	.....	0.03	....	0.03	0.3	1	22	2	7	nw.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	42.2	....	81	16	4	30†	54	T.	....	T.	T.	0	11	13	7	w.	H. J. Bugge.
Sharon	Steele	1,516	11	42.9	....	76	8	6	31	43	0.17	−1.93	0.07	1.4	4	10	11	10	sw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	.....	....	....	....	.....	....	.....	0.24	−0.74	0.24	T.	1	19	8	4	sw.	H. J. Giffey.
Steele	Kidder	1,857	41	43.9	+0.1	85	8	7	31	54	0.07	−1.00	0.07	3.0	1	14	9	8	sw.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	.....	....	....	....	.....	....	.....	0.04	....	0.03	0.2	2	20	6	5	w.	G. N. Pilgard.
Tioga	Williams	2,279	6	.....	....	....	....	.....	....	.....	0.50	....	0.25	3.0	5	17	7	7	nw.	Anton Carlson.
Towner	McHenry	1,482	33	42.9	−0.5	82	8	8	31	52	0.34	−0.65	0.30	T.	2	16	8	7	nw.	J. A. Gilje.
Trotters	Golden Valley	....	9	.....	....	....	....	.....	....	.....	0.12	....	0.12	T.	1	17	8	6	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	41.2	−2.1	81	15	7	31	47	0.07	−0.64	0.07	T.	1	21	5	5	sw.	M. A. Slettum.
Tuttle	Kidder	1,936	27	.....	....	....	....	.....	....	.....	0.11	−0.59	0.05	0.4	3	17	10	4	nw.	Adam Leno.
Valley City	Barnes	1,245	29	45.0	+0.4	77	8	11	22	48	0.15	−0.83	0.12	2.0	2	24	2	5	w.	I. C. Robertson.
Velva	McHenry	1,511	8	45.0	....	82	8†	9	22†	47	0.02	....	0.02	T.	1	7	15	9	nw.	Oscar Anderson.
Wahpeton	Richland	962	43	47.7	+1.1	79	19	13	10	44	0.79	−0.68	0.49	3.0	2	20	0	11	nw.	C. G Luick.
Washburn	McLean	1,731	34	43.8	−0.7	82	16	10	31	48	T.	−1.01	T.	T.	0	22	3	6	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	43.2	+1.1	78	7	5	31	50	0.06	−0.77	0.06	0.6	1	14	5	12	nw.	J. H. Munn.
Williston	Williams	1,878	56	43.3	−0.1	77	1	−1	31	44	0.14	−0.72	0.06	0.7	3	17	8	6	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	40.2	−1.2	79	8	−1	31	54	0.39	−0.45	0.18	T.	3	11	14	6	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	6	40.8^d	−3.1	84^d	8	5^d	22	55^d	0.10	−0.87	0.10	1.2	1	11	7	13	nw.	E W. Davis.
Zap	Mercer	1,838	20	.....	....	....	....	.....	....	.....	T.	−1.07	T.	T.	0	23	4	4	......	R. A. Norton.
Moorhead, Minn.	Clay	935	54	43.9	−0.6	75	18	12	31	43	0.95	−0.74	0.38	4.2	3	10	8	13	s.	U. S. Weather Bureau.
Averages	....	....	.....	43.5	0.0	86	15	−10	30†	60	0.16	−0.88	0.60	0.7	2	15	9	7	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora.

Daily Precipitation for October 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri													.12			T.																0.12
Amenia	Red										.02	T.																				.05	0.07
Arnegard (near)	Missouri								T.				T.				.04													.03	.05		0.12
Ashley	Missouri																															.10	0.10
Beach	Lit. Missouri									.13							.02						T.										0.15
Berthold Agency	Missouri																														T.	T.	T.
Bismarck ***	Missouri										T.																			T.	T.	T.	T.
Bottineau	Mouse													.07																	.01		0.08
Bowman	Grand									.05																				T.	.01	T.	0.06
Cando	Devils Lake													.08																.02	.01		0.11
Carrington‖‖	James									T.			.05																	T.		.02	0.07
Carson	Heart																																0.00
Cavalier	Red	.09	.01								T.			.35																	T.		0.45
Cooperstown	Sheyenne										.08	T.		T.			T.						T.								T.	.34	0.42
Corinth	Missouri													.04							T.								T.	T.	.03		0.07
Courtenay	James										.14																				T.	.03	0.17
Crosby	Mouse																.08				T.										.02		0.10
Devils Lake ***	Devils Lake									T.	.02		.03	.27		T.					T.									T.	.01	.02	0.35
Dickinson‖‖	Heart									T.	T.			T.			T.							T.						.01	T.	T.	0.01
Dogden Butte	Mouse													.08			.14													T.	T.		0.22
Drake‖‖	Mouse													.02																	.03		0.05
Dunn Center	Knife													T.																			T.
Dunseith	Mouse																													T.			T.
Eckman	Mouse													.02							T.									.05	.03		0.10
Edgeley	James																																0.00
Edmore	Devils Lake										T.	T.		.14								T.								T.	.03	.10	0.27
Ellendale	James													T.																		.17	0.17
Energy	Missouri																													T.	T.		T.
Fairfield	Knife																															.08	0.08
Fessenden‖‖	James											.02	.18				.03															.03	0.26
Forman	Sheyenne												T.	T.																	T.	.06	0.06
Fort Yates	Missouri																															T.	T.
Foxholm (near)	Mouse									T.							T.				T.									.03	.01		0.04
Fryburg	Heart									.02				.03								T.	T.							T.	T.	T.	0.05
Fullerton	James													T.																		.12	0.12
Gaekle	James																															.08	0.08
Garrison	Missouri													T.																	T.		T.
Grafton	Red		T.	T.	T.									.23																	T.	.09	0.32
Grand Forks ***	Red	.01									T.			.02																	T.	.11	0.14
Granville	Mouse																													.02	T		0.02
Hankinson	Red													.01																	.11	T.	0.12
Hannah	Pembina	T.												.43			.05				T.									T.	.05		0.53
Hansboro	Devils Lake	T.															.05																0.05
Hettinger	Grand									.10																T.							0.10
Hillsboro	Red										.04																					.20	0.24
Howard (near)	Missouri																.08				T.	T.	T.							.10	.10		0.28
Jamestown	James										T.																					.15	0.15
Kenmare	Mouse													.07							T.		T.							.02	.05		0.14
Langdon	Pembina												.05		.35																		0.40
Larimore	Red										T.			.11																	T.	.09	0.20
Linton	Missouri												T.	T.																	T.	.03	0.03
Lisbon	Sheyenne													.03																		.25	0.28
McClusky	Missouri												T.																	T.	T.		T.
McLeod	Sheyenne										T.			.60																		.25	0.85
Maddock	Sheyenne										T.	T.	T.	.15																		T	0.15
Mandan‖‖	Missouri																														T.	T.	T.
Manfred	James										T.		T.	.06																	T	.01	0.07
Marmarth	Lit. Missouri									.10				T.																T.	T.		0.10
Mary	Lit. Missouri									T.											.02												0.02
Max‖‖	Missouri												T.																				T.
Mayville	Red										.01	.04		.01			T.														T.	.07	0.13
Minot	Mouse																													.04	.01		0.05
Mohall	Mouse						T.																T.							T.	T.		T.
Mott	Cannon Ball								.01														T.										0.01
Napoleon‖‖	Missouri																															.15	0.15
New England	Cannon Ball																																0.00
New Salem	Heart																T.														T.		T.
Oakes	James																														T.	.16	0.16
Park River	Red												.02	.25																	T.	.01	0.28
Parshall	Missouri																													T.	.02		0.02
Pembina	Red		T.											.27																		.04	0.31
Petersburg	Red										T.			.14																	T	.03	0.17
Pettibone	James										T.																					.10	0.10
Portal‖‖	Mouse													.11																	T.		0.11
Powers Lake	Missouri												.55																				0.55
Richardton	Heart																													T.	T.		T.
Rugby (near)	Mouse													.09		.10																	0.19
Ryder	Missouri																													T.	.03	T.	0.03
Sanish‖‖	Missouri													T.																	T.		T.
Sharon	Red		T.								.07			.02									T.								.01	.07	0.17
Stanton	Missouri															.24														T.	T.		0.24
Steele	Missouri										T.			T.			T.														T.	.07	0.07
Tagus	Mouse									T.											T.									.03	.01		0.04
Tioga	Missouri												.10			.06														.03	.06	.25	0.50
Towner	Mouse													.04			.30													T.	T.		0.34
Trotters	Lit. Missouri												T.				.12					T.								T.			0.12
Turtle Lake	Missouri																.07													T.	T		0.07
Tuttle	Missouri													.04																	.02	.05	0.11
Valley City	Sheyenne										.03																					.12	0.15
Velva	Mouse																T.													T.	.02		0.02
Wahpeton	Red													.49																		.30	0.79
Washburn	Missouri																														T.		T.
Westhope	Mouse																													T.	.06		0.06
Williston ***	Missouri												.04				.04				T.									T.	.06		0.14
Willow City	Mouse													.18		.13	.08														T.		0.39
Wishek‖‖	Missouri																															.10	0.10
Zap	Knife																														T.		T.
Moorhead, Minn ***	Red		T.								.25		T.	.38			T.					T.									T.	.32	0.95

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum..	76	70	72	68	67	76	65	60	62	58	50	58	60	58	59	60	57	58	60	59	61	62	59	60	62	64	62	64	60	54	44	61.5
	Minimum ...	40	38	42	38	36	36	38	39	32	26	22	20	28	29	30	32	30	28	30	28	34	32	30	30	32	36	38	37	34	32	15	32.0
Aruegard (near)	Maximum...	72	70	55	54	51	68	73	56	49	67	72	73	72	70	70	60	62	73	57	60	46	43	45	62	68	70	62	58	46	24	12	58.7
	Minimum ...	27	42	23	20	20	24	45	28	23	20	32	50	42	43	55	37	34	42	43	35	32	29	25	35	35	39	37	37	19	12	− 3	31.7
Ashley	Maximum...	63	62	62	44	43	53	65	75	74	45	56	58	68	68	72	72	72	75	70	57	37	42	48	65	58	48	65	62	50	47	19	57.9
	Minimum ...	24	46	20	9	15	20	32	31	31	11	11	34	48	32	54	49	40	27	37	36	26	9	20	28	33	34	24	27	34	17	9	28.0
Beach	Maximum...	76	71	60	60	53	67	75	75	59	47	72	75	65	67	67	58	59	73	45	60	37	44	62	60	65	68	69	62	38	28	13	59.0
	Minimum ...	32	45	31	27	26	34	38	32	24	26	24	38	40	33	48	41	32	39	33	30	27	23	23	32	35	31	38	31	28	7	− 2	30.2
Berthold Agency	Maximum...	61	62	60	45	44	57	64	62	57	38	58	65	65	68	69	68	58	70	70	50	36	42	45	55	60	62	60	60	35	35	15	54.7
	Minimum ...	24	44	22	18	14	28	36	30	29	19	17	36	32	25	57	47	23	33	58	32	27	9	12	24	28	24	26	30	22	13	5	26.6
Bismarck	Maximum...	71	67	45	53	49	61	77	81	50	49	61	69	78	75	83	68	66	76	62	46	39	47	56	69	64	62	71	56	40	24	20	58.9
	Minimum ...	30	43	24	22	18	30	37	33	25	22	16	34	46	32	58	37	32	40	40	33	27	14	24	30	37	33	35	29	24	15	8	29.9
Bottineau	Maximum...	70	71	64	45	46	63	78	76	72	45	58	71	68	65	77	78	63	72	72	57	53	46	50	70	68	69	68	52	33	26	19	60.2
	Minimum ...	25	23	18	26	21	25	30	42	21	22	18	30	44	25	54	41	20	30	30	28	18	10	15	26	29	31	30	28	24	14	7	26.0
Bowman	Maximum...	76	63	56	61	62	68	75	75	52	50	69	73	64	72	81	54	61	73	64	45	43	42	64	65	69	70	60	72	40	30	15	60.1
	Minimum ...	28	41	31	25	23	34	32	38	26	19	21	34	37	33	49	44	28	35	34	28	23	21	34	30	33	30	38	32	30	10	3	29.5
Cando	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carrington §§	Maximum...	64	70	43	44	48	63	74	83	33	58	71	62	71	76	54	55	67	75	65	56	41	45	54	69	68	66	68	46	54	30	18	57.8
	Minimum ...	45	22	24	26	20	38	35	32	16	16	39	38	38	48	31	32	35	44	35	22	11	13	28	33	32	36	24	25	21	12	8	28.3
Carson	Maximum...	75	63	58	60	41	49	49	82	65	66	54	72	55	70	70	71	60	71	57	54	37	47	56	67	63	62	73	58	46	26	15	57.8
	Minimum ...	27	45	26	24	21	22	34	42	22	17	18	37	40	35	54	36	27	40	35	32	27	11	21	29	30	28	33	28	20	12	8	28.4
Crosby	Maximum...	78	58	53	54	69	78	74	48	48	66	74	68	69	74	57	65	73	58	40	38	45	55	66	74	70	69	46	26	27	15	10	56.3
	Minimum ...	22	38	22	15	13	26	34	47	23	20	29	34	34	25	25	39	27	19	20	30	28	17	15	29	33	18	31	21	18	10	− 3	24.3
Devils Lake	Maximum...	62	64	38	43	45	64	74	80	40	35	52	73	52	63	73	64	65	72	52	41	41	45	49	66	71	65	67	39	46	26	17	54.3
	Minimum ...	30	30	23	23	16	27	35	40	23	21	18	37	40	36	54	34	30	39	38	32	20	15	28	33	40	34	34	28	26	14	7	29.2
Dickinson §§	Maximum...	76	64	48	59	52	66	76	76	39	50	67	73	66	72	81	52	62	73	61	39	38	45	54	64	69	70	70	54	27	15	13	57.1
	Minimum ...	25	37	30	22	23	26	29	32	29	20	15	30	40	28	35	42	27	33	32	30	27	13	21	24	28	26	31	26	27	12	5	26.6
Drake§§	Maximum...	69	66	42	46	47	64	77	82	38	44	60	72	65	68	80	51	65	73	60	40	39	47	54	67	73	68	69	35	32	27	19	56.1
	Minimum ...	28	30	18	21	15	19	37	37	30	18	19	18	47	34	29	42	30	25	38	34	22	15	19	28	35	33	35	25	27	16	9	26.9
Dunn Center	Maximum...	75	62	60	56	51	61	76	76	56	49	68	74	69	70	75	62	72	72	64	46	38	41	53	66	70	70	70	56	34	22	14	59.0
	Minimum ...	26	58	25	19	17	26	28	54	39	18	16	34	48	37	56	42	30	42	34	32	22	11	20	22	25	25	29	31	22	12	6	28.9
Dunseith	Maximum...	67	63	51	45	45	61	75	76	68	35	56	64	64	58	72	72	58	67	67	40	38	45	46	66	67	67	64	57	27	23	15	55.5
	Minimum ...	25	40	18	22	19	21	29	44	24	16	15	33	40	30	55	40	22	31	35	19	12	15	18	28	35	29	28	25	22	13	2	26.0
Edgeley	Maximum...	60	63	63	40	60	65	78	77	71	55	54	78	70	75	75	70	68	78	75	57	61	60	59	58	58	59	65	63	64	59	35	63.6
	Minimum ...	23	47	21	14	15	30	29	37	32	11	8	36	38	33	46	47	24	48	34	20	25	24	30	26	38	25	27	26	23	19	11	28.0
Ellendale	Maximum...	63	64	46	45	46	57	69	75	45	45	58	62	71	70	77	59	67	77	65	59	43	45	56	68	58	59	65	58	62	30	22	57.6
	Minimum ...	30	46	24	19	17	24	29	30	35	15	14	35	51	36	46	46	26	39	44	43	32	15	21	29	30	23	25	29	30	22	13	29.6
Fessenden §§	Maximum...	67	65	43	45	50	66	77	82	40	37	65	75	76	71	76	53	65	74	55	43	41	47	53	69	70	66	69	39	43	20	19	56.8
	Minimum ...	25	32	31	20	13	18	34	36	29	11	12	25	47	39	34	42	27	32	45	29	23	8	18	31	34	32	36	28	26	20	10	27.3
Foxholm (near)	Maximum...	70	70	59	42	46	60	68	67	54	38	60	65	64	61	73	71	63	72	68	44	40	47	52	64	71	69	68	59	30	21	16	56.5
	Minimum ...	24	42	15	22	11	26	37	40	21	18	17	41	38	30	54	40	30	40	42	29	20	17	25	34	39	31	37	24	19	11	3	28.3
Fullerton	Maximum...	62	64	44	44	45	56	67	76	69	45	57	64	69	74	78	75	67	78	77	62	40	43	55	69	67	58	65	56	63	44	23	59.9
	Minimum ...	28	43	22	18	16	15	31	33	33	15	13	34	50	35	51	37	27	31	38	40	32	14	20	19	27	24	27	27	31	21	9	27.8
Garrison	Maximum...	75	70	48	55	50	67	72	82	40	49	64	72	74	76	84	52	78	76	64	40	41	47	65	70	74	72	68	30	31	15	15	58.6
	Minimum ...	25	29	20	21	18	22	30	35	29	19	15	25	28	30	32	36	27	40	36	32	30	14	23	29	29	28	34	28	28	10	8	26.1
Grafton	Maximum...	57	59	48	44	47	60	74	73	71	39	48	69	68	66	73	69	65	73	69	66	58	46	49	69	74	69	70	67	64	62	24	61.0
	Minimum ...	27	42	22	19	19	17	27	37	31	9	28	33	43	32	58	50	26	37	44	37	30	13	27	23	38	28	30	30	33	21	15	29.9
Grand Forks	Maximum...	56	56	39	42	45	57	71	71	47	38	47	67	55	67	70	68	66	75	56	57	40	45	53	70	72	63	68	47	66	44	22	56.1
	Minimum ...	26	32	25	17	14	20	30	37	20	16	23	36	44	34	56	36	28	37	40	34	24	11	27	26	35	34	36	28	35	22	6	28.7
Granville	Maximum...	74	70	63	49	50	67	80	84	40	40	62	67	70	68	82	59	65	75	54	44	38	48	54	70	75	72	65	42	35	24	20	58.3
	Minimum ...	24	45	14	20	10	20	36	32	28	25	15	48	52	28	56	40	47	48	44	20	22	10	25	34	37	29	22	27	22	15	8	29.1
Hansboro	Maximum...	67	40	42	45	57	63	79	74	57	35	52	78	59	72	71	69	65	71	58	39	48	49	48	71	75	70	67	39	35	26	28	56.4
	Minimum ...	23	19	15	11	11	22	35	43	14	14	15	30	34	23	51	37	21	35	39	31	29	14	22	38	36	26	39	12	11	9	19	25.1
Hettinger	Maximum...	75	66	59	60	51	65	77	80	67	51	68	72	66	75	85	59	64	75	65	56	38	38	54	66	61	64	71	78	58	25	20	61.6
	Minimum ...	26	48	33	26	24	34	29	37	29	20	16	31	41	29	56	43	30	39	34	31	17	15	22	26	21	22	31	29	25	11	7	28.5
Hillsboro	Maximum...	53	59	53	40	47	56	69	72	69	37	60	68	62	63	71	68	67	76	71	60	51	41	42	70	69	62	62	62	63	62	26	59.1
	Minimum ...	30	40	26	22	17	19	30	39	34	14	18	28	32	32	45	52	26	40	47	39	31	15	25	24	32	34	30	30	30	26	17	29.8
Howard (near)	Maximum...	59	77	55	56	57	70	77	73	45	55	64	74	65	67	70	52	64	75	58	43	42	38	53	65	70	69	69	63	35	20	14	57.9
	Minimum ...	30	32	18	18	16	26	44	45	16	23	25	35	35	43	40	40	32	37	42	30	24	20	20	32	32	32	42	20	12	−10	−10	27.1
Jamestown	Maximum...	65	55	44	47	59	73	82	70	37	56	64	67	75	78	75	68	77	65	52	41	47	55	69	66	62	71	57	60	50	22	19	59.0
	Minimum ...	28	47	25	19	14	20	30	34	32	11	9	37	47	30	53	45	34	36	41	34	31	13	21	26	36	28	30	25	30	18	9	28.8
Kenmare	Maximum...	74	74	60	51	48	64	75	75	60	44	65	71	65	65	79	73	65	73	65	44	43	48	54	65	72	70	69	33	30	22	17	58.5
	Minimum ...	28	42	17	21	15	31	40	42	25	21	24	42	39	32	54	42	34	43	43	32	23	25	26	36	42	29	33	29	21	12	4	30.5
Langdon§§	Maximum...	60	53	38	38	49	62	74	74	38	26	52	70	47	70	70	54	60	69	60	34	37	45	46	66	72	64	64	38	36	34	22	52.3
	Minimum ...	22	24	22	18	15	15	29	30	26	15	24	24	31	30	30	46	25	30	31	30	24	9	10	22	28	28	30	26	25	22	10	24.2
Larimore	Maximum...	60	60	45	45	45	58	69	73	70	39	48	70	60	67	72	67	66	72	65	45	40	44	49	68	69	64	69	60	63	60	23	58.2
	Minimum ...	25	43	24	18	16	22	28	37	31	12	27	33	45	34	51	48	26	38	43	27	29	13	24	28	34	35	35	31	32	23	13	29.8
Linton	Maximum...	70	66	64	57	51	62	71	83	75	51	64	65	70	76	84	76	78	79	70	60	38	57	57	69	61	69	70	68	56	40	19	63.7
	Minimum ...	21	46	21	17	17	29	33	29	32	11	8	30	43	24	54	44	19	27	37	37	28	6	11	15	26	25	28	18	39	16	9	25.8
Lisbon §§	Maximum...	61	64	63	47	47	58	69	77	70	41	58	67	70	75	75	64	68	77	68	65	42	46	55	69	63	59	65	53	66	65	20	60.9
	Minimum ...	29	48	25	19	16	17	28	41	35	13	19	35	42	30	48	49	25	35	49	39	31	17	23	24	33	31	32	27	27	20	15	29.7
McClusky	Maximum...	71	75	65	53	49	64	76	85	69	65	60	74	70	72	75	79	69	74	58	43	41	40	50	68	67	69	68	63	54	40	23	62.2
	Minimum ...	23	45	15	19	15	25	34	35	17	16	15	44	45	31	50	32	30	36	41	31	29	19	10	19	20	29	31	25	27	13	− 4	26.4
Maddock	Maximum...	65	66	68	44	46	65	75	82	77	48	44	69	70	65	75	76	67	75	70	48	44	46	51	68	74	70	72	60	42	37	20	60.6
	Minimum ...	25	42	19	20	14	22	27	33	27	12	20	33	44	28	54	44	25	35	44	32	18	10	33	30	38	28	36	26	27	16	9	28.1
Marmarth	Maximum...	78	65	58	63	58	68	77	77	62	52	71	77	67	71	67	59	63	74	64	57	38	47	54	64	67	70	72	77	63	23	10	61.7
	Minimum ...	30	47	30	25	30	31	30	32	27	28	20	35	40	29	45	38	28	36	31	32	26	27	22	22	20	29	25	30	23	8	2	28.3
Minot	Maximum...	73	60	51	52	55	72	70	79	68	40	63	66	64	65	82	71	57	70	66	44	35	48	53	59	69	65	64	62	34	23	16	57.9
	Minimum ...	23	25	38	42	46	48	49	49	25	33	14	42	41	27	57	42	28	41	36	32	26	11	26	36	37	29	32	28	21	12	7	32.4
Mohall	Maximum...	74	67	64	46	49	68	80	78	63	42	64	72	67	65	82	81	65	74	46	44	43	49	50	69	74	74	78	63	29	23	18	59.9
	Minimum ...	25	45	16	25	10	20	30	42	20	12	15	38	40	30	55	42	28	39	43	22	22	15	22	32	41	26	31	24	22	14	5	27.5
Mott	Maximum...	77	65	69	59	53	63	79	80	62	54	65	70	68	73	86	73	65	76	66	59	39	47	57	68	64	69	73	66	38	25	20	62.2
	Minimum ...	24	45	30	20	18	31	30	31	26	17	14	30	36	25	54	41	27	33	33	29	28	12	19	24	21	24	27	23	23	12	6	26.2
Napoleon §§	Maximum...	67	65	44	55	50	62	74	84	41	52	61	65	69	77	79	55	68	77	65	46	37	45	55	69	63	61	67	62	60	22	20	58.6
	Minimum ...	23	45	17	14	11	23	36	39	31	12	9	32	46	35	56	49	25	36	33	38	28	8	20	29	36	29	33	26	33	20	0	28.1
New England§§	Maximum...	80	68	56	52	61	72	79	81	70	54	61	71	69	73	83	66	64	72	63	54	63	60	65	66	70	68	71	68	33	19	20	63.0
	Minimum ...	25	37	26	22	22	26	34	29	24	18	28	35	30	39	43	28	34	39	33	29	29	29	30	31	30	27	26	27	12	5	7	27.5
New Salem	Maximum...	73	73	65	56	53	54	80	85	62	72	66	71	70	72	85	80	72	76	73	55	49	49	56	69	72	65	73	58	45	35	19	64.0
	Minimum ...	26	43	20	13	14	27	35	38	28	18	21	31	42	33	55	45	48	41	41	30	27	23	22	34	32	32	36	33	22	13	7	30.0
Oakes	Maximum...	62	65	62	43	48	52	69	77	69	44	59	66	72	78	80	74	69	78	67	63	39	47	58	69	62	59	62	55	66	61	23	61.2
	Minimum ...	28	44	23	17	15	16	30	37	35	16	14	39	51	31	55	50	24	31	43	38	32	13	20	19	28	27	28	29	31	23	13	29.0
Park River	Maximum...	60	59	38	44	45	60	74	75	41	39	49	71	50	67	72	56	65	71	54	50	41	46	49	70	74	67	70	42	61	31	27	55.4
	Minimum ...	28	29	26	20	17	22	35	37	31	14	19	19	41	36	37	52	31	32	40	29	28	13	13	27	34	31	38	29	31	27	14	28.4
Sharon	Maximum...	58	61	41	43	46	58	72	76	66	32	51	70	60	69	70	65	65	74	55	47	41	45	49	69	70	64	69	48	61	56	19	57.1
	Minimum ...	26	38	22	19	20	26	33	35	24	18	20	40	44	32	49	39	24	33	39	32	27	11	22	26	37	33	37	27	31	19	6	28.7
Steele	Maximum...	67	70	45	57	50	63	74	85	56	50	62	68	68	79	81	76	68	77	62	49	36	47	37	69	75	61	69	55	56	40	23	60.5
	Minimum ...	23	45	21	18	14	27	32	34	20	15	8	34	49	53	57	43	24	33	33	28	25	8	15	23	31	28	32	23	28	16	7	27.3
Towner	Maximum...	70	67	63	45	63	75	79	82	72	39	58	64	63	65	77	76	62	72	67	44	41	46	52	69	72	68	63	32	32	20	20	58.6
	Minimum ...	26	45	18	21	10	30	31	30	27	12	15	32	43	28	57	42	29	36	44	32	15	10	23	30	34	25	25	24	26	16	8	27.2
Valley City	Maximum...	61	64	58	48	53	58	68	77	68	55	64	66	62	75	72	71	67	75	70	58	44	45	50	68	67	63	66	63	63	59	20	61.2
	Minimum ...	28	45	22	12	15	15	32	38	31	12	18	36	48	28	48	48	26	37	46	41	29	11	23	20	28	28	30	27	28	20	13	28.8
Wahpeton	Maximum...	59	61	64	42	50	52	70	73	72	45	53	71	67	76	78	76	68	75	79	69	60	45	57	68	69	65	67	66	71	69	34	63.6
	Minimum ...	29	43	25	20	16	21	33	39	36	13	22	44	42	34	50	56	28	37	43	38	32	27	23	24	37	32	28	28	38	29	18	31.8
Westhope	Maximum...	71	68	55	45	47	64	78	76	53	39	60	71	67	64	77	65	70	66	68	48	40	49	52	70	71	72	63	49	42	23	19	58.1
	Minimum ...	26	45	18	26	14	14	30	39	25	18	14	32	44	36	53	40	50	35	41	32	20	14	25	31	33	26	30	28	22	14	5	28.4
Williston	Maximum...	77	68	48	55	54	68	75	74	40	49	67	72	65	69	68	52	61	74	54	40	42	46	54	67	70	69	69	39	28	17	15	56.9
	Minimum ...	33	46	27	25	28	32	35	37	26	30	23	36	41	30	48	37	33	41	40	31	22	26	26	32	38	31	37	28	17	3	− 1	30.5
Moorhead, Minn	Maximum...	54	58	39	41	46	55	68	72	60	36	52	65	66	70	71	69	67	75	60	66	34	44	50	69	64	59	64	50	67	63	23	57.9
	Minimum ...	31	33	25	23	20	21	32	39	24	16	21	42	44	35	52	39	31	35	41	34	30	18	27	26	38	32	30	30	40	23	12	30.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing. ᵇ 2 days, etc.

[WBO, Minneapolis, 11-26-35-1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

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JAN 1936
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NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLIV Bismarck, N. D., November 1935 No. 11

GENERAL SUMMARY

November 1935 was cold and moist. It was the coldest November since 1919 and sub-zero temperatures were reported from all parts of the State. In many sections the lowest readings occurred during the first decade. Temperatures during the last week of the month averaged above normal at most stations. The precipitation was considerably above normal in the central and northwestern districts and below normal at most places in the eastern section. Most of the moisture fell during the first decade. The heavy snowfall and cold weather during the first half of the month interfered somewhat with farm work, particularly corn husking. Considerable yard feeding of livestock was necessary. No severe storms were reported, but many highways were icy and some sideroads were snow blocked most of the month.

TEMPERATURE

The mean temperature for the State was 17.2°, or 9.5° below the 44 year average, and 16.7° lower than the mean for November 1934. The highest mean reported was 27.2° at Marmarth, Slope County; the lowest was 10.6° at Willow City, Bottineau County. The highest temperature reported was 57° at Hettinger, Adams County on the 29th; the lowest was -25° at Parshall, Mountrail County on the 5th. The greatest monthly range of temperature was 66° at Sanish, Mountrail County; the least was 45° at McLeod, Ransom County. The greatest daily range of temperature was 58° at Portal, Burke County on the 6th.

PRECIPITATION

The averge precipitation for the State was 0.75 inch, or 0.13 inch above the 44 year average, and 0.47 inch more than the average for November 1934. The greatest monthly amount reported was 1.50 inches at Sanish, Mountrail County; the least was 0.10 inch at Edgeley, LaMoure County. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Minot, Ward County on the 9th. The average number of days with 0.01 inch or more of precipitation was 6. The average snowfall was 8.1 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Devils Lake, 18th, 30th; Dogden Butte, 29th; Foxholm, Pettibone, 1st, 16th, 18th, 28th, 29th; Grand Forks, Petersburg, Trotters, 30th; Moorhead, 19th; New England, 11th; Tagus, 1st, 9th, 23d; Towner, 5th, 22d; Williston, 1st, 16th, 29th.

FOG: Arnegard, Corinth, Crosby, 24th; Beach, 14th; Bismarck, 8th, 9th, 13th, 15th, 18th, 23d, 24th, 25th, 27th; Bowman, 13th, 14th, 15th; Carson, 13th, 18th; Cavalier, 17th; Courtenay, Larimore, Powers Lake, 25th; Devils Lake, 2d, 17th, 18th, 24th, 25th; Dogden Butte, 30th; Eckman, 17th, 18th, 23d, 24th, 25th, 28th; Edmore, Fort Yates, Langon, 18th, 24th, 25th; Fessenden, 18th, 24th, 28th; Foxholm, 17th, 25th; Garrison, 23d, 24th, 25th; Grand Forks, 15th, 18th, 22d, 24th, 25th, 26th, 28th; Granville, Parshall, Williston, 23d, 24th; Hettinger, 14th, 19th; Howard, 22d, 23d, 24th, 27th, 28th; Linton, 13th, 18th, 24th, 25th; McLeod, Moorhead, Napoleon, Richardton, 13th; Marmarth, 13th, 14th; Mohall, 17th, 18th, 19th, 24th, 25th; Mott, 8th, 9th, 13th, 23d; New England, 22d; New Salem, 8th, 13th; Oakes, 15th, 23d; Pembina, 17th, 22d; Pettibone, 8th, 11th, 13th, 14th, 18th, 24th, 25th; Rugby, 17th, 18th, 20th, 23d, 24th, 25th; Sharon, 24th, 25th; Steele, 18th, 19th, 24th, 25th; Tagus, 24th, 27th, 30th; Towner, 18th, 23d, 24th, 25th; Tuttle, 13th, 18th, 24th, 25th; Westhope, 17th, 19th; Willow City, 17th, 18th, 19th, 25th, 26th.

HALOS, LUNAR: Moorhead, 6th; Oakes, 11th; Williston, 10th, 11th, 12th.

HALOS, SOLAR: Bismarck, 5th, 17th; Devils Lake, 2d, 3d, 4th, 26th; Ellendale, 28th; Grand Forks, 20th, 28th, 30th; Moorhead, 2d, 7th, 10th, 20th, 23d, 28th; Petersburg, 4th, 7th; Sharon, 11th; Tagus, 6th; Tuttle, 10th; Williston, 11th, 21st, 29th.

SLEET: Ashley, Courtenay, Hankinson, Napoleon, Pettibone, 9th; Bismarck, Fairfield, Moorhead, New England, Steele, 8th, 9th; Dogden Butte, McClusky, 30th; Ellendale, 10th; Fort Yates, New Salem, Richardton, Williston, 8th; Linton, 8th, 9th, 27th; Oakes, 8th, 9th, 30th; Pembina, 22d, 26th; Rugby, 18th, 25th; Tuttle, 9th, 30th; Zap, 3d, 9th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.14	30.79	15	29.62	9	7.5	23	nw.	30	87	74	83	30
Devils Lake	30.15	30.85	14	29.70	9	8.6	22	s.	16	94	82	92	45
Grand Forks	30.13	30.78	14	29.69	9	......	32	nw.	27	87	....	90	....
Williston	30.14	30.75	14	29.73	9	6.8	24	n.	4	85	76	78	34
Moorhead, Minn	30.15	30.79	14	29.56	9	9.1	25	nw.	27	91	81	88	43
Averages & ext's	30.14	30.85	14	29.56	9	8.0	32	nw.	27	88	78	86	38

† And other dates.

COMPARATIVE DATA FOR NOVEMBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	22.3	−4.4	75	−26	0.79	+0.17	1.80	0.13	7.4	4	8	9	13
1893.	22.4	−4.3	74	−27	0.57	−0.05	2.10	T.	4.6	3	9	10	11
1894.	23.1	−3.6	71	−25	0.47	−0.15	1.30	T.	2.6	4	10	8	12
1895.	20.6	−6.1	76	−25	1.06	+0.44	1.91	0.09	8.2	5	8	9	13
1896.	8.1	−18.6	62	−32	2.23	+1.61	4.33	0.70	21.7	9	8	7	15
1897.	20.0	−6.7	86	−28	0.32	−0.30	1.07	T.	2.8	3	12	9	9
1898.	23.0	−3.7	69	−30	0.34	−0.28	1.19	T.	3.1	3	13	8	9
1899.	36.0	+9.3	68	2	0.31	−0.31	0.85	0.00	1.0	2	15	4	11
1900.	20.4	−6.3	64	−29	0.32	−0.30	1.05	0.17	5.2	5	14	7	9
1901.	26.8	+0.1	70	− 7	0.19	−0.43	1.02	0.00	1.6	1	15	8	7
1902.	29.6	+2.9	69	−12	0.24	−0.38	0.72	T.	1.9	3	11	6	13
1903.	25.3	−1.4	78	−20	0.26	−0.36	0.90	T.	2.5	2	13	4	13
1904.	35.7	+9.0	80	−10	0.09	−0.53	0.55	0.00	0.7	1	18	5	7
1905.	31.6	+4.9	88	−38	1.54	+0.92	3.06	0.31	11.0	9	7	13	10
1906.	23.8	−2.9	68	−16	1.62	+1.00	3.94	0.62	10.2	7	10	7	13
1907.	30.2	+3.5	85	−15	0.09	−0.53	0.60	0.00	0.7	1	16	8	6
1908.	31.1	+4.4	75	−15	0.97	+0.35	2.81	0.14	8.2	4	12	8	10
1909.	29.4	+2.7	88	−23	0.43	−0.19	1.85	T.	4.6	3	11	9	10
1910.	23.9	−2.8	68	−23	0.37	−0.25	1.50	T.	3.2	2	8	10	12
1911.	16.7	−10.0	58	−33	0.65	+0.03	1.62	0.10	7.1	6	12	8	10
1912.	31.8	+5.1	70	1	0.06	−0.56	0.70	0.00	0.5	1	14	9	7
1913.	34.1	+7.4	77	− 2	0.22	−0.40	1.20	T.	1.6	2	15	8	7
1914.	30.7	+4.0	83	−30	0.35	−0.27	0.83	0.00	2.6	2	13	10	7
1915.	28.1	+1.4	71	−10	0.91	+0.29	4.44	T.	3.7	4	10	10	10
1916.	28.8	+2.1	75	−18	0.24	−0.38	1.12	0.00	1.7	2	16	8	6
1917.	36.8	+10.1	77	− 7	0.14	−0.48	0.41	0.00	1.4	1	16	6	8
1918.	28.9	+2.2	71	−18	1.04	+0.42	2.62	0.10	5.3	4	13	6	11
1919.	15.6	−11.1	57	−36	1.16	+0.54	3.40	0.13	11.8	5	11	8	11
1920.	28.0	+1.3	65	−14	0.37	−0.25	1.10	T.	2.1	3	10	9	11
1921.	21.0	−5.7	69	−30	0.68	+0.06	2.06	0.05	6.3	5	7	8	15
1922.	31.8	+5.1	65	− 8	2.33	+1.71	5.33	0.40	6.3	6	7	7	16
1923.	36.5	+9.8	72	− 5	0.50	−0.12	1.42	0.04	0.6	3	13	8	9
1924.	27.6	+0.9	69	−15	0.18	−0.44	0 85	0.00	1.9	2	11	9	10
1925.	28.8	+2.1	69	−17	0.25	−0.37	1.24	0.00	1.3	2	14	8	8
1926.	21.5	−5.2	68	−23	0.65	+0.03	2.00	T.	6.2	5	6	7	17
1927.	20.7	−6.0	59	−24	0.70	+0.08	1.56	0.17	7.1	6	7	8	15
1928.	31.0	+4.3	70	−11	0.48	−0.14	2.48	0.00	0.2	1	15	8	7
1929.	24.8	−1.9	70	−21	0.53	−0.09	1.60	T.	5.2	5	9	8	13
1930.	29.4	+2.7	72	−21	0.87	+0.25	3.09	T.	6.2	5	13	7	10
1931.	30.3	+3.6	78	−10	0.55	−0.07	1.77	0.00	5.0	3	13	7	10
1932.	25.2	−1.5	70	−17	0.49	−0.13	2.69	T.	4.6	4	10	10	10
1933.	28.3	+1.6	78	−15	0.65	+0.03	1.51	T.	6.6	5	9	8	13
1934.	33.9	+7.2	73	− 1	0.28	−0.34	1.04	0.00	1.0	3	13	7	10
1935.	17.2	−9.5	57	−25	0.75	+0.13	1.50	0.10	8.1	6	8	8	14
Per.	26.7	....	88	−38	0.62	....	5.33	0.00	4.7	4	11	8	11

Climatological Data for November 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	9	......	......	......	......	......	......	......	0.33	......	0.10	3.5	5	14	7	9	w.	H. A. Bury.
Amenia	Cass	954	39	13.6	-14.4	40	10	-10	28	30	0.11	-0.54	0.03	1.1	6	1	7	22	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	20.4	-7.9	44	16	-15	5	43	0.52	+0.12	0.20	5.2	4	10	6	14	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	19.9	-8.1	41	6†	-9	15	36	0.53	-0.10	0.15	7.0	6	10	5	15	ne.	H. D. Piper.
Beach	Golden Valley	2,759	29	25.4	-5.6	49	16	-8	2	35	0.56	+0.03	0.14	5.0	7	8	6	16	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	16.5	-12.0	43	7	-10	2	31	0.71	+0.27	0.32	9.0	5	11	7	12	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	60	21.1	-7.4	44	29	-3	15	26	0.82	+0.25	0.17	8.4	8	3	12	15	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	12.8	-10.8	39	7†	-16	5	33	0.90	+0.36	0.35	9.0	5	11	3	16	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	26.0	-4.6	50	29	-8	5	38	0.76	+0.38	0.38	7.6	8	15	6	9	nw.	George Larsen.
Cando	Towner	1,488	34	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. J. Swanson.
Carrington	Foster	1,579	37	14.9	-12.9	38	7†	-15	14	40	0.65	+0.10	0.30	10.4	6	9	2	19	sw.	L. A. Swanson.
Carson	Grant	2,500	23	21.6	-8.4	45	12	-11	5	37	1.12	+0.51	0.30	11.2	8	11	4	15	nw.	J. W. Evens.
Cavalier	Pembina	894	25	15.8	......	40	7†	-11	15	37	0.83	0.00	0.43	7.9	6	7	9	14	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	14.9	......	38	7	-14	21	41	0.96	+0.26	0.42	9.6	7	20	3	7	nw.	Theo. Marquardt.
Corinth	Williams	2,180	7	......	......	......	......	......	......	......	0.18	......	0.05	1.8	6	0	16	14	w.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	......	......	......	......	......	......	......	0.91	......	0.38	8.0	5	8	14	8	nw.	Geo. E. Berg.
Crosby	Divide	1,954	28	15.4	-11.3	42	6†	-19	5	35	0.39	-0.26	0.10	5.0	7	4	13	13	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	14.3	-10.2	38	6	-15	15	35	0.78	+0.06	0.31	8.7	12	6	7	17	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	20.8	-7.5	43	17†	-8	2	42	0.77	+0.25	0.15	7.7	11	4	11	15	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	17.6	......	41	17	-10	5	31	1.23	+0.80	0.62	12.8	5	11	6	13	nw.	R. L. Williams.
Drake	McHenry	1,634	6	14.6	......	39	6†	-14	15	49	0.64	......	0.31	7.8	8	7	7	16	nw.	Peter Anton.
Dunn Center	Dunn	2,191	36	19.8	-8.1	42	29	-14	5	35	0.74	+0.17	0.16	9.0	6	9	4	17	s.	W. F. Moede.
Dunseith	Rolette	1,682	39	11.2	-13.2	37	29	-12	15	35	0.88	+0.37	0.50	8.8	5	9	13	8	ne.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	12.6	-13.2	40	6†	-22	15	42	0.81	+0.23	0.35	12.5	5	3	10	17	se.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	16.9	-12.9	43	28	-11	14	39	0.10	-0.37	0.10	1.0	1	6	12	12	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	12.3	......	36	7†	-15	5†	40	1.09	+0.51	0.40	10.9	10	6	12	12	nw.	E. D. Warner.
Ellendale	Dickey	1,457	40	21.0	-5.1	46	29	-6	15	40	0.39	-0.35	0.11	4.6	5	8	6	16	s.	J. E. Demmer.
Energy‡‡	McLean	1,750	23	17.8	......	42	29	-8	2	32	0.59	+0.22	0.15	9.5	6	5	14	11	nw.	H. S. Solenberger.
Fairfield	Billings	......	6	......	......	......	......	......	......	......	0.80	......	0.20	8.0	5	14	2	14	nw.	F. R. Hecker.
Fessenden	Wells	1,610	23	14.2	-12.9	39	29	-20	15	53	1.38	+0.62	0.48	12.5	8	8	12	10	sw.	T. D. Monsen.
Forman	Sargent	1,249	42	......	......	......	......	......	......	......	0.34	-0.30	0.14	1.8	4	7	13	10	ne.	Helge Dyste.
Fort Yates	Sioux	1,670	35	22.6	-7.2	47	24†	-5	1†	35	0.32	-0.23	0.20	4.5	2	16	4	10	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	13.8	......	39	29	-14	5	36	1.29	+0.62	0.40	12.8	7	4	10	16	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	......	......	......	......	......	......	......	0.79	+0.15	0.30	9.5	6	7	9	14	nw.	Verne King.
Fullerton	Dickey	1,439	37	20.4	-8.8	44	29	-7	15	37	0.76	-0.09	0.17	7.6	7	4	9	17	nw.	F. O. Alin.
Gaekle	Logan	1,951	5	18.0	......	39	30	-10	15	32	0.36	......	0.26	7.0	2	11	11	8	sw.	A. H. Haut.
Garrison	McLean	1,901	58	16.5	-9.8	40	6†	-13	5	50	1.37	+0.82	0.62	11.5	5	2	17	11	nw.	W. F. Robinson.
Grafton	Walsh	827	43	15.4	-9.3	39	7	-12	15	30	0.83	+0.09	0.28	14.2	6	18	3	9	nw.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	44	14.6	-11.4	38	6	-16	15	38	1.12	+0.31	0.37	11.7	11	3	16	11	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	13.2	-13.5	40	6†	-19	5	44	1.04	+0.43	0.73	9.5	5	6	10	14	nw.	W. A. Christianson.
Hankinson	Richland	1,068	6	19.6	......	43	12	-4	22	41	0.30	......	0.15	2.5	3	14	3	13	nw.	R. G. Stock.
Hannah	Cavalier	1,568	43	13.0	......	39	29	-15	15	42	0.83	+0.05	0.41	8.3	6	8	9	13	nw.	James Muir.
Hansboro	Towner	1,597	27	14.4	-9.1	43	29	-20	15	44	0.60	+0.01	0.30	6.0	2	14	4	12	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	28	26.2	-5.4	57	29	-5	1†	39	0.38	-0.06	0.16	3.8	6	19	4	7	nw.	Glenn Brokaw.
Hillsboro	Traill	901	29	15.8	-12.0	35	29†	-13	15	38	0.91	0.00	0.78	9.1	3	7	11	12	nw.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	28	13.6	-12.7	37	17	-20	1†	40	1.40	+0.79	0.30	14.3	8	15	6	9	nw.	C. P. Ainsbaugh.
Jamestown	Stutsman	1,457	43	17.1	-10.2	40	7	-14	15	42	0.47	-0.25	0.15	4.8	7	6	9	15	nw.	S. Calvelage.
Kenmare	Ward	1,799	4	15.6	......	41	6†	-10	14†	42	1.00	......	0.38	11.0	4	11	8	11	nw.	R. Costello.
Langdon	Cavalier	1,615	39	11.2	-12.8	36	5†	-12	6†	46	0.70	-0.13	0.40	7.0	3	18	10	2	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	15.0	-10.8	37	7†	-14	15	40	1.30	+0.43	0.54	13.8	6	6	12	12	nw.	Mabel Walsh.
Linton	Emmons	1,711	18	20.6	-8.4	48	29	-17	1	39	0.23	-0.43	0.10	4.3	7	10	8	12	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	20.5	-8.4	42	26	-7	15	38	1.01	+0.28	0.30	10.1	9	5	5	20	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	17	15.8	......	43	17	-15	5†	35	1.20	+0.49	0.40	12.0	7	18	6	6	nw.	Edw. Tapley.
McLeod	Ransom	1,075	24	17.0	-13.3	39	12	-6	15†	38	0.44	-0.29	0.26	4.4	3	14	5	11	sw.	J. G. Carlson.
Maddock	Benson	1,604	20	14.5	-12.1	38	7†	-20	15	38	0.55	+0.01	0.26	5.5	4	5	10	15	nw.	A. T. Felland.
Mandan	Morton	1,750	21	20.1	-9.1	44	29	-6	15	42	0.96	+0.44	0.22	7.8	7	3	3	24	e.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	......	......	......	......	......	......	......	0.64	-0.08	0.25	7.8	7	8	10	12	......	P. B. Anderson.
Marmarth	Slope	2,714	26	27.2	-4.2	52	29	-12	4	42	0.47	+0.06	0.22	6.3	6	9	7	14	nw.	S. P. Grane.
Mary	McKenzie	......	6	......	......	......	......	......	......	......	0.57	......	0.15	5.5	9	10	5	15	nw.	Fred Hartman.
Max	McLean	2,093	6	15.2	......	40	7†	-15	5	44	0.90	......	0.50	9.0	4	6	1	23	ne.	A. W. Rice.
Mayville	Traill	975	39	17.2	-11.0	40	7	-13	15†	44	0.60	-0.19	0.22	6.0	6	9	6	15	n.	H. B. Addicott.
Minot	Ward	1,557	39	15.4	-12.1	40	6†	-16	5	36	1.31	+0.64	0.80	13.0	7	5	8	17	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	41	14.1	-10.7	41	29	-15	15	33	1.08	+0.48	0.55	14.0	5	4	16	10	nw.	John Behan.
Mott	Hettinger	2,424	28	18.6	-10.6	50	29	-10	4	42	0.72	+0.17	0.20	8.5	5	5	11	14	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	43	19.6	-7.1	42	29	-16	15	43	0.55	-0.10	0.20	4.0	7	13	3	14	s.	C. J. Hoof.
New England	Hettinger	2,400	41	26.8	-2.3	51	30	-4	2	35	0.78	+0.27	0.36	11.0	5	10	9	11	nw.	F. S. Sleight.
New Salem	Morton	2,163	31	21.9	-7.9	43	29	-5	2†	36	0.67	+0.18	0.27	6.7	10	10	4	16	sw.	J. Christiansen.
Oakes	Dickey	1,318	6	20.4	......	42	12	-7	15	39	0.39	......	0.13	4.6	6	5	16	9	nw.	Eugene Naylor.
Park River	Walsh	998	31	13.8	-14.0	39	29	-15	15	41	0.73	-0.05	0.46	13.5	4	5	9	16	nw.	C. B. Wright.
Parshall	Mountrail	1,929	20	16.0	......	39	26	-25	5	45	0.66	+0.37	0.22	8.8	8	5	9	16	nw.	C. E. Shubert.
Pembina	Pembina	789	61	......	......	......	......	......	......	......	0.75	-0.04	0.44	8.2	4	6	5	19	nw.	E. N. Russell.
Petersburg	Nelson	1,520	5	......	......	......	......	......	......	......	0.80	......	0.26	8.0	6	12	6	12	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	15.0	-11.4	41	17	-16	15	43	0.62	-0.04	0.30	6.2	3	8	8	14	......	Wm. R. Dahl.
Portal	Burke	1,954	30	11.7	-13.7	39	16	-23	5	58	0.45	-0.13	0.20	4.5	3	7	4	19	w.	R. G. Wegener.
Powers Lake	Burke	2,205	30	14.2	......	41	27	-20	5	40	0.77	+0.19	0.28	10.5	5	12	6	12	w.	Geo. B. Gee.
Richardton	Stark	2,467	19	22.7	-5.6	44	23	-5	5	32	1.18	+0.72	0.26	9.1	9	5	10	15	nw.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	......	......	......	......	......	......	......	0.42	......	0.15	4.2	4	2	11	17	ne.	W. B. Paterson.
Ryder	Ward	2,108	6	......	......	......	......	......	......	......	0.94	......	0.50	10.0	8	6	6	18	se.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	17.2	......	44	30	-22	5	45	1.50	......	0.60	15.0	7	1	12	17	w.	H. J. Bugge.
Sharon	Steele	1,516	11	14.6	......	37	29	-12	21†	41	0.93	+0.04	0.39	10.0	8	3	11	16	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	......	......	......	......	......	......	......	0.46	+0.19	0.46	4.0	1	9	18	3	nw.	H. J. Giffey.
Steele	Kidder	1,857	41	17.2	-9.1	41	29	-15	1†	35	0.58	-0.04	0.21	7.5	6	10	6	14	sw.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	......	......	......	......	......	......	......	0.66	......	0.25	9.5	6	11	6	13	sw.	G. N. Pilgard.
Tioga	Williams	2,279	6	......	......	......	......	......	......	......	0.60	......	0.45	6.0	5	5	11	14	nw.	Anton Carlson.
Towner	McHenry	1,482	33	14.4	-10.8	44	29	-18	15	44	0.76	+0.17	0.40	9.2	4	8	9	13	nw.	J. A. Gilje.
Trotters	Golden Valley	......	9	......	......	......	......	......	......	......	0.89	......	0.29	10.0	8	5	7	18	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	14.4	-13.8	40	7	-14	15	32	0.98	+0.58	0.43	8.8	6	10	15	5	nw.	M. A. Slettum.
Tuttle	Kidder	1,936	27	......	......	......	......	......	......	......	0.64	+0.15	0.30	7.3	7	11	10	9	nw.	Adam Leno.
Valley City	Barnes	1,245	29	17.8	-10.2	42	7	-12	15	37	0.46	-0.28	0.13	4.6	9	10	4	16	w.	I. C. Robertson.
Velva	McHenry	1,511	8	16.6	......	41	26†	-16	15	36	1.16	......	0.58	12.5	6	3	9	18	nw.	Oscar Anderson.
Wahpeton	Richland	962	43	23.0	-5.8	46	27	-4	22	34	0.47	-0.25	0.15	5.0	6	12	0	18	nw.	C. G. Luick.
Washburn	McLean	1,731	34	19.1	-11.2	41	17†	-5	15	42	0.50	-0.03	0.25	6.5	6	11	4	15	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	12.6	-13.0	40	7†	-18	5	38	1.12	+0.57	0.44	10.9	6	12	8	10	nw.	J. H. Munn.
Williston	Williams	1,878	56	19.6	-7.6	44	16	-15	5	36	1.14	+0.56	0.60	10.3	8	5	11	14	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	10.6	-12.0	39	6	-24	15	44	0.90	+0.31	0.40	9.0	5	8	12	10	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	6	19.0[d]	-10.8	45[d]	30	-16[d]	1	37[d]	0.48	-0.04	0.15	5.0	5	5	5	20	nw.	E. W. Davis.
Zap	Mercer	1,838	20	......	......	......	......	......	......	......	0.44	+0.11	0.21	4.4	4	10	12	8	......	R. A. Norton.
Moorhead, Minn.	Clay	935	54	17.6	-9.5	39	6	-9	15	35	1.06	+0.16	0.26	9.9	9	5	5	20	s.	U. S. Weather Bureau.
Averages	......	......	......	17.2	-10.2	57	29	-25	5	58	0.75	+0.14	0.80	8.1	6	8	8	14	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard Grenora.

Daily Precipitation for November 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.05	.05		.08				.10		T.							T.		.05							T.					0.33
Amenia	Red	T.	T.	T.		.01	.02	.01	.01	.03	T.								.03									T.					0.11
Arnegard (near)	Missouri		.10		.20																.20						.02						0.52
Ashley	Missouri			.05		.10				.15	.03				T.				T.		.05	.15									T.		0.53
Beach	Lit. Missouri	.04		.11	.06	.09	.04		T.	T.									.14		.08				T.		T.	T.					0.56
Berthold Agency	Missouri			.07	.15	T.			.15	.32				T.	T.				.02		T.							T.					0.71
Bismarck ***	Missouri	T.	.04	.10	.15	.03		T.	.08	.17				T.	T.	T.			.15	T.	.10	T.						T.	T.		T.		0.82
Bottineau	Mouse			.02	.07		T.		.35	.26				.20						T.									T.				0.90
Bowman	Grand	T.	.04	.38	T.	.09				.04									.09		.05			.06			.01	T.					0.76
Cando	Devils Lake																																
Carrington‖‖	James				.01	.02			.30	.10								.02	.20														0.65
Carson	Heart		.10	.30	.05				.05	.05					.02				.30		.25												1.12
Cavalier	Red			T.	.06	.04	.03		.20	.43				T.					.07									T.	T.	T.	T.		0.83
Cooperstown	Sheyenne			.05	.03	.03			.42	.31									.06							T.			.06		T.		0.96
Corinth	Missouri		.02			.02					.03			.05						.02						.04							0.18
Courtenay	James			.05	.12				.27	.38					.09				T.														0.91
Crosby	Mouse				.01			.10	.10	.05				.05							.05						.03						0.39
Devils Lake ***	Devils Lake	.01		.06	.05	.01	T.	.12	.23	.16			T	T.	T.	.01			.07	T.							T.	.01	.04	T.	.01		0.78
Dickinson‖‖	Heart	T.	.01	.15	.07	.04	.04		T.	.15	.03			T.	T.	.01	T.		.03	.09	T.	.15											0.77
Dogden Butte	Mouse	T.		.16	T.	.10		T.	.30	.62				T.	T.				.05	T.		T	T.					T.	T.		T.		1.23
Drake‖‖	Mouse		T.	.05	.01	.07		T.	.05	.31	.07					.02				.06		T.											0.64
Dunn Center	Knife			.16		.06			.07	.16									.15		.14												0.74
Dunseith	Mouse				T.		.01	.10	.50	.08				.19																			0.88
Eckman	Mouse			.03	.03				.14	.35				.26	T.							T.		T.					T.				0.81
Edgeley	James			.10																													0.10
Edmore	Devils Lake	T.		.05	.15		.01	T.	.40	.35			T.	.03		T.	.02		.05	T.								.01	.02		T.		1.09
Ellendale	James			.11		.10			T.	T.	.11								T.	.03	.04							T.					0.39
Energy	Missouri			.12	.12				.08	.15									.08		.04										T.		0.59
Fairfield	Knife				.20		.10												.20		.20						.10						0.80
Fessenden‖‖	James			.11	.03	.13		.01	.13	.48	.29									.20								T					1.38
Forman	Sheyenne	T.	T.	T.		.02	T.		T.	.13	T.					T.			T.	.05								.14	T.		T.		0.34
Fort Yates	Missouri			.20					T.						T.	T.					.12							T.					0.32
Foxholm (near)	Mouse			.18	.13			T.	.35	.40				.20	T.	T.			.01			.02						T.	T.				1.29
Fryburg	Heart	T.	T.	.18	.08	T.	.08	T.	.05						T.				.10		.30	T.						T.	T.				0.79
Fullerton	James		T.	.14	.02	.14		T.	T	.12						T.			.11		.06		T.					.17					0.76
Gackle	James	.10		T.	T.				T.	.26									T.														0.36
Garrison	Missouri	T.		.35		.20		T.	T.	.62	.10					T.			.10	T.		T.						T.					1.37
Grafton	Red				.03	.05			.16	.15	.28				T.				.16											T.			0.83
Grand Forks ***	Red			.09	.03	.03	.01	.08	.37	.27	T.				T.	T.			.13	T.	.01					T.		.09	T.	.01			1.12
Granville	Mouse			.03	.06				.20	.73				T.	T.				T.									T.			.02		1.04
Hankinson	Red			T.		.15	T.		T.									T.	T.								.05	.10			T.		0.30
Hannah	Pembina			.04	.11	.04	T.	T.	.14	.41				.09			T.											T.	T.	T.			0.83
Hansboro	Devils Lake			T.	.30				.30						T.																		0.60
Hettinger	Grand		.06	.16	T.	.02				.08								.05			.01												0.38
Hillsboro	Red								T.	.78										.10								.03					0.91
Howard (near)	Missouri				.21	.06	.14	.17	.13	.09				.30													.30						1.40
Jamestown	James	.02			.15				.10	.08									.05									.05			.02		0.47
Kenmare	Mouse			T.	.09		T.		.30	.38				.23		T.					T.	T.											1.00
Langdon	Pembina								.40	.10				.20																			0.70
Larimore	Red			.05		.02	T.		.50	.54									.16									.03					1.30
Linton	Missouri		.02	.10	.02	.01		T.	.01	.02					T.				T.		.05							T.					0.23
Lisbon	Sheyenne			.30		.20		T.	.05	.01	.05				T.	T.	T.		T.	.10								.20		.05	.05		1.01
McClusky	Missouri			.20		.10		.10	.10	.40	.10				T.				.20														1.20
McLeod	Sheyenne	T.	T.	.04					T.		.14																	.26					0.44
Maddock	Sheyenne			T.	T.				.20	.26									.06									T.			.03		0.55
Mandan‖‖	Missouri		.16	.03	.17			T.	.22	.03				T.	T.				.18		.17						T.	T.					0.96
Manfred	James			.15		.02		.01	.08	.25					T.				.12	T.								.01			T.		0.64
Marmarth	Lit. Missouri		T.	.22	.06	.05				.05									.04		.05			T.				T.					0.47
Mary	Lit. Missouri	T.	.07	.03	.04	T.	.15	.04	.07										.05		.08							.04					0.57
Max‖‖	Missouri			.20		.10				.50									.10								T.			T.			0.90
Mayville	Red	.01		T.	.02	T			.22	.21	.07								T.	.07							T.	T.					0.60
Minot	Mouse			.08	.04	.03			.30	.80						T.			.01			.05							T.				1.31
Mohall	Mouse			.04	.10			.17	.55					.22					T.	T.	T.							T	T.				1.08
Mott	Cannon Ball		T.	.19		.05		T.	T.	.20									.08		.20												0.72
Napoleon ‖‖	Missouri			.05	.10					.05	.20					.05				.05		.05											0.55
New England	Cannon Ball				.36	.18													.10	.10	.04												0.78
New Salem	Heart	T.	.01	.20	.02	.02	T.	.02	.02	.02					T.				.27		.08	.01						T.	T.				0.67
Oakes	James			.13		.08			T.	.09									.02		.03							.04			T.		0.39
Park River	Red			T.		.07	.14		.46										.06														0.73
Parshall	Missouri			.13	.09	.01		T.	.09	.22						T.			.08		.03	T.					.01	T.					0.66
Pembina	Red				.09				.15	.44									.07														0.75
Petersburg	Red			.02		.05	T		.16	.17	.26								.14									T.	T.				0.80
Pettibone	James	T.		T.	.12	T.		T.	.20	.30																							0.62
Portal‖‖	Mouse				.10				.20					.15																			0.45
Powers Lake	Missouri								.07	.28		.23		.16		.03																	0.77
Richardton	Heart	T.	.10	.10	.05	T.	T.	.16	.26	.04					.02				.21		.24							T.			T.		1.18
Rugby [near]	Mouse	T.		.07				.10	.10	.15				T.							T.					T.			T.				0.42
Ryder	Missouri		T.	.13	.16			.01	.02	.50	.01				T.	T.	T.			.09		T.					.02						0.94
Sanish‖‖	Missouri			.15	.15	.30				.60	.10								.10			.10						T.					1.50
Sharon	Red			.05	.01	.02	.01	T.	.31	.39	T.				T.	T.	T		.11	T.	T.							.03	T.	T.	T.		0.93
Stanton	Missouri				.46																												0.46
Steele	Missouri				.15		T.	.03	.12	.21					T.				.05	T.	.02												0.58
Tagus	Mouse				.20			.10	.10	.25				.01		T.			T.								T.	T.					0.66
Tioga	Missouri			T.	.06	.03		T.						.45	.03						.03								T.				0.60
Towner	Mouse			.09	T.	T.	.05		.22	.40				T.					T.	T.					T.								0.76
Trotters	Lit. Missouri	.03	.13		.05	.06			.23	T.									.05		.29						.05						0.89
Turtle Lake	Missouri			.13	.04	.05			.14	.43									.19														0.98
Tuttle	Missouri			.10	T.	.05	T.		.03	.30	T.				.02				.12	.02								T.			T.		0.64
Valley City	Sheyenne	.01		.06		.08		.01		.12	.13								.02									.01		.02	T.		0.46
Velva	Mouse			.10	.08	.05		T.	.26	.58					T.	T.			.08	T.		T.						T.	T.	T.			1.16
Wahpeton	Red					.02			.05	.10	.15								.05									.10					0.47
Washburn	Missouri			.05	T.	.06	.09			.25	.03				T.				T.	.02		T.						T.					0.50
Westhope	Mouse	.04	.02		.12				.26	.44				.24																T.			1.12
Williston ***	Missouri		T.	.11	.15	.02		T.	.48	.12			T	T.	T.	T.			.02		.22						.02		T.	T.			1.14
Willow City	Mouse			.05	.05				.40	.20				.20																			0.90
Wishek‖‖	Missouri				.13	.05	.06					.15										.09											0.48
Zap	Knife			.21	T.	T.		T.		.11					T.	T.			.07		.05												0.44
Moorhead, Minn ***	Red	T.		.18		.02	.04	.01	.22	.26	T.			T.	T.	T.			.05		T.		T.		T.	T.	.06	.22	T.	T.	T.		1.06

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	15	12	17	20	22	32	28	24	30	40	32	28	28	26	24	28	38	32	22	20	18	20	26	20	24	20	15	20	23	20	....	24.1
	Minimum	-9	-4	0	4	0	10	12	10	5	10	8	10	0	0	5	10	15	15	0	0	5	2	4	0	-2	0	-5	-10	-5	0	....	3.0
Arnegard (near)	Maximum	6	22	15	14	28	40	40	31	18	20	30	28	20	17	28	44	40	24	26	34	30	41	40	32	40	40	30	40	40	37	....	29.8
	Minimum	-5	5	-2	-4	-15	28	26	12	7	0	3	8	10	-5	11	21	10	-2	-4	26	20	17	10	12	12	26	22	26	25	31	....	11.0
Ashley	Maximum	20	15	19	19	20	41	38	41	29	23	27	32	32	17	16	19	36	33	29	29	25	28	31	38	38	35	35	25	39	40	....	29.0
	Minimum	-6	0	11	-3	-5	5	26	22	18	9	-1	15	13	7	-9	12	14	26	11	18	5	0	15	16	11	18	20	6	20	30	....	10.8
Beach	Maximum	11	11	14	28	27	36	46	41	41	25	39	35	22	19	30	49	48	36	32	33	33	48	42	42	48	39	34	43	45	39	....	34.5
	Minimum	-6	-8	2	-4	-4	29	31	33	10	3	11	20	12	14	18	21	28	1	2	22	21	16	22	30	25	29	22	22	33	30	....	16.2
Berthold Agency	Maximum	4	2	15	20	20	41	43	39	21	10	26	25	13	12	20	24	25	24	20	26	25	35	24	23	28	32	32	35	42	38	....	24.8
	Minimum	-6	-10	2	-4	15	14	25	15	10	-7	-3	12	9	6	5	17	16	10	-5	18	4	4	5	3	0	15	10	15	20	30	....	8.2
Bismarck	Maximum	20	17	19	26	18	41	40	34	24	19	30	35	19	18	21	37	41	31	22	27	23	35	32	38	34	42	34	34	44	38	....	29.8
	Minimum	1	1	10	0	-3	18	27	17	13	8	5	15	14	1	-3	18	22	13	8	19	8	12	11	16	14	24	17	12	24	29	....	12.4
Bottineau	Maximum	16	21	18	20	15	30	39	27	31	22	23	23	18	15	11	32	32	25	19	19	15	15	27	30	19	33	30	18	39	35	....	23.9
	Minimum	-8	-10	0	-7	-16	3	9	11	11	-2	-10	10	10	4	-9	5	7	17	-7	2	-15	-10	8	5	-1	15	11	-6	7	18	....	1.7
Bowman	Maximum	15	10	12	22	30	41	47	46	38	23	39	43	24	20	30	49	45	30	39	34	32	46	47	47	47	41	38	44	50	41	....	35.7
	Minimum	-4	-1	6	-1	-8	28	32	30	20	7	8	17	12	12	16	17	22	20	2	27	22	15	18	25	22	20	27	25	30	25	....	16.4
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Carrington §§	Maximum	18	18	20	20	20	15	38	25	25	25	28	30	36	25	28	35	38	31	20	21	20	33	32	33	24	38	25	30	30	30	....	27.0
	Minimum	-1	-4	0	-4	-11	-10	12	12	-2	-2	2	2	12	-15	-12	25	24	-2	5	-8	-4	12	10	10	8	16	-5	-5	20	0	....	2.8
Carson	Maximum	6	14	10	27	26	40	39	41	30	17	30	45	24	18	16	36	40	31	33	30	25	33	43	42	41	43	40	40	38	37	....	31.2
	Minimum	-3	-3	6	-6	-11	8	31	23	13	5	3	19	10	10	5	20	23	11	3	19	11	9	19	17	19	21	22	14	15	31	....	12.1
Crosby	Maximum	10	14	17	24	16	42	38	24	14	14	22	28	18	13	22	35	34	22	17	25	25	29	29	21	29	33	32	38	42	36	....	25.4
	Minimum	-5	-15	0	1	-19	10	20	10	10	-6	-3	5	4	-13	16	18	5	-4	-4	13	-5	9	7	4	9	19	12	14	22	29	....	5.4
Devils Lake	Maximum	16	18	19	19	13	38	37	16	22	15	24	28	18	15	20	34	35	32	21	19	7	33	26	25	21	34	25	27	38	30	....	24.2
	Minimum	3	-2	12	1	-8	10	11	10	15	0	-7	14	8	-8	-15	20	22	6	-4	-4	-7	-2	12	9	7	12	3	-6	21	-2	....	4.4
Dickinson §§	Maximum	15	13	14	27	34	39	40	36	23	19	33	30	19	17	24	41	43	26	31	28	27	39	43	43	42	41	27	41	43	40	....	31.3
	Minimum	-7	-8	0	-7	-8	-2	22	31	19	6	6	11	11	12	12	15	15	26	-3	11	20	4	9	12	11	14	17	12	21	24	....	10.2
Drake §§	Maximum	17	19	18	21	18	39	25	17	20	12	29	24	16	11	27	34	30	24	21	25	23	32	27	23	26	38	24	30	39	34	....	24.8
	Minimum	0	-5	-2	1	-12	-10	15	11	10	1	-3	7	9	6	-14	-13	21	20	6	5	-10	-9	13	9	11	11	23	-4	6	28	....	4.4
Dunn Center	Maximum	13	15	18	24	18	36	38	34	17	17	30	28	19	19	23	40	40	29	30	29	26	34	40	29	38	37	32	40	42	36	....	29.0
	Minimum	-3	-9	8	8	-14	16	28	15	12	7	5	15	10	5	5	14	20	8	-5	15	13	3	6	9	9	16	22	21	27	29	....	10.5
Dunseith	Maximum	9	23	16	17	17	33	32	15	14	14	15	15	15	13	4	24	25	24	18	12	12	22	29	28	17	29	28	14	37	37	....	20.3
	Minimum	-8	-7	-5	-4	-10	2	11	5	9	-2	-5	12	6	-1	-12	-1	12	15	-5	8	-8	-1	9	5	1	12	5	-4	10	14	....	2.1
Edgeley	Maximum	15	16	20	19	10	9	25	37	36	33	14	38	35	19	34	38	35	35	32	34	30	12	28	28	24	38	32	43	39	38	....	28.2
	Minimum	-5	-3	10	-1	-3	3	7	21	19	-3	-1	1	-1	-11	0	15	15	10	19	19	-6	-8	5	6	4	10	6	4	25	10	....	5.6
Ellendale	Maximum	22	17	21	25	18	45	37	30	30	25	28	41	19	20	18	38	36	34	30	28	28	29	35	41	35	38	27	24	46	39	....	30.1
	Minimum	-2	5	12	1	0	5	26	21	20	13	0	16	12	11	-6	18	19	30	8	16	1	-5	11	16	17	14	18	7	17	33	....	11.8
Fessenden §§	Maximum	18	18	19	19	18	38	25	19	22	14	26	28	18	15	26	35	37	32	20	24	19	31	30	25	29	36	20	27	39	32	....	25.3
	Minimum	-3	-4	-2	-3	-14	-11	10	11	12	4	-4	5	8	4	-20	-18	26	24	9	8	-11	-9	8	10	7	9	19	-5	-1	26	....	3.2
Foxholm (near)	Maximum	13	15	17	20	19	38	38	19	14	12	21	29	21	14	16	32	30	16	21	26	21	29	24	20	22	34	32	35	39	36	....	24.1
	Minimum	-5	-10	2	0	-14	3	15	6	8	0	-9	9	6	-8	-9	6	6	7	-10	12	-10	3	10	5	5	16	12	-1	22	24	....	3.4
Fullerton	Maximum	21	18	22	23	20	41	40	30	31	28	27	38	25	26	23	38	36	33	25	28	22	29	36	38	35	40	36	23	44	40	....	30.6
	Minimum	-3	2	12	0	-1	4	25	20	20	12	2	17	13	12	-7	19	21	25	5	13	-2	-3	10	14	13	11	13	5	15	20	....	10.2
Garrison	Maximum	18	19	18	22	22	40	30	17	17	28	18	18	19	10	14	36	40	22	23	26	34	32	34	36	40	38	34	36	40	38	....	27.3
	Minimum	-3	-8	-5	-3	-13	-10	22	15	13	4	10	-2	10	6	-3	5	10	16	6	7	-6	0	5	6	8	10	18	14	11	24	....	5.7
Grafton	Maximum	18	22	24	24	24	27	39	19	27	26	14	34	20	17	10	34	35	32	24	22	15	23	24	27	22	32	31	10	38	38	....	25.1
	Minimum	1	-4	7	6	0	-3	13	10	12	10	-9	7	10	2	-12	8	20	18	0	10	-4	2	11	17	4	15	5	-6	9	9	....	5.6
Grand Forks	Maximum	21	22	23	22	18	38	37	20	29	20	17	31	20	16	22	34	34	34	18	20	6	21	32	30	22	33	26	11	36	33	....	24.9
	Minimum	0	-4	12	2	-4	7	11	11	18	-3	-11	14	10	-8	-16	22	26	15	-3	-2	-12	-14	12	16	7	14	4	-5	11	-2	....	4.3
Granville	Maximum	16	20	20	20	19	40	39	40	18	15	18	15	14	5	29	37	19	18	22	17	9	24	22	25	18	31	17	29	37	30	....	22.8
	Minimum	-1	-10	-7	-7	-19	-1	20	18	10	-5	-11	14	10	-2	-15	11	7	12	-3	9	-15	9	4	3	-2	17	15	-3	21	30	....	3.6
Hansboro	Maximum	29	34	30	24	32	38	40	25	25	30	25	23	23	26	9	33	34	20	17	20	32	32	33	32	23	35	25	20	43	34	....	28.2
	Minimum	-2	-4	3	1	-7	0	9	8	12	-1	-11	12	10	-18	-20	2	5	7	-9	-8	-10	-11	8	7	7	10	2	-10	14	14	....	0.7
Hettinger	Maximum	19	12	14	30	30	44	47	46	34	20	32	41	24	23	47	45	32	36	38	37	32	46	50	49	46	45	35	47	57	42	....	36.7
	Minimum	-5	5	2	-3	-5	20	31	34	15	6	8	20	11	12	19	20	13	10	-1	22	23	13	23	30	22	24	25	22	24	29	....	15.6
Hillsboro	Maximum	19	19	21	20	20	27	27	21	31	28	20	32	26	16	25	34	34	32	18	20	20	22	31	30	22	33	32	9	35	35	....	25.3
	Minimum	-1	-2	11	4	2	3	17	12	18	11	-10	6	10	5	-13	20	20	15	1	9	-6	-10	11	15	9	15	9	-4	3	12	....	6.4
Howard (near)	Maximum	5	15	15	25	20	25	34	18	10	15	25	20	19	10	20	27	37	27	14	22	26	30	32	20	32	30	27	28	32	32	....	23.1
	Minimum	-20	-10	-5	0	-20	5	13	10	8	-9	0	4	5	-14	-3	14	14	0	-4	5	12	10	10	6	6	27	17	14	15	16	....	4.2
Jamestown	Maximum	19	18	21	20	21	39	40	22	29	21	25	33	20	18	17	37	36	32	22	27	21	35	32	22	24	37	34	23	39	37	....	27.4
	Minimum	-5	-4	13	-1	-6	3	20	14	14	6	-8	14	10	0	-14	15	21	22	1	11	-6	-7	15	16	10	10	8	-1	17	16	....	6.8
Kenmare	Maximum	14	16	21	20	21	41	39	19	15	16	20	28	17	15	19	41	28	13	20	25	24	35	34	25	27	35	34	39	36	41	....	25.9
	Minimum	-2	-8	3	6	-4	4	18	10	11	4	-1	9	7	-10	1	-1	5	-1	-10	13	-8	10	2	5	8	25	9	21	17	12	....	5.2
Langdon §§	Maximum	20	33	20	17	36	15	16	21	14	22	33	15	9	7	26	31	35	30	18	20	15	28	29	22	23	30	13	26	36	20	....	22.7
	Minimum	0	-7	-5	0	-10	-12	10	-5	6	0	-11	0	0	1	-10	-6	14	12	-10	-10	-12	-10	0	15	4	12	10	-11	10	12	...	-0.4
Larimore	Maximum	19	20	23	26	20	30	37	18	28	23	20	31	20	15	10	35	35	30	22	21	10	27	26	29	24	32	32	13	37	35	....	24.9
	Minimum	-1	-1	10	5	-3	0	14	10	15	7	-5	7	10	-2	-14	9	23	16	-2	10	-7	-13	10	19	10	13	6	-8	13	6	....	5.2
Linton	Maximum	21	15	20	23	24	43	39	44	30	21	34	40	20	22	24	38	39	36	24	28	25	39	41	46	37	41	35	30	48	39	....	32.2
	Minimum	-17	-4	10	-13	-7	10	29	25	20	9	-5	9	11	6	-10	15	18	18	8	5	0	9	10	11	14	15	19	10	14	30	....	9.0
Lisbon §§	Maximum	23	19	22	24	19	38	39	29	33	30	30	39	29	20	19	40	39	34	33	28	23	31	35	33	27	42	37	17	39	39	....	30.3
	Minimum	-3	1	14	1	1	0	22	16	21	13	0	19	13	9	-7	16	24	32	3	18	-2	15	10	12	11	10	13	0	16	22	....	10.7
McClusky	Maximum	25	19	20	21	20	38	27	25	20	21	26	28	17	14	17	33	43	30	28	26	21	29	18	13	26	36	34	31	38	37	....	26.0
	Minimum	-3	-8	9	-4	-15	5	4	11	11	-4	-2	9	7	1	-15	11	22	13	13	12	-12	9	8	9	13	18	10	-1	19	20	....	5.7
Maddock	Maximum	17	20	22	20	18	36	38	20	25	20	22	25	20	20	12	33	35	30	21	21	16	30	27	27	23	32	28	21	38	34	....	25.0
	Minimum	-1	-4	9	-2	9	5	18	9	11	1	-14	16	6	-1	-20	2	20	19	-4	8	-14	-8	4	13	3	8	9	-9	10	16	....	4.0
Marmarth	Maximum	16	11	16	30	32	42	47	50	44	24	40	42	32	22	32	48	45	37	42	36	34	46	42	47	47	41	35	45	52	42	....	37.3
	Minimum	-7	0	8	-12	-8	32	28	30	15	7	10	20	15	14	19	20	37	14	4	25	25	17	24	27	19	27	26	25	27	27	....	17.2
Minot	Maximum	11	20	20	20	20	40	40	24	16	14	27	28	14	11	11	31	29	28	16	25	22	34	25	25	29	35	32	35	40	37	....	25.3
	Minimum	-1	-9	12	12	-16	6	18	10	10	3	-4	11	9	-2	-12	10	8	9	-9	13	-13	7	5	0	5	20	16	4	19	25	....	5.5
Mohall	Maximum	14	13	18	22	20	39	39	20	15	14	19	26	19	19	13	33	27	18	22	22	21	24	26	22	18	37	30	37	41	37	....	24.2
	Minimum	-3	-8	4	4	-13	6	17	10	11	-1	-12	9	7	-10	-15	4	1	6	-7	9	-11	6	9	9	9	14	15	4	20	26	....	4.0
Mott	Maximum	20	15	19	29	29	43	46	44	34	22	30	37	26	21	21	42	47	33	40	32	31	43	47	48	46	44	44	46	50	42	....	23.7
	Minimum	-6	0	0	-10	-2	16	31	29	13	5	4	17	8	10	10	15	22	21	-2	19	21	6	12	22	21	21	21	20	27	33	....	13.5
Napoleon §§	Maximum	17	14	20	21	28	41	35	33	28	28	30	36	17	16	27	37	39	31	25	26	17	36	41	40	35	39	26	28	42	37	....	29.7
	Minimum	-10	-5	9	-6	-11	5	28	21	14	9	-4	19	10	4	-16	11	20	28	9	13	-5	9	12	12	13	14	24	5	19	30	...	9.4
New England §§	Maximum	20	14	24	30	33	44	47	41	43	42	34	34	35	38	43	47	35	37	22	24	40	41	42	50	46	49	33	48	50	51	....	37.9
	Minimum	-1	-4	-2	0	12	25	33	25	19	17	16	7	12	19	24	24	20	16	0	8	5	11	16	22	25	24	21	25	26	24	....	15.6
New Salem	Maximum	19	20	18	28	31	40	40	42	32	22	29	36	20	19	18	36	42	37	27	28	26	34	40	37	36	42	40	40	43	41	....	32.1
	Minimum	-4	-5	9	-5	-5	27	26	20	12	4	1	20	11	9	0	13	23	11	3	17	4	9	12	14	14	19	20	21	23	29	...	11.7
Oakes	Maximum	23	18	21	27	18	40	38	30	30	27	31	42	29	20	27	39	35	34	32	28	25	29	37	39	32	41	38	21	40	38	....	31.0
	Minimum	-6	2	12	1	0	1	24	18	20	13	-6	16	11	6	-7	15	21	31	3	14	-2	-6	12	16	13	21	11	3	13	24	....	9.8
Park River	Maximum	18	30	23	24	14	38	22	25	23	24	24	33	23	11	26	38	32	28	22	19	13	26	27	22	22	32	14	19	39	21	....	24.3
	Minimum	3	1	6	5	-2	0	8	11	8	7	-5	0	0	7	-15	-9	22	18	-3	-1	-7	-7	6	9	13	9	13	-8	-7	16	....	3.3
Sharon	Maximum	17	18	22	24	17	35	36	15	24	21	21	34	19	16	14	34	34	30	20	22	9	29	27	26	22	35	32	14	37	33	....	24.6
	Minimum	-4	-2	11	0	-7	1	12	9	14	-2	-6	13	9	-1	-8	13	25	20	-4	5	-12	-12	17	15	6	8	6	-8	13	6	....	4.6
Steele	Maximum	19	15	20	20	24	37	38	28	24	18	29	34	16	14	18	35	39	29	20	25	23	32	35	32	33	40	30	25	41	35	....	27.6
	Minimum	-15	-6	11	-7	-11	6	20	17	14	-1	-2	12	12	-6	-15	10	20	18	9	10	-5	11	13	9	8	15	15	4	15	22	....	6.8
Towner	Maximum	18	21	20	24	27	38	38	17	20	17	24	27	18	17	12	34	30	28	20	26	19	32	25	25	18	41	32	26	44	36	....	25.8
	Minimum	0	-8	7	0	-17	1	15	8	14	0	-15	16	9	3	-18	3	7	9	5	8	-17	1	4	4	2	14	12	-11	14	20	....	3.0
Valley City	Maximum	19	19	23	22	20	37	42	25	31	29	24	34	24	19	19	38	37	34	29	25	20	26	31	32	27	33	33	17	39	30	....	27.9
	Minimum	-3	-1	12	-1	-4	0	20	11	15	9	-7	15	10	5	-12	12	24	29	-1	15	-6	-11	8	20	10	12	12	-3	15	20	....	7.6
Wahpeton	Maximum	24	24	27	28	27	36	42	36	35	38	29	43	41	29	18	37	40	39	37	27	28	25	39	40	35	42	46	17	35	38	....	33.4
	Minimum	1	7	14	18	9	5	20	15	27	15	5	17	15	12	-2	17	30	32	6	14	-1	-4	15	24	13	14	12	-2	7	20	...	12.5
Westhope	Maximum	16	19	20	23	15	39	40	18	17	14	22	23	17	16	10	32	17	20	19	24	21	29	20	24	17	34	23	25	40	35	....	23.0
	Minimum	-5	-8	2	0	-18	8	12	10	11	-2	-11	10	7	-10	-16	5	1	7	4	0	-17	3	4	7	4	13	-7	11	20	20	....	2.2
Williston	Maximum	13	13	16	25	21	41	37	31	18	20	30	28	20	17	28	44	40	24	26	29	29	32	29	22	40	37	34	40	41	36	....	28.7
	Minimum	-1	-8	6	2	-15	21	28	14	9	1	5	10	12	-3	13	23	12	0	-2	23	15	10	9	9	10	22	20	19	28	22	....	10.5
Moorhead, Minn	Maximum	19	16	22	18	17	39	39	28	34	23	23	37	21	17	26	37	36	35	19	24	5	21	34	32	20	38	34	12	37	35	....	26.6
	Minimum	3	3	14	4	5	11	14	16	23	5	0	16	12	-1	-9	26	25	19	3	4	-3	-5	15	20	12	14	4	-3	12	1	....	8.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 12-23-35—1050

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLIV BISMARCK, N. D., DECEMBER 1935 No. 12

GENERAL SUMMARY

Temperatures in the southwestern portion of the State averaged considerably above the normal, but most stations in the eastern portion reported temperatures slightly below the normal. A severe cold period prevailed in all sections from the 24th to the 26th inclusive. In the western and extreme eastern counties the precipitation averaged below the normal, while elsewhere the amounts were above the normal. A severe storm of blizzard proportions was general on the 24th and resulted in the loss of several human lives. Livestock also suffered considerably during this storm, and many sideroads and a few main highways were effectively blocked. There was much snow on the ground at the end of the month, and yard feeding of livestock was general.

TEMPERATURE

The mean temperature for the State was 12.6°, and like the mean for December 1934, was exactly normal. The highest mean reported was 22.2° at Beach, Golden Valley County; the lowest was 5.4° at Willow City, Bottineau County. The highest temperature reported was 51° at New Salem, Morton County on the 6th; the lowest was -34° at Cooperstown, Griggs County on the 20th, and at Willow City, Bottineau County on the 10th and 20th. The greatest monthly range in temperature was 71° at Linton, Emmons County, and New Salem, Morton County; the least was 49° at Granville, McHenry County. The greatest daily range of temperature was 50° at Edgeley, LaMoure County on the 11th, and at Wishek, McIntosh County on the 20th.

PRECIPITATION

The average precipitation for the State was 0.51 inch, or 0.01 inch below the 44 year average, and 0.31 inch more than the average for December 1934. The greatest monthly amount reported was 1.48 inches at Fullerton, Dickey County; the least was 0.03 inch at Amenia, Cass County. The greatest amount recorded in any 24 consecutive hours was 0.50 inch at Hankinson, Richland County, and Lisbon, Ransom County, both on the 22d. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 5.6 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Corinth, 14th, 16th, 20th, 28th; Dogden Butte, 17th, 26th; Foxholm, 15th, 16th, 25th; Grand Forks, 1st; Howard, 16th, 19th; Napoleon, Petersburg, Tuttle, 26th; New England, 23d, 29th; Pettibone, 2d; Tagus, 1st, 26th; Trotters, 14th.

FOG was reported on the 1st, 2d, 3d, 4th, 5th, 6th, 7th, 8th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 20th, 21st, 22d, 26th, 28th, 29th, 30th and 31st; with the greatest number reported on the 1st, 2d, 3d, 4th, 5th, 6th, 7th, 12th, 13th, 14th and 30th.

HALOS, LUNAR: Bismarck, 1st, 2d, 9th, 10th; Devils Lake, Fessenden, Rugby, 10th; Dogden Butte, 11th; Moorhead, Petersburg, Sharon, 9th; Oakes, 9th, 10th; Velva, 8th; Williston, 1st, 8th, 9th, 10th.

HALOS, SOLAR: Bismarck, 2d, 29th; Devils Lake, 1st; Dogden Butte, 29th; Drake, 25th, 31st; Ellendale, 10th, 25th; Fessenden, New Salem, Pettibone, 9th; Grand Forks, 19th, 20th, 23d, 25th; Moorhead, 9th, 14th, 19th, 23d, 25th, 27th, 30th; Oakes, 23d; 25th: Rugby, 15th; Sharon, Tuttle, 25th; Tagus, 9th, 25th, 30th; Velva, 9th, 31st; Williston, 9th, 10th, 24th, 25th, 26th, 30th.

SLEET: Amenia, 5th, 6th, 7th; Devils Lake, Grand Forks, 13th: Dogden Butte, 3d; Mott, 22d; New England, 21st; Richardton, 14th, 22d; Rugby, 30th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck........	30.15	30.84	25	29.34	22	7.5	38	nw.	24	86	77	82	44
Devils Lake.....	30.16	30.77	25	29.25	22	7.8	34	nw.	24	96	91	94	39
Grand Forks....	30.14	30.68	25	29.47	22	......	30	nw.	18	91	....	92	....
Williston........	30.15	30.91	24	29.46	22	6.5	27	nw.	24	84	75	80	56
Moorhead, Minn	30.17	30.71	25	29.39	22	8.7	26	n.	25	94	88	92	26
Averages & ext's	30.15	30.91	24	29.34	22	7.6	38	nw.	24	90	83	88	41

† And other dates.

COMPARATIVE DATA FOR DECEMBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	7.1	−5.5	60	−39	0.57	+0.05	1.33	T.	7.7	4	13	8	10
1893.	4.7	−7.9	55	−36	0.85	+0.33	1.92	0.04	8.4	6	11	9	11
1894.	19.1	+6.5	70	−32	0.29	−0.23	1.20	T.	1.6	2	18	7	6
1895.	13.8	+1.2	62	−32	0.29	−0.23	0.88	0.03	2.6	3	12	9	10
1896.	16.4	+3.8	53	−35	0.37	−0.15	1.60	T.	2.6	3	13	9	9
1897.	10.8	−1.8	69	−35	0.22	−0.30	0.67	0.00	2.2	3	12	8	11
1898.	12.1	−0.5	55	−38	0.24	−0.28	0.87	T.	2.1	3	14	9	8
1899.	12.8	+0.2	60	−26	0.32	−0.20	0.80	T.	3.3	3	13	7	11
1900.	17.3	+4.7	58	−29	0.31	−0.21	0.92	T.	3.0	4	13	8	10
1901.	12.4	−0.2	61	−43	0.74	+0.22	1.45	0.08	7.2	5	10	7	14
1902.	7.8	−4.8	49	−35	0.51	−0.01	1.55	T.	4.2	4	14	7	10
1903.	11.6	−1.0	57	−33	0.77	+0.25	1.67	0.10	7.2	6	11	7	13
1904.	14.2	+1.6	55	−43	0.62	+0.10	2.00	0.00	6.2	5	7	8	16
1905.	15.3	+2.7	55	−34	0.16	−0.36	1.10	0.00	1.6	4	16	2	13
1906.	8.4	−4.2	48	−40	1.07	+0.55	1.89	0.20	10.7	6	11	7	13
1907.	20.1	+7.5	68	−26	0.30	−0.22	1.28	T.	3.1	3	15	7	9
1908.	14.4	+1.8	62	−37	0.38	−0.14	1.57	0.00	3.7	3	13	10	8
1909.	5.2	−7.4	54	−42	1.27	+0.75	4.84	0.29	12.1	7	9	8	14
1910.	12.9	+0.3	56	−34	0.42	−0.10	2.00	T.	4.6	4	12	8	11
1911.	14.9	+2.3	61	−33	0.39	−0.13	1.10	0.00	4.5	4	10	8	13
1912.	18.9	+6.3	72	−28	0.43	−0.09	3.13	T.	4.0	4	14	8	9
1913.	22.7	+10.1	61	−21	0.07	−0.45	0.67	0.00	0.3	1	18	6	7
1914.	5.4	−7.2	57	−42	0.50	−0.02	2.00	0.10	5.7	4	12	9	10
1915.	15.8	+3.2	57	−27	0.52	0.00	2.10	0.00	5.4	5	11	9	11
1916.	2.7	−9.9	61	−50	1.21	+0.69	3.09	0.02	13.9	5	15	8	8
1917.	0.7	−11.9	58	−44	0.60	+0.08	1.60	T.	7.4	6	9	9	13
1918.	18.5	+5.9	65	−41	0.88	+0.36	2.29	0.05	9.9	5	9	8	14
1919.	7.4	−5.2	49	−38	0.46	−0.06	1.30	0.00	4.8	3	14	9	8
1920.	15.2	+2.6	59	−32	0.32	−0.20	1.50	T.	3.2	3	11	9	11
1921.	16.5	+3.9	59	−33	0.41	−0.11	1.60	T.	3.9	4	14	7	10
1922.	8.5	−4.1	55	−34	0.67	+0.15	2.43	0.00	7.4	5	11	8	12
1923.	22.2	+9.6	62	−36	0.32	−0.20	0.96	T.	3.6	3	16	8	7
1924.	2.9	−9.7	58	−46	0.43	−0.09	1.00	T.	5.3	4	12	7	12
1925.	16.5	+3.9	67	−38	0.28	−0.24	1.20	0.00	2.6	3	12	8	11
1926.	9.2	−3.4	55	−36	0.57	+0.05	1.50	0.10	5.5	3	14	8	9
1927.	−1.8	−14.4	43	−38	0.75	+0.23	3.50	0.00	8.7	5	14	7	10
1928.	20.7	+8.1	57	−30	0.28	−0.24	0.95	0.00	3.2	3	14	7	10
1929.	12.5	−0.1	59	−38	0.81	+0.29	2.10	0.10	9.9	5	12	8	11
1930.	19.9	+7.3	53	−30	0.19	−0.33	0.90	0.00	2.0	3	12	8	11
1931.	21.0	+8.4	58	−21	0.23	−0.29	1.20	0.00	2.7	2	13	8	10
1932.	12.4	−0.2	60	−31	0.18	−0.34	0.80	0.00	1.7	3	14	10	7
1933.	8.6	−4.0	62	−38	0.88	+0.36	2.35	0.00	9.7	6	9	8	14
1934.	12.6	0.0	53	−44	0.30	−0.22	1.19	0.00	3.9	5	9	8	14
1935.	12.6	0.0	51	−34	0.51	−0.01	1.48	0.03	5.6	5	10	7	14
Per..	12.6	....	72	−50	0.52	....	4.84	0.00	5.2	4	12	8	11

Climatological Data for December 1935

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	9	......	......	......	......	......	......	......	0.25	......	0.11	3.0	5	14	6	11	nw.	H. A. Bury.
Amenia	Cass	954	39	10.6	−1.6	33	7†	−25	20	35	0.03	−0.52	0.03	0.3	1	0	4	27	sw.	I. Idso.
Arnegard (near)	McKenzie	2,238	22	17.6	+4.6	41	5	−22	26	44	0.25	−0.32	0.15	2.5	3	15	5	11	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	39	14.6	+0.4	37	2	−20	25	36	0.45	−0.06	0.20	5.5	3	13	5	13	nw.	H. D. Piper.
Beach	Golden Valley	2,759	29	22.2	+5.2	49	5	−18	25	43	0.49	−0.01	0.18	4.0	4	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	42	12.2	−3.2	30	1	−28	26	35	0.19	−0.20	0.12	4.0	2	18	3	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	60	15.3	+0.6	40	1	−19	26	36	0.71	+0.14	0.24	9.5	7	11	8	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	43	9.2	+1.8	32	2	−25	25	40	0.55	+0.11	0.14	5.5	9	17	2	12	nw.	N. D. School of Forestry.
Bowman	Bowman	2,872	21	20.8	+5.7	48	5	−16	25	36	0.43	+0.15	0.20	4.0	6	15	6	10	nw.	George Larsen.
Cando	Towner	1,488	34	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. J. Swanson.
Carrington	Foster	1,579	37	9.2	−2.5	31	6†	−22	9†	41	0.80	+0.38	0.30	8.0	3	12	1	18	nw.	L. A. Swanson.
Carson	Grant	2,500	23	17.5	+2.8	43	5†	−18	24†	36	0.15	−0.40	0.05	1.5	3	14	4	13	nw.	J. W. Evens.
Cavalier	Pembina	894	25	9.2	......	34	7	−21	10	29	0.33	−0.67	0.24	5.5	3	6	4	21	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	38	7.9	......	31	6	−34	20	43	0.92	+0.40	0.42	9.2	7	14	9	8	nw.	Theo. Marquardt.
Corinth	Williams	2,180	7	......	......	......	......	......	......	......	0.29	......	0.20	3.0	4	0	21	10	sw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	6	......	......	......	......	......	......	......	0.75	......	0.40	9.0	3	10	13	8	nw.	Geo. E. Berg.
Crosby	Divide	1,954	28	12.0	+0.4	37	11	−22	25	36	0.12	−0.33	0.08	1.2	2	12	4	15	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	38	8.3	−1.2	29	6	−23	25	34	0.53	−0.01	0.19	4.1	9	7	5	19	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	43	17.2	+0.8	48	5	−17	26	48	0.45	−0.04	0.15	4.5	6	8	5	18	......	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	9	14.2	......	35	5†	−21	10	37	0.69	+0.29	0.30	9.0	4	12	5	14	nw.	R. L. Williams.
Drake	McHenry	1,634	6	11.8	......	34	1	−23	10	36	0.47	......	0.14	5.6	11	8	2	21	nw.	Peter Anton.
Dunn Center	Dunn	2,191	36	17.4	−0.3	39	5†	−21	26	37	0.07	−0.48	0.04	1.0	2	14	7	10	nw.	W. F. Moede.
Dunseith	Rolette	1,682	39	8.0	−1.1	28	16	−24	10†	38	0.51	+0.11	0.35	3.8	4	13	3	15	se.	L. F. Wetsch.
Eckman	Bottineau	1,500	30	8.3	−1.0	32	22	−27	10	40	0.30	−0.21	0.15	6.0	6	10	6	15	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	34	10.4	−4.2	39	1	−20	11†	50	0.50	+0.11	0.30	5.0	3	6	7	18	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	11	6.2	......	29	7	−29	20	39	0.53	−0.15	0.15	5.3	14	6	5	20	nw.	E. D. Warner.
Ellendale	Dickey	1,457	40	15.0	−1.8	38	1	−18	26	31	0.53	+0.05	0.21	7.2	5	4	13	14	nw.	J. E. Demmer.
Energy‡‡	McLean	1,750	23	13.6	......	39	7	−24	26	36	0.27	−0.17	0.12	3.5	3	12	7	12	s.	H. S. Solenberger.
Fairfield	Billings	......	6	......	......	......	......	......	......	......	0.40	......	0.20	4.0	3	16	8	7	nw.	F. R. Hecker.
Fessenden	Wells	1,610	23	9.5	−1.1	32	21	−27	10	43	1.02	+0.36	0.31	11.0	8	10	6	15	nw.	T. D. Monsen.
Forman	Sargent	1,249	42	......	......	......	......	......	......	......	0.87	+0.32	0.35	9.1	5	4	9	18	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	35	18.0	−0.4	45	1†	−17	26	47	0.53	+0.05	0.23	4.5	3	14	4	13	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	14	11.4	......	33	8†	−23	26	40	0.44	+0.01	0.21	4.2	4	11	8	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	17	......	......	......	......	......	......	......	0.32	−0.26	0.10	3.0	4	10	9	12	nw.	Verne King.
Fullerton	Dickey	1,439	37	14.4	0.0	38	8	−24	25	29	1.48	+0.63	0.44	14.8	10	7	9	15	nw.	F. O. Alin.
Gackle	Logan	1,951	5	13.8	......	35	5	−19	25†	33	0.50	......	0.20	6.5	4	13	6	12	nw.	A. H. Haut.
Garrison	McLean	1,901	58	12.4	−1.3	38	13	−23	26	39	0.40	−0.15	0.10	4.0	4	10	8	13	nw.	W. F. Robinson.
Grafton	Walsh	827	43	8.5	−0.4	32	7	−24	20	34	0.38	−0.14	0.10	8.1	5	8	10	13	se.	James P. Aylen.
Grand Forks‡‡	Grand Forks	830	44	9.2	−1.4	36	7	−23	10†	35	0.72	+0.09	0.25	7.7	13	4	7	20	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	28	8.8	−3.2	26	4†	−23	20†	43	0.90	+0.38	0.30	9.0	4	11	6	14	nw.	W. A. Christianson.
Hankinson	Richland	1,068	6	13.2	......	40	8	−18	20	42	1.00	......	0.50	9.0	5	10	0	21	nw.	R. G. Stock.
Hannah	Cavalier	1,568	43	7.5	......	32	8	−27	10	41	0.49	−0.11	0.13	4.9	5	10	6	15	nw.	James Muir.
Hansboro	Towner	1,597	27	7.4	−0.6	32	11†	−28	20	37	0.35	−0.30	0.35	4.0	1	14	4	13	s.	C. E. Blackorby.
Hettinger	Adams	2,675	28	21.4	+4.6	47	8	−13	25	35	0.09	−0.28	0.05	0.9	3	14	11	6	nw.	Glenn Brokaw.
Hillsboro	Traill	901	29	11.0	−0.2	35	7	−24	20	31	0.53	−0.23	0.25	5.3	3	6	7	18	s.	H. F. Lund.
Howard‡‡ (near)	Williams	2,275	28	12.1	+0.5	34	5	−25	25	43	0.82	+0.15	0.40	7.9	3	21	2	8	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,457	43	11.2	−2.2	39	1	−25	10	37	1.21	+0.53	0.40	12.2	10	8	5	18	nw.	S. Calvelage.
Kenmare	Ward	1,799	4	14.8	......	40	11	−20	26	31	0.13	......	0.11	2.0	2	11	12	8	se.	R. Costello.
Langdon	Cavalier	1,615	39	6.8	−1.5	30	1†	−28	10	42	0.90	+0.27	0.40	9.0	4	8	20	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	42	9.4	−1.6	34	7	−24	10†	41	0.42	−0.15	0.18	7.1	5	7	8	16	nw.	Mabel Walsh.
Linton	Emmons	1,711	18	14.7	+0.8	46	2	−25	26	45	0.58	+0.17	0.40	2.6	2	10	8	13	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	31	13.2	−0.9	37	8	−21	20	37	1.40	+0.89	0.50	14.0	6	5	6	20	nw.	J. O. Halverson.
McClusky	Sheridan	1,943	17	14.8	......	38	5	−23	10	44	1.30	+0.68	0.40	13.0	5	25	3	3	nw.	Edw. Tapley.
McLeod	Ransom	1,075	24	12.0	−2.4	41	2	−24	20	43	0.25	−0.22	0.12	2.5	3	11	9	11	sw.	J. G. Carlson.
Maddock	Benson	1,604	20	8.9	−1.1	36	21	−29	20	38	0.33	+0.07	0.13	3.3	5	8	12	11	nw.	A. T. Felland.
Mandan	Morton	1,750	21	15.0	+1.3	40	1	−22	26	37	0.88	+0.45	0.25	8.0	7	5	2	24	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	32	......	......	......	......	......	......	......	0.85	+0.19	0.25	11.2	9	13	7	11	......	P. B. Anderson.
Marmarth	Slope	2,714	26	21.6	+4.8	48	5	−19	25	40	0.52	+0.12	0.20	5.2	6	9	6	16	nw.	S. P. Grane.
Mary	McKenzie	......	6	......	......	......	......	......	......	......	0.33	......	0.21	1.0	2	19	6	6	nw.	Fred Hartman.
Max	McLean	2,093	6	12.1	......	38	10†	−22	25†	43	0.59	......	0.30	5.8	5	8	0	23	nw.	A. W. Rice.
Mayville	Traill	975	39	12.0	−0.9	34	7	−23	20	32	0.68	+0.12	0.25	6.8	6	6	6	19	n.	H. B. Addicott.
Minot	Ward	1,557	39	12.6	+0.7	39	5	−24	26	39	0.59	+0.11	0.20	5.9	5	11	5	15	w.	Mark M. Chatfield.
Mohall	Renville	1,646	41	10.4	−0.6	36	11	−23	10	41	0.34	−0.07	0.18	2.0	2	9	10	12	se.	John Behan.
Mott	Hettinger	2,424	28	21.6	+7.8	47	1†	−12	25	35	0.37	−0.27	0.21	2.0	3	7	15	9	nw.	W. M. Hendricks.
Napoleon	Logan	1,955	43	14.0	+1.4	43	5	−24	25†	46	0.65	+0.20	0.20	7.5	6	9	8	14	nw.	C. J. Hoof.
New England	Hettinger	2,400	41	20.0	+3.5	48	1	−14	24	37	0.29	−0.11	0.21	1.0	2	12	6	13	nw.	F. S. Sleight.
New Salem	Morton	2,163	31	17.4	+2.1	51	6	−20	25†	40	0.34	−0.24	0.14	4.0	6	14	5	12	nw.	J. Christiansen.
Oakes	Dickey	1,318	6	13.1	......	42	8	−24	20	35	0.77	......	0.29	11.0	6	3	14	14	nw.	Engene Naylor.
Park River	Walsh	998	31	9.5	−1.0	32	8	−23	10	40	0.31	−0.14	0.23	3.0	2	9	5	17	se.	C. B. Wright.
Parshall	Mountrail	1,929	20	12.2	......	34	8†	−31	26	42	0.17	−0.23	0.11	2.0	2	14	4	13	nw.	C. E. Shubert.
Pembina	Pembina	789	61	......	......	......	......	......	......	......	0.52	−0.25	0.21	6.7	5	6	3	22	nw.	E. N. Russell.
Petersburg	Nelson	1,520	5	......	......	......	......	......	......	......	0.33	......	0.12	3.3	6	6	9	16	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	26	9.6	−0.9	32	1†	−25	20	44	0.64	+0.07	0.29	7.0	3	3	10	18	......	Wm. R. Dahl.
Portal	Burke	1,954	30	10.7	−1.5	35	11	−24	25	48	0.20	−0.30	0.10	2.0	2	11	8	12	w.	R. G. Wegener.
Powers Lake	Burke	2,205	30	13.0	......	34	6	−16	23	33	0.48	−0.11	0.27	7.0	3	20	6	5	e.	Geo. B. Gee.
Richardton	Stark	2,467	19	19.4	+5.4	42	5	−16	25	35	0.50	+0.12	0.26	7.1	3	11	7	13	nw.	Assumption Abbey.
Rugby (near)	Pierce	1,562	6	......	......	......	......	......	......	......	0.40	......	0.20	4.0	3	12	4	15	nw.	W. B. Paterson.
Ryder	Ward	2,108	6	......	......	......	......	......	......	......	0.56	......	0.23	6.0	6	6	6	19	se.	S. C. Schellenbaum.
Sanish	Mountrail	1,835	10	13.2	......	37	9	−26	26	38	0.40	......	0.20	4.0	3	1	20	10	w.	H. J. Bugge.
Sharon	Steele	1,516	11	8.4	......	30	6†	−26	20	38	0.42	+0.02	0.12	4.0	7	6	4	21	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	11	......	......	......	......	......	......	......	0.52	+0.18	0.24	11.0	4	8	11	12	nw.	H. J. Giffey.
Steele	Kidder	1,857	41	12.6	+0.3	38	8	−27	26	40	0.39	−0.16	0.16	3.9	3	11	7	13	nw.	R. S. Armstrong.
Tagus	Mountrail	2,179	6	......	......	......	......	......	......	......	0.10	......	0.07	1.0	2	13	7	11	w.	G. N. Pilgard.
Tioga	Williams	2,279	6	......	......	......	......	......	......	......	0.36	......	0.16	3.6	4	10	4	17	nw.	Anton Carlson.
Towner	McHenry	1,482	33	10.6	+0.5	35	8	−27	10	40	0.56	+0.16	0.15	11.1	5	14	3	14	nw.	J. A. Gilje.
Trotters	Golden Valley	......	9	......	......	......	......	......	......	......	0.42	......	0.22	3.5	4	11	11	9	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	21	8.4	−3.2	31	22	−24	26	38	0.33	−0.21	0.16	4.0	3	18	0	13	w.	M. A. Slettum.
Tuttle	Kidder	1,936	27	......	......	......	......	......	......	......	0.41	−0.03	0.14	3.6	7	15	5	11	nw.	Adam Leno.
Valley City	Barnes	1,245	29	11.6	−2.1	32	2†	−26	20	39	0.49	+0.03	0.23	4.0	6	10	2	19	nw.	I. C. Robertson.
Velva	McHenry	1,511	8	13.4	......	37	5†	−22	26	42	0.57	......	0.24	6.5	5	3	14	14	nw.	Oscar Anderson.
Wahpeton	Richland	962	43	15.8	+0.5	40	9	−20	20	36	0.87	+0.43	0.40	8.7	7	10	0	21	nw.	C. G. Luick.
Washburn	McLean	1,731	34	14.2	+0.2	39	8	−19	25†	39	0.40	+0.08	0.14	6.0	4	10	11	10	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	29	7.0	−3.0	32	1	−25	25	39	0.30	+0.03	0.10	6.5	5	8	10	13	nw.	J. H. Munn.
Williston	Williams	1,878	56	15.8	+2.0	39	7	−19	26	39	0.51	−0.07	0.19	4.1	7	14	7	10	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	43	5.4	−3.3	28	1†	−34	10†	45	0.70	+0.16	0.20	7.0	5	12	9	10	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	6	13.2^{c}	+0.2	42^{c}	5	-22^{c}	20	50^{c}	0.45	−0.19	0.15	5.0	5	8	1	22	nw.	E. W. Davis.
Zap	Mercer	1,838	20	......	......	......	......	......	......	......	0.10	−0.23	0.10	1.0	1	16	11	4	......	R. A. Norton.
Moorhead, Minn.	Clay	935	54	12.1	+0.6	35	7	−19	20	29	0.60	−0.12	0.21	8.5	9	4	9	18	s.	U. S. Weather Bureau.
Averages	......	......	......	12.6	0.0	51	6	−34	10†	50	0.51	−0.01	0.50	5.6	5	10	7	14	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for December 1935

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri									T.				.11	.01				T.	T.		.01	.11	T	T.			.01	T.				0.25
Amenia	Red	T.	T.			T.	T.												T.						.03	T.							0.03
Arnegard (near)	Missouri													.05									.15		.05			T.	T			T.	0.25
Ashley	Missouri						.20																.15					.10	T.				0.45
Beach	Lit. Missouri													.16	.05					T.			.18				.10						0.49
Berthold Agency	Missouri													T.					T.				.12					.07					0.19
Bismarck ***	Missouri			T.			.24			T.				T.	.02				T.		T.	.03	.15		.06	T.		.19	T.			.02	0.71
Bottineau	Mouse			T.						.01					.07						T.	.02	.11		.14	.03		.07	.03			.07	0.55
Bowman	Grand									T.				.07	.05								.20		.02		.01	.08					0.43
Cando	Devils Lake																																......
Carrington‖	James						.30															.30		.20									0.80
Carson	Heart						.05								.05							.05											0.15
Cavalier	Red		T.	T.		T.	T.	T.			T.				T.				T.		T.	.24	.05		.04			T.	T.	T.		T.	0.33
Cooperstown	Sheyenne				.01		.14			.03						.07						.15	.10			.42		T.	T.				0.92
Corinth	Missouri									T.				.04					T.			T.	.02		.20					.03			0.29
Courtenay	James						.30			.05				T.											.40								0.75
Crosby	Mouse													T.					T.				.08		.04								0.12
Devils Lake ***	Devils Lake		T.	T.			.10			.01	T.		.01	.04	.08				T.		T.	.04	.16		.08		T.	T.	T.	T.	.01	T.	0.53
Dickinson‖	Heart	T.												.09	.07					T.	T.		.15	.01	.08			.05	T.	T.			0.45
Dogden Butte	Mouse			T.			T.	.25		T.				T.	T.				T.				.30		.09			.05	T.				0.69
Drake‖	Mouse				.01			.14		T.				T.	.01	.03				.02			.14	.01	.08	T.		.01	.01			.01	0.47
Dunn Center	Knife																						.04		T.			.03					0.07
Dunseith	Mouse							.02			T.				.35				T.				T.		.11			.03			T.		0.51
Eckman	Mouse			T.						T.					.05				.02				.15		.03			.03				.02	0.30
Edgeley	James												.10										.10		.30								0.50
Edmore	Devils Lake		.01	T.			.01	.01		.02	T.			.02	.05				.01		.02	.05	.11	.15				T.	.02		.02	.03	0.53
Ellendale	James			T.			.21			T.					.02	T.							.16		.09			.05	T.				0.53
Energy	Missouri																					.10			.05			.12					0.27
Fairfield	Knife													.10								.20		.10									0.40
Fessenden‖	James							.31		.01					.11								.21		.10	.15			.09			.04	1.02
Forman	Sheyenne			T.	T.		.21			.04					T.	T.			T.			T.	.35		.25			.02	T.	T.	T.		0.87
Fort Yates	Missouri						.20							T.	.10				T.						T.			.23					0.53
Foxholm (near)	Mouse									T.				T.	T.				T				.21		.18			.04				.01	0.44
Fryburg	Heart													.06	.06				T	T.	T.	T.		.10	.10		T.	T.	T.	T.			0.32
Fullerton	James			.03			.34	.02		.03					.07				T.			.02	.44		.32			.17	.04			T.	1.48
Gackle	James						.13			.04					T.				T.			T.	T.		.20			.13					0.50
Garrison	Missouri														.10								.10		.10			.10				T.	0.40
Grafton	Red		T.		T.					.05						T.			T.			.08	.10		.08	.07			T.			T.	0.38
Grand Forks ***	Red		.01	T.			.02	T.		.02			T.	T.	.03	.01			.01	T.	.02	.09	.17	T.	.25		.02	T.	.04	T.	T.	.03	0.72
Granville	Mouse			T.					T.								T.						.30		.20			.20			.20		0.90
Hankinson	Red			T.			.10				T.				.05				T.				.50		.30				.05				1.00
Hannah	Pembina			T.			T.			T.	T.				.12						T.	.05	.13		.13						T.	.06	0.49
Hansboro	Devils Lake																														.35		0.35
Hettinger	Grand													.02	.05								.02										0.09
Hillsboro	Red							.20			T.												.25		*	.08							0.53
Howard (near)	Missouri													T.	.12								.30		.40			T.			T.		0.82
Jamestown	James			.02			.40			.05				.02	.05							.02	.40			.15		.05	.05				1.21
Kenmare	Mouse													T.								T.	.11	T.				.02					0.13
Langdon	Pembina																		.20				.40				.20		.10				0.90
Larimore	Red			T.				T		T.						.03						.05	.18		.11				.05				0.42
Linton	Missouri						.40								T.								.18		T.			T.					0.58
Lisbon	Sheyenne			T.		T.	.30			.05		T.			T.	T.			T.		T.	.05	.50		.30	.20		T.	T.				1.40
McClusky	Missouri						.40			.20													.20		.30		.20						1.30
McLeod	Sheyenne				.03													T.						.12		.10		T.	T.				0.25
Maddock	Sheyenne						.06			T.					.05				T.			T.	.13	.06				T.	T.			.03	0.33
Mandan‖	Missouri		T.	T.			.25		T.				T.	T.					T.			.23	.02	.08	T.		.20	.08	T.			.02	0.88
Manfred	James			T.			.25			.05				.01	.04				.06			T.	.15		.15			.12				.02	0.85
Marmarth	Lit. Missouri									T.				.20	.02					T.			.10	.02	.05			.13	T.				0.52
Mary	Lit. Missouri																						.21	.12									0.33
Max‖	Missouri													.02									.30		.02			.50	.20				0.59
Mayville	Red			T.			T.	.24		T.			.01			T.			T.			T.	.25	T.	.05	.12				.01		T.	0.68
Minot	Mouse	.15													.20									.15	.06					.03	T.		0.59
Mohall	Mouse									T.		T.		T.	T.				T.			T.	.16		.18			T.	T.		T.		0.34
Mott	Cannon Ball													.08									.21					.08					0.37
Napoleon‖	Missouri			T.			T.	.10			T.				T.	.05				T.			.20		.05	.05			.20				0.65
New England	Cannon Ball												.08									.21											0.29
New Salem	Heart						.01								.01				T.				.10		.04			.14	T.			.01	0.34
Oakes	James			T.			.29	T.							T.	.05			T.			T.	.25		.14			.03	.01				0.77
Park River	Red						T.																		.08	.23							0.31
Parshall	Missouri														T.				T.				.11					T.	.06				0.17
Pembina	Red									.07						T.						.21	.04		.19		T	T.	T.			.01	0.52
Petersburg	Red			T.			T.			T.						.08						.02	.12		.08				.02			.01	0.33
Pettibone	James						.22								T.				T.			T.	.29					.13					0.64
Portal‖	Mouse													T.									.10									.10	0.20
Powers Lake	Missouri											.08		.13										.27									0.48
Richardton	Heart													.26	T.				T.	T.			.21	T.	T.			.03				T.	0.50
Rugby [near]	Mouse									T.					.16				T.				T.		.20	.04		T.			T.		0.40
Ryder	Missouri																		.10			.10	.05		.23			.05			.03		0.56
Sanish‖	Missouri													T.	T.								.10		.20				.10			T.	0.40
Sharon	Red		T.	T.	T.	T.	.09	T.		.01			T.	.01	T.	.06			T.		T.	.02	.12	T.	.11	T.	T.		T.		T.	T.	0.42
Stanton	Missouri														.02			T.					.17		.09		.24		T.			T.	0.52
Steele	Missouri						T.								T.				T.				.16		.14			.09					0.39
Tagus	Mouse													T.									.07	T.	T.				.03				0.10
Tioga	Missouri																					.14		.05	.16						.01	T.	0.36
Towner	Mouse			T		T.	T.	.15							.10							T.	.15		.15			.01			T.		0.56
Trotters	Lit. Missouri									T.				.22						.03			.10		.07					T.		T.	0.42
Turtle Lake	Missouri						.16	.14																				.03					0.33
Tuttle	Missouri						.12	T.		T.					.02				.01			.01	.14	T.	.06			.05					0.41
Valley City	Sheyenne			.01			.11			.05					T							.01	.23		.08	T.		T.					0.49
Velva	Mouse			T.										.08	.04				T.				.24		.12			.09			T.		0.57
Wahpeton	Red						.10	.15								.05						.02	.40		.10					.05			0.87
Washburn	Missouri							.08							T.					T.			.11		.07			.14					0.40
Westhope	Mouse														.06				.03			.10	.07		T				T.			.04	0.30
Williston ***	Missouri											T.		.11	.02				T.	T.		.12	T.	.05	.14		T.	.05	T.		.02	T.	0.51
Willow City	Mouse			T.									T.	T.	.20				T.			T.	.10		.10			.20				.10	0.70
Wishek‖	Missouri							.12																.15	.10	.02			.06				0.45
Zap	Knife													T									T.		T.			.10					0.10
Moorhead, Minn ***	Red	T.	T.	T.	T.		.10	T.		.02	T	T	T.	T.	T.	.05			T.	T.	.04	.08	.17		.11	.02	T.	T.	.01	T.	T.	T.	0.60

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24 hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December 1935

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	15	20	22	20	24	32	33	33	20	10	17	24	29	30	31	32	20	17	-4	10	17	15	18	20	10	10	12	18	22	24	20	20.0
	Minimum	10	12	14	14	17	20	20	15	10	-22	-10	0	5	12	10	12	10	-5	-17	-25	-10	-8	0	0	-17	-15	-10	-4	4	0	-2	1.3
Arnegard (near)	Maximum	38	32	28	39	41	36	36	37	30	37	37	35	30	28	26	26	30	25	11	25	30	37	24	11	0	5	10	22	18	14	19	26.4
	Minimum	16	20	10	14	11	8	14	21	-3	-7	20	22	20	12	10	14	20	10	-2	10	22	24	2	-12	-19	-22	5	10	8	9	10	8.9
Ashley	Maximum	35	37	25	27	28	32	32	36	36	9	27	27	27	31	28	27	32	24	16	8	26	33	12	10	-7	9	10	15	26	26	16	23.2
	Minimum	19	21	9	13	5	27	16	15	0	-13	9	5	18	25	22	8	16	15	-10	-17	2	10	-5	-13	-20	-19	-8	5	12	10	5	5.9
Beach	Maximum	38	34	33	42	49	40	42	42	34	43	42	40	36	26	26	27	31	27	20	32	29	37	28	28	4	10	17	31	35	36	29	31.9
	Minimum	19	23	15	15	18	14	22	22	6	8	19	20	23	19	6	13	16	19	5	22	16	28	8	-15	-18	-9	8	12	12	9	11	12.5
Berthold Agency	Maximum	30	28	22	20	25	25	27	26	18	20	22	22	25	25	20	25	22	20	15	28	28	27	10	12	15	-2	8	20	18	18	16	20.5
	Minimum	26	14	12	10	3	0	5	12	-10	-12	10	12	10	20	8	2	18	15	-11	-2	22	10	0	-20	-20	-28	-5	5	4	10	0	3.9
Bismarck	Maximum	40	29	20	31	37	28	37	39	20	16	34	33	31	30	33	36	34	25	5	28	30	35	8	9	-4	2	12	18	31	22	22	24.9
	Minimum	28	20	6	11	7	18	6	18	-12	-11	8	6	22	21	6	6	21	5	-9	-8	25	8	-6	-15	-16	-19	-5	10	9	13	4	5.7
Bottineau	Maximum	28	32	20	24	25	25	28	25	28	4	24	24	27	28	26	27	28	23	7	10	18	28	10	6	-10	0	5	12	20	21	15	19.0
	Minimum	14	10	2	2	1	7	11	5	-12	-23	3	6	15	14	9	3	8	6	-20	-21	7	6	-20	-15	-25	-19	-16	4	12	11	-5	-0.6
Bowman	Maximum	38	38	26	46	48	41	44	46	24	43	44	36	26	26	24	29	31	28	22	32	38	36	29	26	-5	12	15	28	34	33	24	31.0
	Minimum	13	20	15	11	12	10	15	17	11	8	15	17	25	20	8	10	15	17	9	8	20	24	13	-9	-16	-8	-6	8	15	7	8	10.7
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carrington §§	Maximum	30	24	15	20	24	31	26	20	19	18	24	26	31	30	31	23	23	20	-9	16	25	26	-1	10	-9	-2	5	20	22	18	1	18.0
	Minimum	19	-3	2	1	2	21	3	3	-22	-14	-3	6	23	10	8	10	12	-14	-21	-9	14	-10	-14	-20	-22	-11	-10	10	7	-1	-10	0.5
Carson	Maximum	40	36	27	40	43	30	32	43	32	31	42	31	25	27	36	32	26	16	27	31	36	22	4	-2	5	12	12	15	36	30	22	27.1
	Minimum	28	21	14	14	18	17	13	21	0	-5	17	19	19	17	9	12	14	-6	5	16	20	0	-14	-18	-18	-5	-5	8	8	16	5	7.9
Crosby	Maximum	30	25	17	19	25	24	30	31	13	26	37	33	30	28	17	24	30	25	6	26	32	28	10	5	-3	5	10	20	20	19	15	21.2
	Minimum	18	11	-1	11	6	3	4	13	-12	-10	14	12	19	14	3	8	12	0	-13	-5	8	9	-4	-15	-22	-20	3	5	10	11	-5	2.8
Devils Lake	Maximum	29	28	11	23	17	29	29	28	16	10	22	20	28	28	23	24	21	19	-2	10	23	24	0	5	-12	-2	6	15	22	17	6	16.7
	Minimum	-2	4	3	11	6	12	15	11	-18	-21	7	5	20	25	8	5	10	-2	-21	-21	6	0	-16	-14	-23	-19	-10	5	15	5	-10	-0.1
Dickinson §§	Maximum	38	36	23	40	48	36	42	43	13	36	41	35	24	27	27	32	37	24	18	29	35	29	22	10	9	10	14	27	34	32	18	28.7
	Minimum	16	15	6	2	0	1	11	16	-3	3	14	15	13	12	-4	5	12	13	2	5	11	22	9	9	-15	-17	-15	7	6	2	5	5.7
Drake §§	Maximum	34	32	24	20	29	28	26	30	32	13	19	33	25	28	27	28	30	27	20	5	22	32	15	5	7	-8	3	10	21	23	20	21.3
	Minimum	21	18	8	6	5	3	8	8	9	-23	-5	11	9	22	15	10	13	15	-16	-17	5	15	-13	-15	-21	-19	-20	1	10	11	-7	2.2
Dunn Center	Maximum	36	31	22	36	39	29	38	39	31	32	38	32	27	26	29	35	35	26	18	26	29	33	22	6	-2	6	13	23	31	22	14	26.5
	Minimum	26	20	12	16	6	2	6	19	-3	-5	12	12	22	16	12	14	25	17	-3	9	22	22	5	-14	-16	-21	4	7	-1	12	4	8.4
Dunseith	Maximum	24	24	19	15	18	25	24	26	26	1	24	24	24	23	22	28	27	23	4	7	21	21	5	6	6	4	4	12	18	17	9	17.1
	Minimum	7	7	-8	-1	7	7	11	12	-12	-24	-1	10	12	10	10	2	12	2	-16	-24	5	4	-11	-11	-21	-16	-12	-1	10	5	-10	-1.1
Edgeley	Maximum	39	30	28	26	24	30	25	36	32	31	30	19	38	27	21	18	20	15	3	26	24	18	17	6	5	5	10	15	20	18	17	21.7
	Minimum	16	10	10	10	4	4	15	-3	-3	18	-20	5	18	6	4	4	10	-16	-20	-4	2	-12	-17	-18	-20	-19	-10	-5	-1	4	-4	-1.0
Ellendale	Maximum	38	35	18	32	23	32	34	35	20	12	29	28	29	32	35	36	30	24	12	9	27	32	21	10	-6	11	14	14	26	20	10	23.3
	Minimum	10	16	11	9	7	20	28	19	7	-13	8	3	20	27	26	5	21	12	-8	-17	1	21	-5	-14	-15	-18	-9	7	13	11	4	6.7
Fessenden §§	Maximum	30	21	16	25	23	28	25	31	12	15	29	25	29	29	25	26	24	17	14	18	32	21	18	-1	-8	0	10	20	25	18	14	19.7
	Minimum	5	15	-4	-1	-2	1	10	6	2	-27	-4	3	10	24	17	3	14	14	-20	-25	-1	18	-15	-18	-23	-22	-15	-1	8	14	-7	-0.7
Foxholm (near)	Maximum	29	29	19	27	23	22	30	33	26	18	31	27	24	25	28	29	29	28	9	23	28	33	9	1	-8	-6	5	18	23	18	18	20.9
	Minimum	20	12	10	12	6	4	2	21	-13	-22	13	8	15	20	8	14	19	7	-18	-15	15	8	-15	-16	-21	-23	-14	3	9	6	-13	2.0
Fullerton	Maximum	35	33	25	28	23	33	34	38	32	12	32	21	32	32	33	33	30	26	8	11	27	28	13	11	-8	8	12	15	25	22	22	23.4
	Minimum	9	17	9	12	6	22	21	16	5	-16	12	4	21	28	25	5	17	8	-12	-18	4	13	-6	-18	-24	-18	-7	5	14	9	8	5.5
Garrison	Maximum	30	26	23	32	28	27	34	35	5	22	24	34	38	27	28	30	34	20	7	25	37	20	9	-9	-13	-5	15	20	29	22	18	21.7
	Minimum	23	14	13	14	4	3	7	7	5	-16	-1	8	18	20	12	8	11	16	-14	-14	7	14	-12	-11	-20	-23	-21	5	10	12	0	3.2
Grafton	Maximum	22	28	20	25	20	31	32	29	25	-4	19	21	31	31	29	27	25	25	8	-1	11	15	8	-1	1	9	8	12	26	24	10	18.3
	Minimum	-12	13	4	-2	2	15	19	6	-6	-23	-4	6	20	22	13	0	4	5	-12	-24	-15	6	-11	-21	-17	-14	-17	-2	7	5	-7	-1.3
Grand Forks	Maximum	19	25	15	25	23	33	36	30	19	12	22	23	33	32	30	25	22	19	-1	4	13	18	-2	0	-3	5	10	14	27	15	12	17.9
	Minimum	-11	11	2	8	17	23	11	6	-15	-23	10	18	22	26	6	1	4	-1	-19	-23	4	-1	-18	-19	-18	-11	-13	5	13	6	-9	0.4
Granville	Maximum	25	15	17	26	15	22	23	10	12	10	25	20	25	26	23	8	15	18	15	20	26	19	12	8	-14	-12	7	20	18	20	20	15.9
	Minimum	17	14	17	10	-2	5	5	-2	-22	-8	15	4	23	18	5	4	12	-1	-18	-23	19	12	8	-18	-23	-22	-12	6	12	10	-12	1.7
Hansboro	Maximum	24	23	17	29	28	30	30	31	20	1	32	23	26	31	30	32	24	19	5	9	25	22	2	-10	-7	-5	16	16	20	17	5	18.2
	Minimum	-10	2	-11	0	2	13	15	13	-13	-26	-1	5	16	23	1	-2	7	5	-19	-28	3	2	-14	-22	-20	-20	-14	-2	10	0	-15	-3.3
Hettinger	Maximum	40	39	30	46	42	34	41	47	34	32	46	42	33	27	30	31	32	28	22	30	30	38	28	25	6	10	15	27	36	37	27	31.8
	Minimum	23	21	16	14	17	12	11	17	10	5	24	21	22	20	6	10	21	18	8	10	22	27	11	-10	-13	-11	-9	-2	7	13	2	11.1
Hillsboro	Maximum	16	26	22	26	22	32	35	28	28	3	22	22	34	34	31	28	20	20	10	1	10	15	15	3	-9	8	10	17	24	25	10	18.8
	Minimum	-8	7	8	2	15	17	22	10	-3	-21	0	17	20	29	26	2	9	10	-11	-24	0	9	-9	-15	-15	-17	-10	5	12	8	0	3.1
Howard (near)	Maximum	28	22	18	30	34	27	31	30	20	31	31	30	28	30	29	24	26	10	27	21	31	31	18	11	-6	4	8	20	22	10	10	22.1
	Minimum	5	6	-3	8	4	6	5	7	-12	-12	6	10	20	20	14	12	10	-11	0	10	15	15	8	-20	-25	-20	-10	-4	4	-2	-1	2.1
Jamestown	Maximum	39	30	20	21	23	32	31	32	26	10	24	20	30	30	31	28	27	22	7	13	25	27	9	7	-6	7	7	14	22	19	17	20.8
	Minimum	2	13	5	4	2	16	19	14	-10	-25	8	0	18	25	17	5	15	4	-16	-24	5	7	-12	-18	-20	-20	-3	3	11	12	-7	1.6
Kenmare	Maximum	39	26	17	36	39	27	29	33	15	28	40	31	25	28	28	32	30	22	10	29	27	30	13	3	-4	-2	6	21	22	21	16	23.1
	Minimum	16	14	11	5	12	17	17	15	-12	17	20	17	18	20	14	17	14	10	-12	10	14	13	-14	-16	-19	-20	-4	4	4	11	-9	6.6
Langdon §§	Maximum	30	25	25	22	24	30	29	25	0	5	25	24	27	30	30	22	20	8	5	15	12	12	-2	4	-4	0	5	20	22	10	7	16.4
	Minimum	10	10	5	0	0	10	10	10	-4	-28	-16	0	13	22	24	-1	2	-3	-16	-27	-15	-4	-14	-22	-26	-4	-18	-4	-3	5	-9	-2.7
Larimore	Maximum	32	28	17	23	22	31	34	28	23	0	20	22	29	29	27	24	21	19	5	1	11	17	7	5	0	5	7	13	26	21	8	17.9
	Minimum	-9	17	5	2	8	16	13	11	-8	-24	0	7	20	27	14	8	12	5	-15	-24	1	7	-11	-18	-19	-16	-15	5	11	8	-7	1.0
Linton	Maximum	41	46	24	35	41	34	39	40	29	11	35	30	32	31	35	33	31	27	16	25	29	35	15	11	-4	5	11	17	32	20	21	26.7
	Minimum	22	19	9	15	2	19	6	3	-4	-14	6	4	22	25	7	-2	9	8	-12	-20	6	13	-7	-12	-22	-25	-15	7	10	0	6	2.7
Lisbon §§	Maximum	28	34	22	28	23	33	33	37	28	7	29	21	34	34	29	31	30	23	10	9	20	27	13	-3	0	7	8	13	25	21	23	21.8
	Minimum	-9	16	15	15	1	18	22	12	-1	-19	7	6	21	29	23	3	15	10	-10	-21	7	12	-6	-16	-15	-16	-9	7	11	11	3	4.6
McClusky	Maximum	37	28	23	28	38	29	29	34	22	21	30	26	30	29	26	25	29	24	9	18	26	32	18	7	-5	0	8	16	25	25	25	23.0
	Minimum	20	14	7	3	12	10	18	10	20	-23	10	18	17	20	12	12	14	7	-14	-15	17	12	-10	-10	-16	-15	0	14	20	20	5	6.7
Maddock	Maximum	23	26	20	26	22	30	29	30	26	10	27	26	28	28	26	25	25	20	7	9	36	26	10	10	-8	-6	5	17	23	20	12	19.8
	Minimum	-1	13	-8	-1	0	1	10	10	-10	-27	1	2	16	24	10	5	12	4	-22	-29	2	6	-15	-20	-24	-20	-16	2	12	10	-10	-2.0
Marmarth	Maximum	42	37	30	40	48	36	43	45	34	41	44	40	35	30	25	27	31	30	26	34	31	39	30	20	4	10	17	32	36	30	27	32.1
	Minimum	15	15	27	14	8	5	10	13	14	10	21	21	25	20	-7	0	10	25	18	3	20	30	15	-10	-19	-10	8	16	16	2	12	11.2
Minot	Maximum	28	26	20	33	39	22	29	29	13	18	38	25	26	28	26	32	25	24	14	24	29	26	10	5	-9	6	9	19	22	19	17	21.7
	Minimum	21	12	12	15	3	3	1	10	-13	-18	13	12	17	22	9	7	18	6	6	-15	21	5	-11	-16	-20	-24	-8	8	12	9	-7	3.5
Mohall	Maximum	31	25	18	30	24	17	29	28	25	12	36	26	24	27	29	31	30	29	7	21	23	33	15	1	-10	-8	7	19	22	15	14	20.3
	Minimum	20	12	4	4	-4	-3	-3	21	-11	-23	-5	4	17	22	9	13	19	-7	-16	-16	19	14	-15	-15	-20	-21	-14	6	15	5	-11	0.4
Mott	Maximum	47	37	32	45	47	33	45	47	35	29	45	33	31	28	31	36	38	20	34	32	33	41	36	14	9	14	15	31	42	32	28	32.9
	Minimum	26	25	17	17	12	14	14	18	10	4	19	15	24	21	10	10	6	-7	5	10	14	26	10	-10	-12	-12	-1	11	11	3	10	10.3
Napoleon §§	Maximum	38	30	19	25	43	33	33	37	17	20	32	29	30	30	34	30	29	20	12	24	32	32	20	8	-8	4	10	20	25	21	10	23.8
	Minimum	20	20	5	12	3	12	18	15	9	-20	8	5	17	26	20	5	13	12	-16	-22	6	20	-8	-18	-24	-24	-13	5	13	8	5	4.3
New England §§	Maximum	48	37	24	44	45	37	44	45	20	34	45	37	33	28	32	34	39	27	20	31	36	34	28	3	8	8	18	24	39	34	32	31.2
	Minimum	20	15	13	12	10	14	14	10	4	12	12	15	18	12	8	12	14	8	9	17	21	10	-9	-14	-13	-6	5	13	3	9	4	8.8
New Salem	Maximum	36	34	26	30	40	51	41	40	29	17	39	35	28	29	34	36	30	29	20	26	30	38	22	12	-5	2	9	17	34	29	25	27.8
	Minimum	25	22	12	15	15	11	11	22	-2	-10	15	8	20	22	15	16	16	14	-9	-4	18	19	-6	-14	-20	-20	-12	5	8	2	-1	6.9
Oakes	Maximum	28	34	24	32	25	33	33	42	31	15	31	21	31	32	33	31	32	23	9	11	24	27	12	8	-5	8	9	15	26	21	23	23.2
	Minimum	1	19	13	11	6	13	21	8	-1	-20	15	3	20	28	4	-2	11	7	-11	-24	4	12	-10	-20	-16	-18	-8	5	13	10	-2	3.0
Park River	Maximum	30	26	24	24	29	30	31	32	21	17	19	24	29	28	28	27	23	21	10	9	7	11	11	0	2	5	4	18	22	9	11	18.8
	Minimum	9	16	4	-3	1	6	26	8	8	-23	-17	9	15	23	16	4	11	11	-13	-20	-11	8	-8	-17	-20	-17	-12	-4	-2	5	-6	0.2
Sharon	Maximum	28	28	18	25	26	30	30	30	20	0	25	20	29	29	28	23	20	19	2	3	12	21	5	3	-2	4	3	10	22	18	7	17.3
	Minimum	-10	14	5	4	6	13	11	9	-8	-24	0	8	18	25	8	3	9	2	-15	-26	2	5	-10	-16	-21	-21	-11	1	9	7	-8	-0.4
Steele	Maximum	35	27	19	26	30	30	34	38	30	11	32	27	28	29	35	29	28	22	15	16	25	32	11	8	-10	0	10	15	19	20	20	22.3
	Minimum	21	15	5	8	-1	23	12	11	-10	-18	9	4	18	25	15	2	13	15	-15	-20	9	11	-11	-18	-22	-27	-10	5	12	11	-1	2.9
Towner	Maximum	31	27	18	34	25	26	26	35	24	12	29	22	26	29	29	31	28	20	19	16	28	32	10	7	3	0	7	15	25	19	15	21.5
	Minimum	19	10	5	11	1	2	4	9	-12	-27	2	0	16	24	5	5	10	10	-21	-24	11	7	-17	-17	-25	-22	-15	4	14	10	-10	-0.4
Valley City	Maximum	31	32	32	28	29	32	32	31	27	-1	21	20	31	32	31	25	24	24	18	8	17	25	12	7	9	6	9	15	24	22	20	21.7
	Minimum	-8	17	11	8	5	15	18	12	-1	-23	-1	5	7	28	17	2	11	5	-14	-26	2	11	-8	-20	-21	-19	-2	4	5	10	0	1.6
Wahpeton	Maximum	25	36	27	33	31	36	37	38	40	10	27	28	35	38	37	33	30	23	16	4	20	28	24	11	11	9	12	16	25	26	25	25.5
	Minimum	-5	17	14	13	6	11	32	18	4	-13	7	20	24	29	26	5	10	11	-9	-20	2	15	-5	-19	-12	-18	-10	7	12	10	8	6.1
Westhope	Maximum	32	20	18	24	14	19	20	29	19	5	28	21	25	29	20	29	26	20	0	5	25	30	5	4	-1	-7	11	15	19	10	10	16.9
	Minimum	18	6	0	5	0	3	-1	6	-20	-24	4	8	5	12	0	2	5	0	-22	-19	5	5	-17	-15	-25	-23	4	5	10	-15	-12	-2.9
Williston	Maximum	36	26	26	34	34	28	39	36	20	36	38	35	29	27	22	29	36	24	14	30	36	36	11	11	-5	8	11	25	25	31	16	25.6
	Minimum	18	6	5	12	4	4	4	16	-6	-3	16	17	22	12	5	8	17	4	-4	14	19	11	6	-15	-17	-19	7	8	5	8	4	6.1
Moorhead, Minn	Maximum	18	27	18	25	27	34	35	33	19	13	23	25	34	34	29	25	21	19	0	5	16	23	5	3	-2	5	10	14	24	21	22	19.5
	Minimum	-5	16	8	14	12	27	21	16	-10	-15	13	18	25	27	18	5	9	0	-14	-19	5	2	-10	-13	-14	-13	-2	7	12	9	-1	4.7

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

VOL. XLIV   BISMARCK, N. D., ANNUAL 1935   No. 13

GENERAL SUMMARY

The moisture content of the soil at the opening of 1935 was the most serious in the climatological history of North Dakota since statehood. Due to droughty conditions during the preceding six years, some hesitancy was noticeable in the preparation of ground for crops until well into March. Greatly improved conditions obtained during this month, the precipitation being well above the normal, the first time in considerably more than a year. April and May produced conditions favorable for crops and though June received less than normal rainfall, there was ample for all needs. July was unusually wet and crops were the most promising for many years, but unusually high temperatures prevailed which resulted in rapid propagation and development of black stem rust, which together with shriveling caused by heat, greatly deteriorated small grains of all kinds. August was nearly normal as regards temperature and precipitation. September was hot and dry, and as a result the soil was too dry for fall plowing and the seeding of winter rye, and this dryness continued through October. More than the usual precipitation occurred during November and December, necessitating much yard feeding of livestock.

The average annual temperature for the State was 39.4° or 0.1° above the normal, and 4.0° lower than the average for 1934. The highest average annual temperature reported was 43.7° at Marmarth, Slope County; the lowest was 35.2° at Langdon, Cavalier County, and Willow City, Bottineau County. The highest temperature reported was 110° at Fort Yates, Sioux County, on July 26th; the lowest was -44° at Sanish, Mountrail County, on January 23d.

The average annual precipitation for the State was 18.07 inches, or 0.80 inch above the normal, and 8.57 inches above the average for 1934. The greatest annual precipitation reported was 29.32 inches at Fullerton, Dickey County; the least was 9.63 inches at Crosby, Divide County. The greatest montly amount reported was 8.89 inches at Dogden Butte, McLean County, in July; there was none at several stations. The average snowfall for the State was 33.3 inches.

The average number of days with 0.01 inch or more of precipitation was 77.

There were 137 clear days, 113 partly cloudy days, and 115 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS

JANUARY.—The weather was the coldest of record for January since 1930. The distribution of temperature was rather uneven geographically, being lowest in the northern and extreme eastern portions and highest in the southwestern portion. The precipitation averaged nearly the normal and there was much cloudiness. Due to a shortage of feed it was necessary for livestock to range on pastures and harvested fields.

FEBRUARY.—Mild and pleasant weather prevailed generally, the average temperature being the second highest for the month in the climatological history of the State. A moderate snowstorm occurred on the 14-15, and light snows occurred on the 6th and 23d. Moderate dust storms were reported in some sections near the middle and again at the close of the month.

MARCH.—Changeable weather prevailed in all sections, being severely cold from the 5th to 7th, followed by unusually high temperature on the 14th. There was much cloudiness and more than the normal precipitation, March being the first month since December 1933, with precipitation in excess of the normal. Much yard feeding of livestock was necessary.

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APRIL.—The month was cool and cloudy in all sections, and the precipitation averaged above the normal generally. The moisture was well distributed, except in the extreme northwest portion. A severe dust storm occurred at most stations on the 22d, and lighter storms were reported on other dates. At the close of the month both farm work and crops were backward, although grass was becoming green and the soil was generally in good condition for planting.

MAY.—The outstanding feature of the weather was the continuation of above normal precipitation, with the greatest amounts in the central and western portions of the State, and where most needed. May was the third month of the year with precipitation above the normal, after 14 months of sub-normal moisture. The precipitation which was well distributed throughout the month, consisted mainly of moderate showers. The temperature averaged somewhat below normal, but only a few stations reported frosts after the 13th. Light to moderate dust storms occurred at scattered places on the 5th, 10th, 24th, and 25th, but little soil blowing was reported. At the close of the month pastures and ranges were good to excellnt, and early planted crops were up to good stand and color.

JUNE.—Cool weather characterized the month, the mean temperature being the lowest for June since 1928, and there was less than normal sunshine. The precipitation was somewhat deficient, but ample for crops in all sections except in a few localities. High winds caused considerable damage in central and eastern sections on the 13th, 20th, and 30th, resulting in the loss of one human life on the 20th. A few scattered dust storms were reported. Crops were in good condition at the close of the month.

JULY.—High temperature and heavy showers were the principal features of the weather during the month, and resulted in the rapid propagation and development of black stem rust, which

[Continued on page 53]

Climatological Data for the Year 1935

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number of days				Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall	With .01 inch or more precip.	Clear	Pt. cloudy	Cloudy	
Alpha	Golden Valley	......	......						10	12.91	3.53	July	0.05	Feb.	20.6	66	232	76	57	nw.
Amenia	Cass	954	40	39.9	100	Aug. 13	−35	Jan. 23	40	16.80	3.76	June	T.	Feb.	25.8	55	54	134	177	nw.
Arnegard	McKenzie	2,238	23	39.5	108	Aug. 10	−41	Jan. 23	23	15.55	5.02	July	0.05	Feb.	22.3	61	207	70	88	nw.
Ashley	McIntosh	2,001	40	41.2	103	Aug. 14	−30	Jan. 23	40	17.59	4.59	June	T.	Jan.	40.0	61	185	71	109	se.
Beach	Golden Valley	2,579	30	42.5	105	July 28	−31	Jan. 23	30	17.09	5.40	July	0.04	Feb.	25.7	79	143	112	110	nw.
Berthold Agency	McLean	2,082	43	39.4	102	Aug. 7	−40	Jan. 23	43	12.46	3.91	July	0.00	Sept.	20.4	54	215	49	101	nw.
Bismarck	Burleigh	1,674	61	41.8	104	Aug. 14	−32	Jan. 23	61	17.93	5.46	July	T.	Oct.	38.8	93	109	141	115	nw.
Bottineau	Bottineau	1,638	44	37.6	102	July 16	−38	Jan. 21†	44	19.40	5.25	July	0.02	Feb.	31.7	106	199	61	105	nw.
Bowman	Bowman	2.872	21	42.6	104	July 28	−28	Jan. 21	22	14.32	3.38	May	0.02	Sept.	22.8	72	220	82	63	nw.
Carrington	Foster	1,579	38	38.6	97	July 1†	−31	Jan. 22	38	22.46	5.78	July	0.07	Oct.	40.6	76	166	57	142	nw.
Carson	Grant	2,500	24	41.5	105	Aug. 7	−33	Jan. 23	24	18.39	4.31	June	0.00	Oct.	43.3	69	183	92	90	nw.
Cavalier	Pembina	894	1	37.8	99	Aug. 14	−33	Jan. 23	26	19.37	4.10	July	0.06	Feb.	30.3	101	107	115	143	nw.
Cooperstown	Griggs	1,428	1	37.9	99	Aug. 15	−34	Jan. 23†	39	20.17	3.59	July	T.	Feb.	49.7	89	222	65	78	nw.
Corinth	Williams	2,180	......	......	......	......	......	......	8	12.86	3.29	July	0.07	Oct.	15.5	78	57	194	114	sw.
Courtenay	Stutsman	1,523	......	......	......	......	......	......	7	18.90	4.42	July	0.17	Oct.	34.2	76	136	160	69	nw.
Crosby	Divide	1,954	29	36.8	101	Aug. 11	−40	Jan. 23	29	9.63	2.88	July	0.00	Sept.	17.2	63	105	107	153	sw.
Devils Lake	Ramsey	1,478	39	37.1	97	Aug. 14	−36	Jan. 23	39	19.52	5.23	July	0.14	Feb.	26.5	117	85	106	174	se.
Dickinson	Stark	2,543	44	40.0	106	July 28	−37	Jan. 23	44	15.00	2.93	July	0.01	Oct.	39.5	110	101	162	102	nw.
Dogden Butte	McLean	1,880	10	39.2	92	Sept. 15	−31	Jan. 23	10	23.55	8.89	July	0.22	Oct.	45.6	86	151	86	128	nw.
Drake	McHenry	1.634	6	37.9	101	Aug. 14	−34	Jan. 23	7	19.05	7.38	July	0.05	Oct.	26.9	102	103	103	159	nw.
Dunn Center	Dunn	2,191	37	40.2	102	July 28	−43	Jan. 23	37	17.37	6.10	July	0.00	Sept.	17.8	61	132	105	128	nw.
Dunseith	Rolette	1,682	40	35.7	94	Aug. 14	−38	Jan. 23	40	17.97	6.40	July	T.	Feb. †	18.6	73	107	152	106	ne.
Eckman	Bottineau	1,500	31	36.6	98	Aug. 14	−39	Jan. 21†	31	17.48	5.24	July	0.07	Feb.	32.0	91	71	187	107	se.
Edgeley	LaMoure	1,568	35	40.3	103	Aug. 13	−30	Jan. 24	35	18.15	4.43	July	0.00	Oct.	15.0	47	82	202	81	nw.
Edmore	Ramsey	1,524	11	35.3	96	Aug. 14	−39	Jan. 23	12	22.93	7.03	July	0.03	Feb.	33.7	124	109	111	145	nw.
Ellendale	Dickey	1,451	33	41.7	102	Aug. 14	−27	Jan. 23	41	19.77	4.80	Aug.	0.17	Oct.	30.1	67	155	98	112	nw.
Energy	McLean	1,750	11	40.3	108	Aug. 14	−42	Jan. 23	24	17.10	4.68	July	T.	Oct.	35.0	63	98	198	69	nw.
Fairfield	Billings	......	......	......	......	......	......	......	7	17.21	5.36	July	0.04	Sept.	41.3	56	185	101	79	nw.
Fessenden	Wells	1,610	24	38.0	103	Aug. 14	−35	Jan. 23	24	20.90	7.26	July	0.25	Feb.	47.4	103	114	120	131	nw.
Forman	Sargent	1,249	......	......	......	......	......	......	43	21.09	4.65	June	0.06	Oct.	35.4	63	192	80	93	nw.
Fort Yates	Sioux	1.670	36	43.5	110	July 26	−33	Jan. 23	36	15.74	4.00	Apr.	T.	Oct.	22.5	45	179	86	100	nw.
Foxholm	Ward	1,657	11	36.5	97	Aug. 14	−35	Jan. 23	15	16.03	4.97	July	0.04	Oct.	34.4	85	91	132	142	nw.
Fryburg	Billings	2,790	......	......	......	......	......	......	18	19.49	4.78	July	0.05	Oct.	45.7	74	178	98	89	nw.
Fullerton	Dickey	1,439	38	41.6	103	Aug. 15	−28	Jan. 23	38	29.32	6.64	Aug.	0.12	Oct.	74.9	77	142	110	113	nw.
Gackle	Logan	1,951	......	40.3	101	Aug. 14	−31	Jan. 23	6	17.10	4.37	July	0.08	Oct.	24.1	52	132	162	71	nw.
Garrison	McLean	1,901	41	39.2	105	Aug. 14	−36	Jan. 23	59	18.71	5.56	July	T.	Oct.	38.5	74	133	134	98	nw.
Grafton	Walsh	827	44	38.9	99	July 25	−33	Jan. 23	44	16.62	3.39	July	T.	Feb.	51.1	67	128	132	105	s.
Grand Forks	Grand Forks	830	45	38.1	98	Aug. 14	−35	Jan. 23	45	21.89	6.14	July	0.01	Feb.	35.7	109	65	170	130	nw.
Granville	McHenry	1,504	29	37.6	99	Aug. 14	−37	Jan. 23	29	18.96	5.92	July	0.02	Oct.	44.5	80	114	131	120	nw.
Hankinson	Richland	1.068	7	41.9	101	July 29†	−31	Jan. 22	7	26.03	7.20	July	0.12	Oct.	47.6	70	179	72	114	nw.
Hannah	Cavalier	1,568	27	36.1	99	Aug. 7	−36	Jan. 21	44	20.72	7.08	June	0.23	Feb.	37.9	100	69	202	94	nw.
Hansboro	Towner	1,597	28	36.0	98	Aug. 7	−36	Jan. 19	28	19.17	4.93	June	0.05	Oct.	32.5	59	164	110	91	nw.
Hettinger	Adams	2,675	29	43.3	106	July 28	−28	Jan. 23	29	11.11	3.30	May	0.07	Jan.	15.6	73	236	85	44	nw.
Hillsboro	Traill	901	30	39.7	100	Aug. 14	−33	Jan. 23	30	20.21	4.13	Aug.	T.	Feb.	31.1	66	117	130	118	nw.
Howard	Williams	2,275	29	36.9	103	Aug. 10	−42	Jan. 25	29	12.38	2.70	May	0.04	Sept.	39.4	57	158	115	92	nw.
Jamestown	Stutsman	1,457	44	39.8	101	Aug. 14	−33	Jan. 23	44	21.63	4.08	July	0.15	Oct.	38.8	85	111	154	100	nw.
Kenmare	Ward	1,799	4	39.1	99	Aug. 14	−34	Jan. 23	5	16.02	5.22	July	0.07	Sept.	30.5	86	137	128	100	nw.
Langdon	Cavalier	1,615	40	35.2	102	Aug. 14	−40	Jan. 23	40	19.12	3.74	Aug.	0.40	Oct.	38.5	72	195	130	40	nw.
Larimore	Grand Forks	1,134	43	38.1	96	July 25†	−31	Jan. 23	43	20.33	5.18	July	T.	Feb.	39.1	66	156	72	137	nw.
Linton	Emmons	1,711	18	42.0	109	Aug. 14	−35	Jan. 23	19	13.54	4.09	June	0.03	Oct.	17.7	71	117	164	84	se.
Lisbon	Ransom	1,091	32	41.2	101	Aug. 14	−30	Jan. 23	32	23.92	4.64	June	0.25	Sept.	52.6	92	92	136	137	nw.
McClusky	Sheridan	1,943	11	39.3	100	Aug. 14	−37	Jan. 23	18	21.89	6.25	July	T.	Oct.	48.7	78	212	70	83	nw.
McLeod	Ransom	1,075	24	41.0	103	Aug. 15	−32	Jan. 23	25	20.83	4.37	June	0.25	Dec.	35.9	59	192	74	99	sw.
Maddock	Benson	1,604	21	38.1	100	Aug. 14	−37	Jan. 23	21	20.07	5.89	July	0.15	Oct.	15.3	86	71	146	148	nw.
Mandan	Morton	1,750	22	41.3	104	Aug. 14	−35	Jan. 23	22	18.30	4.71	July	T.	Oct.	36.4	86	109	43	213	nw.
Manfred	Wells	1,605	......	......	......	......	......	......	33	19.38	7.51	July	0.07	Oct.	37.8	100	149	110	106	......
Marmarth	Slope	2,714	22	43.7	105	Aug. 10	−28	Jan. 21	27	12.35	3.00	June	0.09	Feb.	39.5	70	145	88	132	nw.
Mary	McKenzie	......	......	......	......	......	......	......	7	13.01	3.82	June	0.01	Feb.	14.5	60	202	63	100	nw.
Max	McLean	2,093	7	37.0	100	Aug. 14	−38	Jan. 23	7	18.64	6.48	July	T.	Oct.	28.8	77	150	40	175	nw.
Mayville	Traill	975	40	40.6	101	Aug. 15	−34	Jan. 23	40	23.21	6.42	June	0.05	Feb.	27.1	80	117	111	137	n.
Minot	Ward	1,557	40	38.6	99	Aug. 14	−35	Jan. 23	40	17.83	7.20	July	0.05	Oct.	36.1	90	74	189	102	nw.
Mohall	Renville	1,646	42	37.9	100	Aug. 14	−34	Jan. 23	42	16.63	4.86	July	T.	Oct.	28.5	81	85	180	100	nw.
Mott	Hettinger	2,424	29	42.5	105	July 28	−34	Jan. 23	29	13.89	3.75	July	0.01	Oct.	27.0	71	143	126	96	nw.
Napoleon	Logan	1,955	44	40.4	105	Aug. 14	−38	Jan. 23	44	20.35	4.89	July	0.15	Oct.	39.4	89	171	54	140	nw.
New England	Hettinger	2,400	42	42.7	106	July 28	−34	Jan. 21	42	15.70	3.78	May	0.00	Oct.	43.6	67	140	122	103	nw.
New Salem	Morton	2,163	32	43.1	105	Aug. 15	−35	Jan. 23	32	15.39	3.68	July	T.	Sept†	23.2	88	183	97	85	nw.
Oakes	Dickey	1,318	7	42.1	104	Aug. 15	−30	Jan. 23	7	21.81	5.86	Aug.	0.16	Oct.	38.0	80	94	178	93	nw.
Park River	Walsh	998	32	37.2	97	Aug. 14	−32	Jan. 23†	32	16.83	3.80	July	T.	Feb.	32.4	62	138	90	137	nw.
Parshall	Mountrail	1,929	3	37.4	102	Aug. 15	−42	Jan. 23	21	17.72	6.48	July	0.02	Oct.	23.9	79	101	172	92	nw.
Pembina	Pembina	789	......	......	......	......	......	......	62	17.66	4.63	July	0.04	Feb.	30.4	99	......	......	......	......
Petersburg	Nelson	1,520	......	......	......	......	......	......	6	18.21	4.76	July	0.07	Feb.	23.3	87	134	104	127	nw.
Pettibone	Kidder	1,856	27	38.6	106	Aug. 6	−38	Jan. 23	27	18.16	5.11	July	T.	Feb.	31.7	57	138	95	132	nw.
Portal	Burke	1.954	23	35.6	98	Aug. 7	−40	Jan. 23	31	13.96	4.06	July	0.09	Feb.	27.5	70	137	57	171	w.
Powers Lake	Burke	2,205	10	37.8	98	Aug. 14	−41	Jan. 22	31	17.04	5.15	July	0.38	Feb.	49.0	50	209	104	52	e.
Richardton	Stark	2,467	20	41.8	105	Aug. 14	−30	Jan. 23	20	20.95	5.59	July	T.	Oct.	36.7	65	115	123	127	nw.
Rugby	Pierce	1,562	......	......	......	......	......	......	7	17.46	7.91	July	0.11	Feb.	14.6	77	98	150	117	s.
Ryder	Ward	2.108	......	......	......	......	......	......	7	16.76	4.35	July	0.03	Oct.	31.9	88	171	69	125	se.
Sanish	Mountrail	1,835	11	38.6	105	Aug. 14	−44	Jan. 23	11	14.51	3.49	June	T.	Oct.	34.0	76	113	131	121	w.
Sharon	Steele	1,516	9	37.6	96	Aug. 14	−35	Jan. 23	12	21.60	3.96	June	0.14	Feb.	39.4	117	90	126	149	nw.
Stanton	Mercer	1,722	......	......	......	......	......	......	12	16.50	5.28	July	T.	Sept.	38.5	52	149	139	77	nw.
Steele	Kidder	1,857	42	40.1	106	Aug. 14	−36	Jan. 23	42	14.68	4.92	July	0.07	Oct.	23.5	66	123	133	109	sw.
Tagus	Mountrail	2,179	......	......	......	......	......	......	7	15.50	5.47	July	0.04	Oct.	32.2	77	156	108	101	w.
Tioga	Williams	2,279	......	......	......	......	......	......	7	14.01	4.19	July	0.00	Sept.	29.1	76	149	88	128	nw.
Towner	McHenry	1,482	34	38.6	100	July 2	−37	Jan. 23	34	18.60	6.37	July	0.25	Feb.	36.7	77	155	95	115	nw.
Trotters	Golden Valley	......	......	......	......	......	......	......	10	16.25	4.64	July	T.	Feb.	32.0	61	130	104	131	nw.
Turtle Lake	McLean	1,899	......	......	......	......	......	......	22	16.16	4.59	July	0.07	Oct.	31.4	74	198	48	119	nw.
Tuttle	Kidder	1,936	......	......	......	......	......	......	28	14.95	4.63	July	0.11	Feb. †	31.1	83	140	147	78	nw.
Valley City	Barnes	1,245	30	40.5	100	Aug. 14	−31	Jan. 23	30	17.55	4.54	Aug.	0.10	Feb.	25.0	81	176	74	115	w.
Velva	McHenry	1,511	9	39.5	96	Aug. 14	−33	Jan. 23	9	20.57	7.07	July	0.02	Oct.	42.6	84	62	164	139	nw.
Wahpeton	Richland	962	44	43.6	102	Aug. 15	−32	Jan. 23	44	24.28	4.69	July	0.42	Feb.	35.7	90	196	0	169	nw.
Washburn	McLean	1,731	35	40.6	100	Aug. 14	−34	Jan. 23	35	15.98	5.26	July	T.	Oct.	25.6	67	151	74	140	s.
Westhope	Bottineau	1,508	30	36.3	95	July 16	−38	Jan. 23	30	22.05	8.49	July	0.06	Oct.	36.6	87	135	123	107	nw.
Williston	Williams	1,878	57	39.9	103	July 28†	−40	Jan. 23	57	15.73	4.88	July	0.02	Feb.	32.4	84	140	122	103	w.
Willow City	Bottineau	1,471	44	35.2	95	Aug. 14	−42	Jan. 23	44	20.47	6.31	July	0.20	Sept.	35.0	74	129	175	61	nw.
Wishek	McIntosh	2.010	7	40.6	104	Aug. 14	−32	Jan. 23	7	16.14	3.73	July	0.10	Oct.	23.1	66	109	31	225	nw.
Zap	Mercer	1,838	......	......	......	......	......	......	21	17.22	6.18	July	T.	Oct.	21.4	51	208	75	82	......
Moorhead, Minn.	Clay	935	55	40.2	102	Aug. 15	−31	Jan. 23	55	19.07	4.59	Aug.	0.25	Feb.	53.9	99	73	117	175	s.

†Indicates on other dates (or in other months) also.

T. Indicates trace.

Monthly and Annual Precipitation for the Year 1935, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure
Alpha	0.16	......	0.05	......	0.94	......	1.30	......	2.58	......	2.02	......	3.53	......	1.42	......	0.21	......	0.12	......	0.33	......	0.25	......	12.91	......
Amenia	0.11	-0.37	T.	-0.54	1.08	+0.56	3.51	+1.71	2.77	-0.08	3.76	-0.03	1.62	-1.27	3.64	+1.09	0.10	-2.01	0.07	-1.30	0.11	-0.54	0.03	-0.52	16.80	-3.30
Arnegard	0.30	-0.25	0.05	-0.40	0.47	-0.25	1.50	+0.03	3.23	+1.17	3.26	+0.10	5.02	+3.26	0.43	-1.02	0.40	-1.03	0.12	-0.83	0.52	+0.12	0.25	-0.32	15.55	+0.58
Ashley	T.	-0.51	0.28	-0.24	0.95	-0.07	3.35	+1.43	2.55	+0.15	4.59	+1.05	2.89	+0.06	1.54	-0.90	0.36	-1.09	0.10	-1.09	0.53	-0.10	0.45	-0.06	17.59	-1.37
Beach	0.44	-0.07	0.04	-0.36	0.94	+0.31	1.31	+0.09	2.91	+0.33	3.55	-0.34	5.40	+3.58	1.22	-0.55	0.08	-1.24	0.15	-0.83	0.56	+0.03	0.49	-0.01	17.09	+0.94
Berthold Agency	0.18	-0.16	0.10	-0.37	0.27	-0.42	1.32	+0.23	3.19	+0.75	1.63	-2.25	3.91	+1.74	0.96	-0.77	0.00	-1.46	T.	-0.86	0.71	+0.27	0.19	-0.20	12.46	-3.50
Bismarck	0.04	-0.41	0.29	-0.15	0.99	+0.10	3.03	+1.51	2.25	-0.07	2.82	-0.53	5.46	+3.22	1.14	-0.68	0.38	-0.85	T.	-0.94	0.82	+0.25	0.71	+0.14	17.93	+1.59
Bottineau	0.72	+0.32	0.02	-0.33	1.15	+0.46	1.09	+0.20	3.10	+1.01	2.45	-0.86	5.25	+2.95	2.76	+0.57	1.33	-0.29	0.08	-0.95	0.90	+0.36	0.55	+0.11	19.40	+3.55
Bowman	0.22	-0.23	0.11	-0.18	0.91	+0.45	1.16	+0.03	3.38	+0.96	2.65	-0.84	2.89	+0.52	1.73	+0.37	0.02	-1.18	0.06	-0.92	0.76	+0.38	0.43	+0.15	14.32	-0.49
Cando	......	......	......	......	......	......	......	......	1.87	-0.45	2.39	-1.21	5.14	+2.62	2.63	+0.50	0.77	-0.85	0.11	-0.75	......	......	......	......	......	......
Carrington	0.33	+0.01	0.15	-0.24	0.81	+0.14	3.27	+2.04	3.95	+1.32	4.41	+0.90	5.78	+3.24	1.58	-0.54	0.66	-0.88	0.07	-0.90	0.65	+0.10	0.80	+0.38	22.46	+5.57
Carson	0.16	-0.19	0.95	+0.64	1.11	+0.52	3.06	+1.58	3.52	+1.23	4.31	+0.24	2.74	+0.80	1.14	-0.38	0.13	-1.61	0.00	-1.00	1.12	+0.51	0.15	-0.40	18.39	+1.94
Cavalier	0.63	-0.11	0.06	-0.55	1.41	+0.73	2.08	+0.86	1.41	-1.30	3.89	+0.97	4.10	+1.37	2.48	+0.22	1.70	-0.24	0.45	-0.64	0.83	0.00	0.33	-0.67	19.37	+0.64
Cooperstown	1.09	+0.67	T.	-0.41	1.55	+0.97	2.57	+1.01	2.34	-0.04	2.71	-0.85	3.59	+1.04	3.07	+0.81	0.95	-0.84	0.42	-0.64	0.96	+0.26	0.92	+0.40	20.17	+2.38
Corinth	0.42	......	0.34	......	0.57	......	0.52	......	2.01	......	2.66	......	3.29	......	2.40	......	0.11	......	0.07	......	0.18	......	0.29	......	12.86	......
Courtenay	0.70	......	0.35	......	1.18	......	3.18	......	1.98	......	2.81	......	4.42	......	1.83	......	0.62	......	0.17	......	0.91	......	0.75	......	18.90	......
Crosby	0.24	-0.19	0.07	-0.21	0.40	-0.11	0.74	-0.38	1.71	-0.30	2.34	-0.82	2.88	+0.73	0.64	-1.28	0.00	-1.40	0.10	-0.78	0.39	-0.26	0.12	-0.33	9.63	-5.33
Devils Lake	0.50	+0.03	0.14	-0.36	0.87	+0.09	1.67	+0.15	2.16	+0.13	1.97	-1.59	5.23	+2.66	4.52	+2.04	0.80	-0.83	0.35	-0.90	0.78	+0.06	0.53	-0.01	19.52	+1.47
Dickinson	0.39	-0.05	0.19	-0.24	1.16	+0.37	2.29	+1.06	2.77	+0.41	2.14	-1.05	2.93	+0.68	1.83	+0.04	0.07	-1.12	0.01	-0.86	0.77	+0.25	0.45	-0.04	15.00	-0.55
Dogden Butte	0.23	0.00	0.30	-0.05	1.06	+0.53	1.62	+0.42	4.03	+1.17	2.19	-1.16	8.89	+6.32	2.53	+0.67	0.56	-0.66	0.22	-0.98	1.23	+0.80	0.69	+0.29	23.55	+7.35
Drake	0.31	......	0.16	......	0.90	......	1.21	......	2.53	......	1.74	......	7.38	......	3.18	......	0.48	......	0.05	......	0.64	......	0.47	......	19.05	......
Dunn Center	0.14	-0.29	0.08	-0.46	0.75	-0.17	1.79	+0.41	3.15	+0.63	3.49	-0.52	6.10	+3.92	1.06	-0.35	0.00	-1.33	T.	-0.75	0.74	+0.17	0.07	-0.48	17.37	+0.78
Dunseith	0.10	-0.30	T.	-0.42	0.48	-0.18	1.17	+0.36	2.87	+1.03	2.03	-1.05	6.40	+3.96	3.09	+0.71	0.44	-1.27	T.	-0.91	0.88	+0.37	0.51	+0.11	17.97	+2.41
Eckman	0.35	-0.09	0.07	-0.29	0.75	+0.27	0.35	-0.61	3.25	+1.14	3.05	+0.11	5.24	+2.97	2.33	+0.26	0.88	-0.52	0.10	-0.83	0.81	+0.23	0.30	-0.21	17.48	+2.43
Edgeley	0.17	-0.16	0.15	-0.19	1.07	+0.41	3.17	+1.40	2.31	-0.35	3.39	-0.30	4.43	+1.69	2.81	+0.55	0.05	-1.77	0.00	-1.03	0.10	-0.37	0.50	+0.11	18.15	-0.01
Edmore	0.63	-0.03	0.03	-0.42	0.94	+0.51	2.10	+1.09	1.69	-0.39	2.62	-0.10	7.03	+4.45	4.73	+2.72	1.27	+0.19	0.27	-0.66	1.09	+0.51	0.53	-0.15	22.93	+7.72
Ellendale	0.28	-0.20	0.28	-0.30	1.81	+0.98	3.69	+1.59	1.78	-1.30	3.13	-1.46	2.72	-0.43	4.80	+1.72	0.19	-1.83	0.17	-1.00	0.39	-0.35	0.53	+0.05	19.77	-2.53
Energy	0.12	-0.14	0.25	-0.08	1.18	+0.68	2.15	+1.02	2.70	+0.48	3.38	-0.10	4.68	+2.42	1.58	-0.27	0.20	-1.27	T.	-0.82	0.59	+0.22	0.27	-0.17	17.10	+1.97
Fairfield	0.50	......	0.10	......	1.35	......	1.55	......	2.78	......	2.93	......	5.36	......	1.32	......	0.04	......	0.08	......	0.80	......	0.40	......	17.21	......
Fessenden	0.53	+0.05	0.25	-0.30	1.11	+0.41	2.27	+0.76	2.84	+0.46	1.11	-2.72	7.26	+5.14	2.43	+0.26	0.44	-1.35	0.26	-0.65	1.38	+0.62	1.02	+0.36	20.90	+3.04
Forman	0.25	-0.29	0.35	-0.30	2.41	+1.61	3.85	+1.70	1.49	-1.38	4.65	+1.16	2.70	-0.25	3.95	+1.21	0.17	-1.77	0.06	-1.34	0.34	-0.30	0.87	+0.32	21.09	+0.37
Fort Yates	0.13	-0.39	0.80	+0.18	1.50	+0.56	4.00	+2.41	2.66	+0.69	2.20	-1.30	2.49	+0.07	0.55	-1.45	0.56	-0.59	T.	-0.91	0.32	-0.23	0.53	+0.05	15.74	-0.91
Foxholm (near)	0.71	+0.38	0.27	-0.30	0.95	+0.28	0.44	-0.91	2.87	+0.90	2.31	-0.78	4.97	+2.74	1.40	-0.34	0.34	-1.16	0.04	-1.06	1.29	+0.62	0.44	+0.01	16.03	+0.38
Fryburg	0.47	+0.02	0.24	-0.30	2.19	+1.47	2.08	+0.75	3.14	+0.90	3.04	-0.35	4.78	+2.78	2.19	+0.73	0.20	-1.49	0.05	-1.14	0.79	+0.15	0.32	-0.26	19.49	+3.26
Fullerton	1.01	+0.21	0.73	-0.19	2.26	+1.08	4.77	+2.68	2.54	-0.66	5.32	+1.57	3.37	+0.18	6.64	+4.06	0.32	-1.84	0.12	-1.30	0.76	-0.09	1.48	+0.63	29.32	+6.33
Gackle	0.16	......	0.09	......	0.61	......	2.62	......	2.61	......	3.43	......	4.37	......	1.75	......	0.52	......	0.08	......	0.36	......	0.50	......	17.10	......
Garrison	0.40	-0.02	0.55	+0.05	0.95	+0.02	1.25	+0.03	3.80	+1.57	2.53	-0.89	5.56	+3.36	1.70	-0.32	0.20	-1.24	T.	-0.90	1.37	+0.82	0.40	-0.15	18.71	+2.33
Grafton	0.70	+0.13	T.	-0.59	0.90	+0.21	1.87	+0.47	1.90	-0.29	3.02	-0.34	3.39	+0.90	2.39	-0.08	0.92	-1.14	0.32	-0.69	0.83	+0.09	0.38	-0.14	16.62	-1.44
Grand Forks	0.63	+0.09	0.01	-0.57	0.99	+0.26	2.00	+0.16	1.61	-1.00	2.46	-0.96	6.14	+3.41	5.32	+2.84	0.75	-1.10	0.14	-1.13	1.12	+0.31	0.72	+0.09	21.89	+2.40
Granville	0.67	+0.27	0.10	-0.35	0.83	+0.35	1.11	+0.06	3.05	+1.12	2.34	-0.55	5.92	+3.82	2.66	+0.81	0.32	-1.17	0.02	-0.93	1.04	+0.43	0.90	+0.38	18.96	+4.24
Hankinson	0.56	......	0.54	......	1.74	......	3.00	......	1.57	......	5.18	......	7.20	......	4.49	......	0.33	......	0.12	......	0.30	......	1.00	......	26.03	......
Hannah	0.71	+0.03	0.23	-0.35	1.39	+0.73	1.39	+0.12	1.57	-0.56	7.08	+3.68	2.36	-0.07	2.04	+0.22	2.10	-0.11	0.53	-0.54	0.83	+0.05	0.49	-0.11	20.72	+3.09
Hansboro	0.35	-0.34	0.10	-0.48	1.55	+0.83	1.41	-0.08	2.13	-0.18	4.93	+1.84	3.78	+1.34	2.95	+0.75	0.97	-1.03	0.05	-1.12	0.60	+0.01	0.35	-0.30	19.17	+1.24
Hettinger	0.07	-0.26	0.17	-0.17	0.41	-0.27	1.58	+0.58	3.30	+0.95	1.89	-1.71	1.49	-1.06	1.54	+0.24	0.09	-1.41	0.10	-0.71	0.38	-0.06	0.09	-0.28	11.11	-4.16
Hillsboro	0.33	-0.25	T.	-0.63	1.14	+0.47	2.48	+0.63	2.39	-0.80	4.02	+0.60	3.39	+0.96	4.13	+1.64	0.65	-1.57	0.24	-0.96	0.91	0.00	0.53	-0.23	20.21	-0.14
Howard (near)	1.10	+0.49	0.11	-0.49	0.20	-0.82	0.58	-0.72	2.70	+0.32	2.25	-0.53	2.62	+0.84	0.28	-1.23	0.04	-1.50	0.28	-0.62	1.40	+0.79	0.82	+0.15	12.38	-3.32
Jamestown	0.70	+0.12	0.35	-0.27	1.50	+0.59	4.07	+2.34	2.48	-0.30	2.18	-1.62	4.08	+1.36	3.86	+1.33	0.58	-1.15	0.15	-0.97	0.47	-0.25	1.21	+0.53	21.63	+1.71
Kenmare	0.67	......	0.25	......	0.78	......	0.47	......	3.10	......	2.72	......	5.22	......	1.47	......	0.07	......	0.14	......	1.00	......	0.13	......	16.02	......
Langdon	0.70	+0.13	0.80	+0.18	1.10	+0.29	1.44	+0.10	1.77	-0.44	3.30	-0.11	2.58	+0.11	3.74	+1.27	1.69	-0.60	0.40	-0.63	0.70	-0.13	0.90	+0.27	19.12	+0.44
Larimore	0.53	-0.12	T.	-0.58	0.89	+0.13	1.62	-0.06	2.80	+0.04	2.69	-1.25	5.18	+1.95	3.71	+1.07	0.99	-1.09	0.20	-1.17	1.30	+0.43	0.42	-0.15	20.33	-0.80
Linton	0.04	-0.39	0.26	-0.29	0.83	+0.35	1.84	+0.32	1.49	-0.79	4.09	+1.53	2.95	+0.89	0.87	-1.14	0.33	-1.45	0.03	-1.01	0.23	-0.43	0.58	+0.17	13.54	-2.24
Lisbon	0.80	+0.20	0.49	-0.18	2.35	+1.83	3.75	+1.91	2.33	-0.70	4.64	+0.68	2.40	-0.90	4.22	+1.88	0.25	-1.92	0.28	-0.87	1.01	+0.28	1.40	+0.89	23.92	+3.10
McClusky	0.66	+0.21	0.42	-0.26	1.01	+0.27	1.95	+0.53	3.33	+0.68	3.00	-0.15	6.25	+3.93	2.62	+0.87	0.15	-1.16	T.	-0.99	1.20	+0.49	1.30	+0.68	21.89	+5.10
McLeod	0.47	-0.13	0.29	-0.41	1.77	+1.23	3.13	+0.96	2.25	-1.07	4.37	+0.25	3.21	+0.28	3.44	+1.29	0.36	-2.00	0.85	-0.55	0.44	-0.29	0.25	-0.22	20.83	-0.66
Maddock	0.25	-0.02	0.16	-0.21	0.41	+0.02	1.62	+0.27	2.90	+0.70	1.69	-1.69	5.89	+3.49	5.61	+3.40	0.51	-1.52	0.15	-0.78	0.55	+0.01	0.33	+0.07	20.07	+3.74
Mandan	0.13	-0.15	0.36	0.00	1.13	+0.42	3.09	+1.67	2.63	+0.21	2.85	-0.48	4.71	+2.06	1.34	-0.16	0.22	-1.24	T.	-0.84	0.96	+0.44	0.88	+0.45	18.30	+2.38
Manfred	0.43	-0.13	0.26	-0.25	0.86	+0.11	1.64	+0.29	2.29	-0.06	0.98	-2.64	7.51	+5.37	3.14	+0.79	0.71	-0.86	0.07	-0.90	0.64	-0.08	0.85	+0.19	19.38	+1.83
Marmarth	0.29	-0.08	0.09	-0.31	1.08	+0.50	1.13	+0.09	2.62	+0.15	3.00	-0.26	2.05	+0.21	0.78	-0.96	0.22	-1.13	0.10	-0.74	0.47	+0.06	0.52	+0.12	12.35	-2.35
Mary	0.17	....	0.01	......	0.48	......	1.00	......	2.14	......	3.82	......	3.25	......	1.12	......	0.10	......	0.02	......	0.57	......	0.33	......	13.01	......
Max	0.25	......	0.30	......	0.41	......	1.21	......	3.21	......	3.21	......	6.48	......	1.93	......	0.15	......	T.	......	0.90	......	0.59	......	18.64	......
Mayville	0.52	+0.10	0.05	-0.40	0.71	-0.01	1.90	+0.20	2.09	-0.93	6.42	+3.01	4.82	+2.03	4.70	+2.08	0.59	-1.61	0.13	-1.07	0.60	-0.19	0.68	+0.12	23.21	+3.33
Minot	0.87	+0.49	0.30	-0.17	0.37	-0.32	0.80	-0.43	2.84	+0.80	1.99	-1.23	7.20	+5.33	1.21	-0.80	0.30	-1.31	0.05	-0.93	1.31	+0.64	0.59	+0.11	17.83	+2.18
Mohall	0.64	+0.31	0.11	-0.18	0.89	+0.21	0.39	-0.55	3.44	+1.43	2.69	-0.61	4.86	+2.63	1.87	+0.06	0.29	-1.26	T.	-1.04	1.08	+0.48	0.34	-0.07	16.63	+1.41
Mott	0.20	-0.64	0.54	-0.04	0.59	-0.33	2.01	+0.61	2.40	+0.02	1.95	-1.59	3.75	+1.16	1.29	-0.48	0.06	-1.42	0.01	-1.06	0.72	+0.17	0.37	-0.27	13.89	-3.87
Napoleon	0.23	-0.20	0.48	+0.05	1.02	+0.19	3.91	+2.30	2.76	+0.40	3.88	+0.35	4.89	+2.39	1.34	-0.99	0.49	-0.95	0.15	-0.88	0.55	-0.10	0.65	+0.20	20.35	+2.76
New England	0.24	-0.26	0.18	-0.32	1.05	+0.26	3.59	+2.56	3.78	+1.71	1.99	-0.91	2.28	+0.33	1.44	-0.15	0.08	-1.20	0.00	-0.70	0.78	+0.27	0.29	-0.11	15.70	+1.48
New Salem	0.09	-0.41	0.15	-0.29	0.80	-0.03	2.11	+0.89	3.34	+1.09	2.44	-0.99	3.68	+1.65	1.77	+0.19	T.	-1.37	T.	-0.96	0.67	+0.18	0.34	-0.24	15.39	-0.29
Oakes	0.41	......	0.27	.....	2.08	......	3.30	......	1.90	......	3.81	......	2.67	......	5.86	......	0.19	......	0.16	......	0.39	......	0.77	......	21.81	......
Park River	0.32	-0.06	T.	-0.40	1.07	+0.54	1.51	+0.19	1.94	-0.43	3.78	+0.30	3.80	+1.29	2.34	+0.06	0.75	-1.24	0.28	-0.86	0.73	-0.05	0.31	-0.14	16.83	-0.80
Parshall (near)	0.24	+0.05	0.10	-0.26	0.48	+0.26	1.08	-0.06	3.93	+1.82	3.20	+0.11	6.48	+4.67	1.15	-0.68	0.21	-1.35	0.02	-0.67	0.66	+0.37	0.17	-0.23	17.72	+4.03
Pembina	0.63	+0.01	0.04	-0.69	0.86	-0.01	1.35	-0.09	1.50	-0.93	2.96	-0.64	4.63	+2.17	2.26	0.00	1.85	-0.15	0.31	-1.12	0.75	-0.04	0.52	-0.25	17.66	-1.74
Petersburg	0.38	......	0.07	......	0.89	......	1.36	......	2.65	......	2.28	......	4.76	......	3.89	......	0.66	......	0.17	......	0.80	......	0.33	......	18.21	......
Pettibone	0.30	-0.11	T.	-0.43	0.93	+0.38	2.30	+0.97	3.21	+0.59	1.83	-1.33	5.11	+2.41	1.69	-0.74	1.43	-0.13	0.10	-0.88	0.62	-0.04	0.64	+0.07	18.16	+0.76
Portal	0.64	+0.16	0.09	-0.34	0.99	+0.35	0.56	-0.56	2.36	+0.19	2.62	-0.73	4.06	+2.16	1.78	-0.15	0.10	-1.37	0.11	-0.64	0.45	-0.13	0.20	-0.30	13.96	-1.36
Powers Lake	0.64	+0.03	0.38	-0.10	0.74	-0.08	1.07	-0.51	2.77	+0.60	2.66	-0.89	5.15	+2.93	1.41	-0.08	0.42	-0.85	0.55	-0.68	0.77	+0.19	0.48	-0.11	17.04	+0.45
Richardton	0.13	-0.29	0.21	-0.16	2.49	+1.96	3.30	+1.82	2.77	+0.28	2.97	-0.48	5.59	+3.55	1.75	+0.18	0.06	-1.29	T.	-0.74	1.18	+0.72	0.50	+0.12	20.95	+5.67
Rugby	0.14	......	0.11	......	0.54	......	1.53	......	2.51	......	1.45	......	7.91	......	1.82	......	0.44	......	0.19	......	0.42	......	0.40	......	17.46	......
Ryder	0.36	......	0.39	......	0.55	......	1.19	......	3.66	......	2.77	......	4.35	......	1.72	......	0.24	......	0.03	......	0.94	......	0.56	......	16.76	......
Sanish	0.50	.....	0.20	......	0.44	......	1.25	....	3.03	......	3.49	......	2.25	......	1.31	......	0.14	......	T.	......	1.50	......	0.40	......	14.51	......
Sharon	0.74	+0.42	0.14	-0.24	1.31	+0.71	2.02	+0.50	3.27	+0.17	3.96	+0.29	3.61	+1.58	3.92	+1.87	1.11	-0.89	0.17	-1.93	0.93	+0.04	0.42	+0.02	21.60	+2.54
Stanton	0.06	-0.24	0.14	-0.12	0.72	+0.27	2.00	+1.03	2.81	+0.80	3.20	+0.16	5.28	+2.99	1.07	-0.56	T.	-1.06	0.24	-0.74	0.46	+0.19	0.52	+0.18	16.50	+2.90
Steele	0.11	-0.35	0.12	-0.35	0.57	-0.24	1.38	+0.19	2.51	-0.07	2.37	-1.13	4.92	+2.02	1.07	-1.30	0.59	-0.86	0.07	-1.00	0.58	-0.04	0.39	-0.16	14.68	-3.29
Tagus	0.27	......	0.30	......	1.48	......	0.51	......	2.56	......	2.38	......	5.47	......	1.57	......	0.16	......	0.04	......	0.66	......	0.10	......	15.50	......
Tioga	0.57	......	0.05	......	0.83	......	1.06	.....	3.28	......	2.02	......	4.19	......	0.55	.....	0.00	......	0.50	......	0.60	......	0.36	......	14.01	......
Towner	0.26	-0.18	0.25	-0.19	1.10	+0.37	1.20	+0.10	3.77	+1.56	1.38	-1.52	6.37	+4.11	2.20	+0.31	0.41	-1.36	0.34	-0.65	0.76	+0.17	0.56	+0.16	18.60	+2.88
Trotters	0.34	......	T.	......	0.49	......	1.07	......	2.58	......	3.93	......	4.64	......	1.66	......	0.11	......	0.12	......	0.89	......	0.42	.....	16.25	.....
Turtle Lake	0.20	-0.18	0.15	-0.26	1.16	+0.42	1.17	-0.02	2.62	+0.30	3.16	-0.82	4.59	+1.69	1.40	-0.95	0.33	-0.97	0.07	-0.64	0.98	+0.58	0.33	-0.21	16.16	-1.06
Tuttle	0.13	-0.39	0.11	-0.32	0.87	+0.16	1.82	+0.80	2.67	+0.23	2.11	-1.21	4.63	+2.04	0.74	-1.22	0.71	-0.73	0.11	-0.59	0.64	+0.15	0.41	-0.03	14.95	-1.11
Valley City	0.30	-0.25	0.10	-0.39	0.81	+0.24	2.94	+1.42	2.84	-0.07	1.78	-1.55	2.93	+0.14	4.54	+2.47	0.21	-1.74	0.15	-0.83	0.46	-0.28	0.49	+0.03	17.55	-0.81
Velva	0.70	......	0.28	......	0.75	....	0.99	......	3.67	......	2.27	......	7.07	......	2.67	......	0.42	......	0.02	......	1.16	......	0.57	......	20.57	......
Wahpeton	0.92	+0.48	0.42	-0.09	1.80	+1.02	3.81	+1.66	2.13	-0.55	4.55	+0.69	4.69	+1.23	3.25	+0.50	0.58	-1.68	0.79	-0.68	0.47	-0.25	0.87	+0.43	24.28	+2.76
Washburn	0.21	-0.14	0.18	-0.23	1.16	+0.58	2.05	+0.92	2.37	+0.23	2.20	-1.34	5.26	+2.88	1.35	-0.08	0.30	-0.96	T.	-1.01	0.50	-0.03	0.40	+0.08	15.98	+0.90
Westhope	0.45	+0.05	0.07	-0.13	0.98	+0.52	0.65	-0.26	2.91	+0.97	4.79	+1.78	8.49	+6.26	1.97	-0.07	0.26	-1.09	0.06	-0.77	1.12	+0.57	0.30	+0.03	22.05	+7.86
Williston	0.69	+0.15	0.02	-0.39	0.54	-0.15	1.02	-0.18	2.42	+0.36	3.08	-0.35	4.88	+2.99	1.09	-0.38	0.20	-0.89	0.14	-0.72	1.14	+0.56	0.51	-0.07	15.73	+0.93
Willow City	0.85	+0.31	0.40	-0.12	1.25	+0.52	1.47	+0.47	2.65	+0.73	1.83	-1.28	6.31	+4.22	3.52	+1.52	0.20	-1.52	0.39	-0.45	0.90	+0.31	0.70	+0.16	20.47	+4.87
Wishek	0.14	-0.39	0.24	-0.35	0.72	0.00	3.16	+2.12	2.20	-0.68	3.69	+0.77	3.73	+1.11	0.85	-1.26	0.38	-0.97	0.10	-0.87	0.48	-0.04	0.45	-0.19	16.14	-0.75
Zap	0.30	-0.04	0.10	-0.17	1.02	+0.39	2.05	+1.00	3.74	+1.35	2.31	-1.46	6.18	+4.22	0.84	-0.98	0.14	-1.09	T.	-1.07	0.44	+0.11	0.10	-0.23	17.22	+2.03
Moorhead, Minn.	0.66	-0.01	0.25	-0.44	1.00	-0.01	2.46	+0.28	1.81	-1.08	3.01	-1.04	2.13	-1.30	4.59	+1.70	0.55	-1.67	0.95	-0.74	1.06	+0.16	0.60	-0.12	19.07	-4.27

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace

Monthly and Annual Mean Temperatures for the Year 1935, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Amenia	0.8	-4.1	22.6	+13.8	26.8	+2.2	38.8	-3.2	52.2	-1.8	63.2	-0.2	78.9	+10.2	67.5	+1.0	56.6	-0.7	46.8	+2.2	13.6	-14.4	10.6	-1.6	39.9	+0.3
Arnegard	5.8	-3.2	24.0	+10.1	27.5	+2.2	37.0	-4.1	45.8	-6.9	56.8	-4.9	72.4	+3.1	64.6	-2.7	57.4	+1.1	45.2	+2.3	20.4	-7.9	17.6	+4.6	39.5	-0.6
Ashley	8.9	+0.3	26.7	+15.6	30.4	+6.1	38.4	-4.2	49.2	-4.3	61.4	-1.0	74.6	+5.9	67.8	+1.3	59.2	+1.9	43.0	-1.1	19.9	-8.1	14.6	+0.4	41.2	+1.1
Beach	11.7	+0.6	29.2	+13.0	28.9	+1.7	39.2	-2.8	48.8	-2.6	60.5	-1.2	73.8	+5.3	67.2	+0.8	58.6	+2.2	44.6	+1.0	25.4	-5.6	22.2	+5.2	42.5	+1.5
Berthold Agency	6.5	-2.1	26.6	+14.4	28.0	+2.0	39.6	-3.9	49.8	-4.3	59.7	-3.1	72.7	+3.5	65.4	-2.3	55.6	-1.3	40.6	-4.0	16.5	-12.0	12.2	-3.2	39.4	-1.4
Bismarck	8.6	+0.8	27.6	+17.3	27.6	+3.4	40.2	-1.9	50.1	-4.4	62.2	-1.5	75.8	+6.0	68.0	+0.7	60.2	+2.1	44.4	-0.5	21.1	-7.4	15.3	+0.6	41.8	+1.3
Bottineau	-2.0	-2.6	17.8	+13.6	27.1	+7.0	38.4	-0.7	50.0	-1.3	60.4	-0.9	74.2	+7.6	64.8	+0.7	56.0	+1.1	43.1	+2.1	12.8	-10.8	9.2	+1.8	37.6	+1.4
Bowman	13.6	+0.6	29.2	+10.7	30.2	+2.5	38.1	-4.5	47.7	-4.5	60.0	-2.5	75.1	+5.7	66.9	-0.8	59.0	+2.2	44.8	+0.8	26.0	-4.6	20.8	+5.7	42.6	+0.9
Carrington	2.9	-3.8	23.8	+15.1	23.4	0.0	37.2	-2.4	48.8	-3.7	60.2	-2.8	75.0	+6.3	65.8	-1.0	59.2	+2.6	43.0	-0.8	14.9	-12.9	9.2	-2.5	38.6	-0.5
Carson	9.8	+0.8	27.6	+12.2	28.4	+2.1	38.2	-4.5	49.4	-3.7	61.6	-0.8	73.2	+4.4	68.1	+0.2	60.0	+3.6	43.1	-0.2	21.6	-8.4	17.5	+2.8	41.5	+0.7
Cavalier	-4.2	.....	21.8	.....	23.1	.....	38.3	.....	52.2	.....	59.8	.....	73.6	.....	65.8	.....	54.6	.....	43.7	.....	15.8	.....	9.2	.....	37.8	.....
Cooperstown	-1.4	.....	22.5	.....	23.4	.....	36.8	.....	48.9	.....	61.4	.....	73.8	.....	66.1	.....	56.4	.....	44.4	.....	14.9	.....	7.9	.....	37.9	.....
Crosby	0.6	-3.0	18.9	+ 9.5	22.2	-1.3	36.5	-3.7	48.2	-3.0	58.2	-2.9	71.8	+5.0	63.2	-1.4	54.3	+0.2	40.4	-1.4	15.4	-11.3	12.0	+0.4	36.8	-1.1
Devils Lake	-2.3	-4.1	21.3	+16.2	22.7	+2.9	37.6	-1.2	49.5	-3.1	59.7	-2.2	73.4	+6.0	64.0	-0.8	55.4	-0.5	41.8	-0.6	14.3	-10.2	8.3	-1.2	37.1	+0.1
Dickinson	9.8	-0.7	26.4	+13.3	26.2	+0.9	37.7	-4.4	47.0	-5.2	59.0	-2.7	72.6	+4.4	64.8	-1.5	56.2	+0.2	41.8	-1.8	20.8	- 7.5	17.2	+0.8	40.0	-0.3
Dogden Butte	4.4	.....	24.4	.....	25.6	.....	38.0	.....	48.4	.....	59.6	.....	71.8	.....	64.2	.....	57.2	.....	45.0	.....	17.6	.....	14.2	.....	39.2	.....
Drake	1.4	.....	22.6	.....	25.1	.....	36.8	.....	48.8	.....	59.8	.....	72.9	.....	63.8	.....	56.2	.....	41.5	.....	14.6	.....	11.8	.....	37.9	.....
Dunn Center	8.0	-5.8	26.7	+12.1	29.3	+3.8	37.8	-4.0	46.5	-6.2	59.9	-2.1	72.2	+4.2	64.6	-1.6	55.7	-0.5	44.0	-0.4	19.8	- 8.1	17.4	-0.3	40.2	-0.7
Dunseith	-3.4	-5.9	19.2	+12.8	20.2	0.0	37.0	-2.9	49.0	-3.1	58.5	-2.4	71.2	+5.3	63.0	-0.9	54.2	-0.2	40.8	-0.6	11.2	-13.2	8.0	-1.1	35.7	-1.1
Eckman	-3.6	-6.7	16.4	+ 8.8	21.6	-1.3	38.8	-1.8	50.0	-1.4	59.7	-1.9	72.2	+5.4	64.0	-0.2	56.0	+0.8	42.6	+0.8	12.6	-13.2	8.3	-1.0	36.6	-0.9
Edgeley	4.5	-4.3	28.0	+15.3	26.2	-1.1	39.4	-3.3	48.3	-5.4	60.2	-2.7	75.8	+7.0	68.0	+1.1	60.0	+2.4	45.8	+0.5	16.9	-12.9	10.4	-4.2	40.3	-0.6
Edmore	-5.0	.....	18.8	.....	21.6	.....	36.2	.....	48.7	.....	57.7	.....	70.8	.....	62.8	.....	52.8	.....	41.2	.....	12.3	.....	6.2	.....	35.3	.....
Ellendale	7.6	-3.1	27.0	+16.3	30.0	+4.4	39.0	-4.6	51.0	-4.7	62.2	-3.8	75.8	+5.1	68.4	-0.4	59.4	+1.0	43.6	-2.0	21.0	- 5.1	15.0	-1.8	41.7	+0.1
Energy	6.2	.....	26.8	.....	27.0	.....	40.2	.....	50.0	.....	61.0	.....	73.4	.....	65.6	.....	58.0	.....	43.9	.....	17.8	.....	13.6	.....	40.3	.....
Fessenden	1.1	-3.4	24.8	+14.7	24.4	+1.0	37.5	-3.2	48.2	-3.8	60.3	-1.4	73.3	+5.3	64.6	-1.3	56.6	+0.9	42.0	-1.0	14.2	-12.9	9.5	-1.1	38.0	-0.6
Fort Yates	10.6	+1.4	29.0	+17.2	31.8	+5.5	40.6	-4.3	51.1	-5.0	64.2	-2.0	78.8	+7.1	70.4	+1.1	59.0	-0.8	45.8	-0.6	22.6	- 7.2	18.0	-0.4	43.5	+1.0
Foxholm (near)	0.2	.....	21.1	.....	22.6	.....	36.8	.....	47.4	.....	56.8	.....	69.7	.....	61.9	.....	53.6	.....	42.4	.....	13.8	.....	11.4	.....	36.5	.....
Fullerton	7.6	-1.3	27.7	+15.7	30.4	+3.6	39.2	-3.6	50.8	-3.2	62.0	-1.4	76.0	+7.0	68.7	+1.6	58.8	+1.6	43.8	-1.0	20.4	- 8.8	14.4	0.0	41.6	+0.8
Gackle	5.8	.....	25.9	.....	28.1	.....	38.2	.....	48.7	.....	61.0	.....	73.7	.....	67.6	.....	58.4	.....	44.6	.....	18.0	.....	13.8	.....	40.3	.....
Garrison	5.2	-2.4	24.9	+14.0	26.5	+2.7	37.2	-5.1	48.4	-4.3	61.0	-1.2	72.7	+4.5	65.6	-0.5	57.4	+2.5	42.4	-0.3	16.5	- 9.8	12.4	-1.3	39.2	-0.1
Grafton	-2.4	-4.6	23.0	+16.3	25.2	+4.0	38.9	-1.7	52.1	-1.2	61.6	-1.2	75.6	+7.9	67.6	+2.4	56.4	+0.1	45.4	+3.3	15.4	- 9.3	8.5	-0.4	38.9	+1.3
Grand Forks	-2.2	-5.7	21.6	+14.0	25.4	+3.0	38.4	-3.3	51.4	-2.3	61.2	-1.8	74.4	+6.9	65.6	+0.2	55.5	-0.9	42.4	-1.2	14.6	-11.4	9.2	-1.4	38.1	-0.3
Granville	1.0	-3.6	20.6	+10.5	25.0	+0.9	37.9	-2.9	49.2	-2.4	59.6	-2.6	72.2	+4.7	63.8	-1.1	56.7	+1.9	43.7	+0.4	13.2	-13.5	8.8	-3.2	37.6	-1.0
Hankinson	4.8	.....	26.8	.....	30.8	.....	40.4	.....	53.0	.....	63.7	.....	76.4	.....	69.4	.....	59.9	.....	44.4	.....	19.6	.....	13.2	.....	41.9	.....
Hannah	-5.8	.....	18.0	.....	20.3	.....	37.2	.....	49.6	.....	59.0	.....	72.4	.....	65.4	.....	53.4	.....	42.8	.....	13.0	.....	7.5	.....	36.1	.....
Hansboro	-3.8	-3.7	21.1	+15.3	21.2	+0.6	37.6	-1.3	48.9	-1.8	57.2	-3.2	71.4	+6.2	62.8	+0.4	52.8	-0.7	40.8	+0.1	14.4	- 9.1	7.4	-0.6	36.0	+0.2
Hettinger	14.8	+1.8	28.6	+12.1	30.2	+1.6	38.8	-4.0	48.6	-5.0	61.2	-1.7	76.6	+6.5	69.2	+0.4	59.5	+1.9	45.0	-0.6	26.2	- 5.4	21.4	+4.6	43.3	+1.0
Hillsboro	-0.4	-5.0	23.4	+13.1	28.6	+3.0	38.2	-4.6	51.3	-2.6	61.7	-2.5	76.4	+6.8	68.3	+0.8	57.6	-1.0	44.4	-0.8	15.8	-12.0	11.0	-0.2	39.7	-0.4
Howard (near)	-0.2	-4.6	17.9	+ 8.9	22.8	+0.9	36.2	-2.9	45.4	-4.4	57.8	-2.4	73.0	+7.0	64.9	0.0	57.0	+2.7	42.5	+0.9	13.6	-12.7	12.1	+0.5	36.9	-0.5
Jamestown	4.6	-2.4	26.1	+16.5	27.4	+3.4	37.4	-4.7	49.2	-4.3	61.8	-1.4	75.2	+6.7	66.2	-0.2	56.9	+0.4	43.9	-0.6	17.1	-10.2	11.2	-2.2	39.8	+0.1
Kenmare	2.2	.....	22.6	.....	24.0	.....	38.8	.....	49.0	.....	60.6	.....	73.4	.....	65.8	.....	57.4	.....	44.5	.....	15.6	.....	14.8	.....	39.1	.....
Langdon	-5.3	-4.4	18.4	+13.6	20.0	+0.4	36.4	-1.4	49.6	-1.3	57.8	-2.1	72.0	+7.4	64.0	+1.5	53.2	+0.9	38.2	-2.7	11.2	-12.8	6.8	-1.5	35.2	-0.2
Larimore	-1.8	-5.4	22.0	+14.7	25.4	+3.1	38.0	-2.4	50.6	-2.0	60.6	-1.8	73.9	+6.9	65.6	+0.6	55.0	-0.3	44.0	+0.1	15.0	-10.8	9.4	-1.6	38.1	+0.1
Linton	9.2	-0.3	28.0	+13.5	30.0	+2.3	39.4	-3.3	50.0	-4.2	61.4	-2.9	76.1	+4.8	69.8	+0.6	60.6	+2.1	44.8	+0.1	20.6	- 8.4	14.7	+0.8	42.0	+0.4
Lisbon	5.5	-1.8	27.0	+15.8	30.6	+3.5	39.2	-3.2	51.2	-2.7	61.8	-1.7	76.0	+6.7	67.4	+0.4	57.2	-0.3	45.3	+1.5	20.5	- 8.4	13.2	-0.9	41.2	+0.7
McClusky	4.2	.....	24.3	.....	26.0	.....	38.2	.....	48.2	.....	59.8	.....	73.0	.....	65.6	.....	57.8	.....	44.3	.....	15.8	.....	14.8	.....	39.3	.....
McLeod	3.4	-5.0	26.8	+13.5	30.4	+2.7	40.2	-4.0	52.2	-2.3	61.3	-3.2	76.1	+5.9	68.6	+0.7	58.6	-0.4	45.4	-0.8	17.0	-13.3	12.0	-2.4	41.0	-0.7
Maddock	-0.5	-5.3	22.5	+11.4	24.6	0.0	38.0	-3.0	49.2	-3.5	60.4	-0.7	73.6	+6.0	65.0	-0.7	56.9	+1.2	44.4	+1.5	14.5	-12.1	8.9	-1.1	38.1	-0.5
Mandan	7.1	-1.2	26.7	+13.8	27.2	+0.5	39.6	-3.1	49.9	-4.0	62.4	-0.9	75.4	+4.8	68.4	+0.3	60.2	+2.8	43.8	-0.2	20.1	- 9.1	15.0	+1.3	41.3	+0.4
Marmarth	13.0	+0.2	29.9	+12.2	31.1	+3.4	41.0	-2.0	49.8	-1.4	61.4	-0.6	76.4	+7.0	68.6	+1.3	59.0	+2.5	45.0	-0.5	27.2	- 4.2	21.6	+4.8	43.7	+1.9
Max	1.2	.....	19.6	.....	22.8	.....	36.2	.....	47.2	.....	58.5	.....	71.4	.....	62.8	.....	54.7	.....	42.0	.....	15.2	.....	12.1	.....	37.0	.....
Mayville	-0.1	-5.9	24.6	+15.1	27.7	+3.2	39.3	-3.7	52.6	-2.1	64.0	0.0	75.6	+6.6	68.8	+1.8	58.8	+1.4	47.0	+1.1	17.2	-11.0	12.0	-0.9	40.6	+0.4
Minot	2.8	-3.4	23.6	+13.9	25.9	+3.1	37.4	-3.4	49.3	-2.9	59.4	-2.9	72.4	+4.5	63.7	-1.3	55.6	-0.3	45.2	+1.9	15.4	-12.1	12.6	+0.7	38.6	-0.2
Mohall	0.5	-4.1	20.4	+13.3	23.2	+2.3	39.0	-1.5	49.8	-2.5	60.0	-1.1	71.8	+5.5	65.3	+1.4	57.0	+3.0	43.7	+2.0	14.1	-10.7	10.4	-0.6	37.9	+0.5
Mott	13.0	+4.2	29.0	+15.5	30.1	+3.2	39.3	-2.5	48.8	-4.7	61.9	-2.5	76.2	+5.9	68.4	+1.3	59.4	+2.8	44.2	+0.9	18.6	-10.6	21.6	+7.8	42.5	+1.7
Napoleon	6.0	-0.4	26.1	+17.8	28.4	+5.7	37.8	-3.6	48.8	-3.6	60.6	-1.8	73.6	+5.0	66.8	+0.4	59.7	+3.0	43.4	-0.3	19.6	- 7.1	14.0	+1.4	40.4	+1.4
New England	10.8	-2.6	29.4	+15.3	28.6	+3.4	38.4	-3.9	48.4	-3.6	61.2	-1.4	76.8	+8.0	67.8	+0.9	59.2	+2.8	45.2	+1.8	26.8	- 2.3	20.0	+3.5	42.7	+1.8
New Salem	10.7	+1.6	30.2	+17.1	30.0	+4.1	41.0	-1.4	49.8	-2.6	62.5	-0.4	75.8	+5.9	70.2	+3.0	60.3	+2.8	47.0	+2.2	21.9	- 7.9	17.4	+2.1	43.1	+2.2
Oakes	6.0	.....	27.3	.....	31.2	.....	40.0	.....	51.6	.....	63.0	.....	77.0	.....	69.8	.....	60.3	.....	45.1	.....	20.4	.....	13.1	.....	42.1	.....
Park River	-3.6	-6.3	21.9	+14.2	22.3	-0.8	35.8	-5.5	49.7	-3.3	59.0	-3.9	73.3	+5.4	68.2	+2.0	54.9	-1.7	41.9	-1.9	13.8	-14.0	9.5	-1.0	37.2	-1.4
Parshall	2.7	.....	20.6	.....	25.2	.....	36.6	.....	46.8	.....	58.0	.....	71.2	.....	63.2	.....	54.0	.....	42.0	.....	16.0	.....	12.2	.....	37.4	.....
Pettibone	3.2	+0.2	23.8	+15.0	25.2	+0.9	36.2	-4.7	48.2	-3.6	59.8	-1.7	74.2	+6.2	66.4	-1.9	58.4	+3.2	43.2	+1.4	15.0	-11.4	9.6	-0.9	38.6	+0.2
Portal	-2.8	-5.3	16.7	+11.3	18.2	+0.5	37.2	-4.2	48.1	-2.4	58.7	-0.5	71.0	+4.8	62.6	-1.6	54.4	0.0	40.6	-0.8	11.7	-13.7	10.7	-1.5	35.6	-1.1
Powers Lake	1.6	.....	24.4	.....	25.6	.....	37.8	.....	48.5	.....	56.7	.....	72.0	.....	63.9	.....	55.2	.....	40.4	.....	14.2	.....	13.0	.....	37.8	.....
Richardton	11.0	+0.8	28.8	+13.6	28.5	+1.4	38.4	-2.7	48.0	-4.6	59.9	-2.7	72.7	+2.6	67.2	-0.9	59.6	+2.8	45.4	+2.0	22.7	- 5.6	19.4	+5.4	41.8	+1.0
Sanish	1.2	.....	22.0	.....	24.8	.....	39.1	.....	48.2	.....	59.6	.....	73.0	.....	66.0	.....	57.0	.....	42.2	.....	17.2	.....	13.2	.....	38.6	.....
Sharon	-1.6	.....	21.9	.....	24.2	.....	36.9	.....	49.6	.....	59.4	.....	73.0	.....	64.6	.....	55.8	.....	42.9	.....	14.6	.....	8.4	.....	37.6	.....
Steele	6.2	-1.1	25.8	+16.4	27.0	+2.9	38.6	-4.6	49.7	-3.7	61.1	-1.4	73.8	+4.4	67.4	+0.7	59.2	+2.3	43.9	+0.1	17.2	- 9.1	12.6	+0.3	40.1	+0.5
Towner	0.2	-3.6	19.7	+12.0	23.6	+1.5	43.4	+1.5	53.9	+0.7	63.0	+0.2	73.0	+5.0	64.5	-0.9	55.5	-0.7	42.9	-0.5	14.4	-10.8	10.6	+0.5	38.6	+0.3
Turtle Lake	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	73.6	+5.3	67.1	+0.7	59.1	+2.8	41.2	-2.1	14.4	-13.8	8.4	-3.2	.....	.....
Valley City	3.6	-1.9	26.3	+14.8	28.6	+2.6	38.8	-3.8	50.6	-2.9	61.8	-1.7	75.8	+7.1	68.8	+2.0	57.8	-0.4	45.0	+0.4	17.8	-10.2	11.6	-2.1	40.5	+0.3
Velva	3.2	.....	23.8	.....	25.9	.....	39.4	.....	49.6	.....	61.4	.....	73.2	.....	65.0	.....	57.3	.....	45.0	.....	16.6	.....	13.4	.....	39.5	.....
Wahpeton	6.6	-1.8	27.6	+15.6	32.0	+4.5	42.3	-2.1	53.4	-2.2	63.8	-1.3	77.2	+7.4	72.0	+4.1	61.8	+2.6	47.7	+1.1	23.0	- 5.8	15.8	+0.5	43.6	+1.9
Washburn	5.8	-1.6	25.8	+16.3	26.6	+2.2	39.6	-4.2	50.2	-3.6	61.8	-2.3	75.0	+5.5	66.3	-1.1	58.8	+0.3	43.8	-0.7	19.1	-11.2	14.2	+0.2	40.6	0.0
Westhope	-3.0	-4.3	15.6	+ 8.6	19.8	-2.2	38.6	-1.3	50.2	-1.6	60.4	-1.6	72.1	+5.3	64.4	-0.3	55.2	+0.3	43.2	+1.1	12.6	-13.0	7.0	-3.0	36.3	-1.0
Williston	4.3	-2.1	22.0	+13.9	25.7	+2.8	40.0	-2.0	49.2	-4.8	60.8	-1.9	73.6	+4.7	66.8	+0.7	58.2	+1.6	43.3	-0.1	19.6	- 7.6	15.8	+2.0	39.9	+0.6
Willow City	-3.8	-4.7	15.6	+10.7	20.0	+0.3	37.3	-2.3	49.4	-2.1	59.1	-1.9	71.8	+6.1	62.8	-0.8	54.1	-0.1	40.2	-1.2	10.6	-12.0	5.4	-3.3	35.2	-1.0
Wishek	6.9	-0.1	27.2	+18.2	[f]30.8	+4.5	[e]38.8	-3.1	[e]50.6	-0.1	[e]61.4	-0.9	75.9	+7.3	[d]67.0	+1.2	[d]56.0	+0.4	[d]40.8	-3.1	[d]19.0	-10.8	[e]13.2	+0.2	40.6	+1.1
Moorhead, Minn.	1.5	-2.3	23.8	+15.7	28.2	+5.5	39.3	-1.3	51.6	-3.5	61.9	-2.5	75.6	+7.5	68.6	+2.5	58.6	+0.4	43.9	-0.6	17.6	- 9.5	12.1	+0.6	40.2	+1.0

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

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together with shriveling caused a rapid reduction in the yields of spring wheat and other crops. The temperature average was the highest of record for July in North Dakota since the climatological service was established forty-four years ago, and the precipitation was the second highest ever recorded for that month for the same period. Most of the rain fell in heavy showers during the first eleven days. There was a large number of thunderstorms and considerable damage from hail was reported.

August.—Temperatures during August were variable; readings of 100° and above occurred at many stations during the first half of the month, while frosts and freezing temperatures occurred towards the close. Light dust storms were reported from several stations on the 11th and 15th. At the close of the month pastures and ranges in the west and central portions needed rain badly, and soil conditions were too dry for fall plowing.

September.—Variable temperature again prevailed, ranging from 105° to 16°, with the average slightly above the normal. The precipitation was greatly deficient, the average being the third lowest of record for the month. Light dust storms occurred on the 15th, 16th, and 22d. Outside work made good progress, though not much fall plowing was accomplished.

October.—Deficient precipitation characterized the weather of the month, the average being the lowest of record for the State. Nineteen stations reported less than 0.01 inch of precipitation. Though favorable for work on farms, the seeding of winter rye and fall plowing were greatly retarded by dry soil.

November.—This was the coldest November since 1919, and the fourth coldest of record since the climatological service was established. The first decade was unusually cold, while the last was the mildest. The distribution of precipitation was not uniform, the heaviest occurring in the northern and central portions and the least in the eastern. The first decade was generally stormy, while other stormy periods were the 18-20th and the 27th. Heavy snows interfered with corn husking, delayed traffic on many sideroads and a few main highways, and necessitated much yard feeding of livestock.

December.—The temperature averaged exactly the normal, but most stations in the eastern portion reported temperatures slightly below the normal. A severe cold period obtained in all sections from the 24th to the 26th inclusive. There was an uneven distribution of precipitation, being below the normal in the western and extreme eastern portions, and above elsewhere. A severe storm of blizzard proportions was general on the 24th, and resulted in the loss of several human lives. Livestock suffered considerably during this storm, and many highways were effectively blocked.

Climatological Summary, 1935

Month	Temperature in degrees Fahrenheit				Precipitation, in inches			Number of days				Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Precip., .01 inch or more	Clear	Pt. cloudy	Cloudy	
January	3.3	−3.3	60	−44	0.41	−0.06	4.9	6	8	10	13	nw.
February	24.0	+13.8	63	−25	0.21	−0.25	1.9	2	13	7	8	nw.
March	26.3	+2.9	75	−37	1.02	+0.26	7.0	5	9	11	11	nw.
April	38.4	−3.2	83	0	1.94	+0.48	3.6	8	9	9	12	se.
May	49.5	−3.8	89	20	2.66	+0.32	1.5	12	6	11	14	se.
June	60.3	−2.7	99	25	3.01	−0.42	T.	10	11	12	7	nw.
July	73.8	+5.4	110	45	4.62	+2.12	0	10	17	11	3	sc.
August	66.2	0.0	109	26	2.34	+0.27	0	8	16	9	6	nw.
September	57.2	+0.8	105	16	0.44	−1.14	0	3	15	9	6	nw.
October	43.5	−0.1	86	−10	0.16	−0.90	0.7	2	15	9	7	nw.
November	17.2	−9.5	57	−25	0.75	+0.13	8.1	6	8	8	14	nw.
December	12.6	0.0	51	−34	0.51	−0.01	5.6	5	10	7	14	nw.
Annual	39.4	+0.1	110	−44	18.07	+0.80	33.3	77	137	113	115	nw.

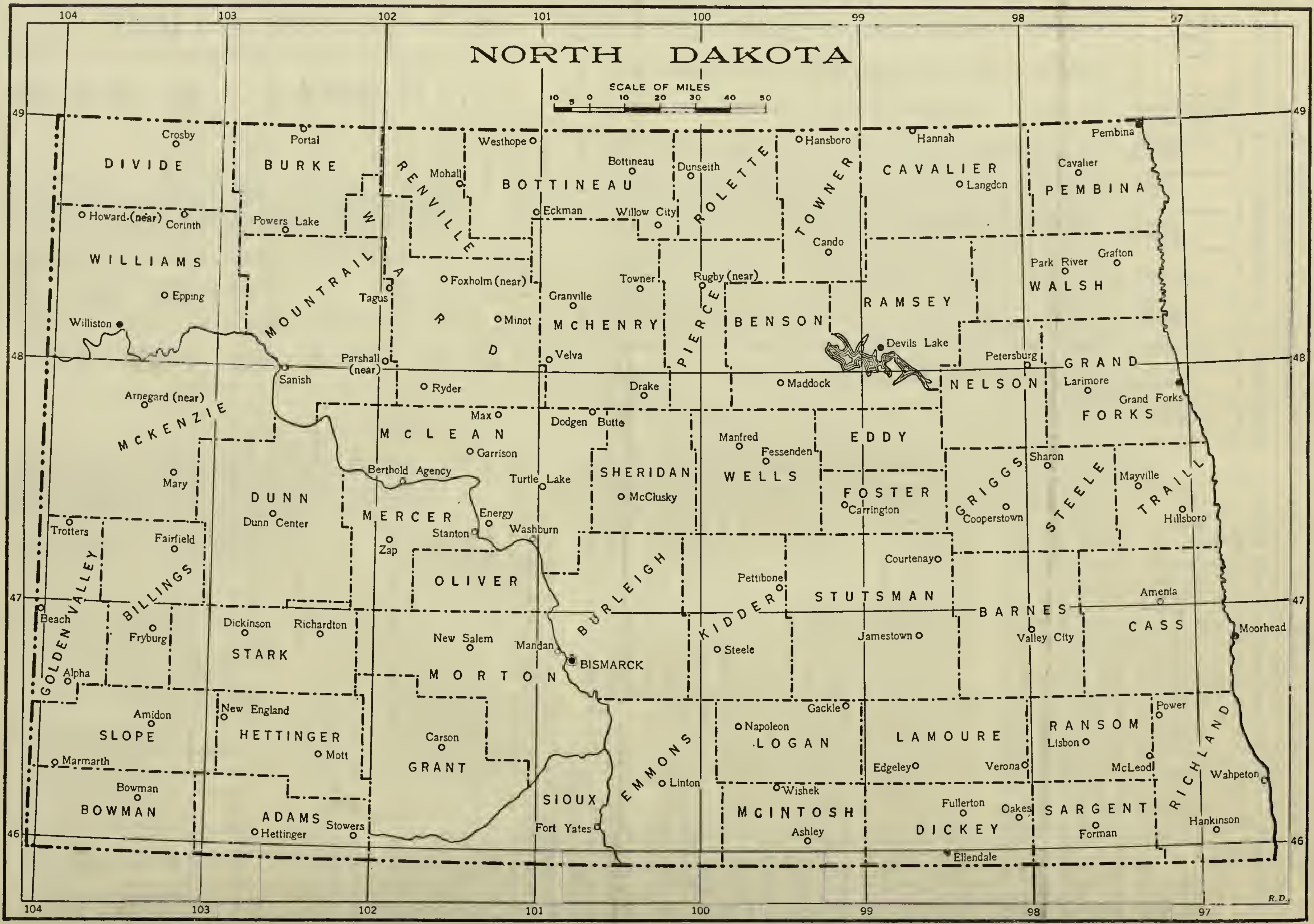
COMPARATIVE DATA FOR YEAR

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest annual	Least annual	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	37.8	−1.5	108	−52	18.34	+1.07	26.60	14.26	34.9	70	157	95	114
1893.	35.8	−3.5	112	−54	15.91	−1.36	22.29	11.64	46.1	65	154	104	107
1894.	40.3	+1.0	107	−47	15.64	−1.63	20.98	10.84	24.6	56	174	100	91
1895.	37.7	−1.6	104	−50	17.30	+0.03	22.78	11.76	20.9	63	155	117	93
1896.	37.3	−2.0	107	−42	23.57	+6.30	33.18	13.43	48.3	80	143	111	112
1897.	37.8	−1.5	109	−48	15.88	−1.39	28.55	8.49	33.9	63	162	105	98
1898.	39.2	−0.1	106	−38	16.15	−1.12	23.91	8.81	22.7	57	159	108	98
1899.	36.9	−2.4	109	−48	17.67	+0.40	28.84	12.50	26.6	60	161	105	99
1900.	40.9	+1.6	114	−48	19.06	+1.79	28.32	11.78	23.2	62	178	97	90
1901.	40.4	+1.1	110	−43	19.48	+2.21	29.75	12.92	20.2	63	175	92	98
1902.	39.4	+0.1	106	−39	19.34	+2.07	27.45	6.58	29.9	62	160	79	126
1903.	38.3	−1.0	108	−49	19.25	+1.98	26.02	13.18	28.8	65	166	81	118
1904.	37.6	−1.7	103	−52	19.02	+1.75	28.83	9.44	38.1	68	150	73	143
1905.	39.3	0.0	107	−46	19.96	+2.69	30.39	10.66	29.6	66	152	79	134
1906.	39.4	+0.1	109	−40	19.72	+2.45	33.87	13.24	35.4	78	164	93	108
1907.	36.9	−2.4	104	−49	14.41	−2.86	23.02	8.75	33.7	63	175	101	89
1908.	40.7	+1.4	104	−41	18.64	+1.37	26.71	13.49	43.7	75	164	97	105
1909.	38.2	−1.1	109	−48	17.73	+0.46	27.89	9.77	33.5	71	143	110	112
1910.	41.1	+1.8	114	−50	12.19	−5.08	19.09	7.55	21.0	52	180	92	93
1911.	38.0	−1.3	108	−43	19.40	+2.13	26.27	8.17	36.5	76	160	100	105
1912.	38.2	−1.1	124	−52	20.35	+3.08	29.13	13.86	19.3	74	161	102	103
1913.	40.0	+0.7	106	−54	14.69	−2.58	26.70	9.60	19.4	64	166	104	95
1914.	40.1	+0.8	109	−47	19.16	+1.89	26.41	12.99	30.0	70	155	110	100
1915.	39.7	+0.4	104	−48	19.42	+2.15	26.83	12.24	21.2	72	148	101	116
1916.	36.2	−3.1	105	−56	20.50	+3.23	35.51	12.01	54.2	70	170	97	99
1917.	36.3	−3.0	114	−48	10.92	−6.35	17.20	6.02	40.5	60	154	111	100
1918.	40.0	+0.7	102	−44	16.02	−1.25	25.54	10.18	29.7	63	159	104	102
1919.	38.6	−0.7	108	−44	15.76	−1.51	25.33	7.07	47.2	60	165	107	93
1920.	39.5	+0.2	108	−44	15.34	−1.93	23.78	9.88	27.9	64	166	108	92
1921.	42.0	+2.7	110	−33	19.59	+2.32	33.78	9.22	29.4	74	158	111	96
1922.	39.7	+0.4	115	−46	19.75	+2.48	33.14	14.50	42.8	75	155	100	110
1923.	40.7	+1.4	103	−40	17.76	+0.49	25.50	11.03	30.1	64	160	110	95
1924.	38.2	−1.1	105	−46	17.55	+0.28	27.56	10.87	26.1	66	158	101	107
1925.	40.6	+1.3	111	−39	16.81	−0.46	28.33	9.80	19.7	64	158	107	100
1926.	40.7	+1.4	108	−36	15.70	−1.57	21.78	10.01	23.7	68	151	105	109
1927.	38.0	−1.3	101	−44	21.52	+4.25	32.12	13.87	36.2	79	150	102	113
1928.	41.1	+1.8	107	−41	18.40	+1.13	30.38	10.70	17.3	59	177	101	88
1929.	38.0	−1.3	109	−44	14.32	−2.95	22.36	8.29	41.8	65	171	98	96
1930.	41.4	+2.1	107	−43	14.90	−2.37	22.13	7.38	25.0	66	166	101	98
1931.	44.9	+5.6	111	−31	14.99	−2.28	22.98	5.62	18.0	56	180	92	93
1932.	40.0	+0.7	108	−34	17.11	−0.16	23.13	10.07	34.9	69	156	108	102
1933.	41.1	+1.8	110	−45	13.34	−3.93	19.36	7.10	42.3	65	161	104	100
1934.	43.4	+4.1	112	−44	9.50	−7.77	17.68	4.02	15.2	54	160	109	96
1935.	39.4	+0.1	110	−44	18.07	+0.80	29.32	9.63	33.3	77	137	113	115
Per..	39.3	....	124	−56	17.27	....	35.51	4.02	30.2	66	160	101	104

Killing Frosts

Stations	Last in Spring	First in Autumn	Stations	Last in Spring	First in Autumn
Amenia	June 3	Sept. 5	Jamestown	May 5	Sept. 26
Arnegard	May 4	Aug. 29	Kenmare	" 3	" 26
Ashley	" 5	" 28	Langdon	June 6	" 9
Beach	" 12	Sept. 26	Larimore	May 10	" 26
Berthold Agency	" 5	Aug. 28	Linton	" 14	Aug. 28
Bismarck	Apr. 30	Sept. 26	Lisbon	" 4	Sept. 26
Bottineau	June 6	" 26	McClusky	June 6	Aug. 28
Bowman	May 9	" 4	McLeod	May 4	Sept. 26
Carrington	June 5	" 25	Maddock	June 6	" 9
Carson	May 4	" 26	Mandan	Apr. 30	" 26
Cavalier	" 10	" 1	Marmarth	May 9	Aug. 30
Cooperstown	June 6	" 5	Max	" 3	" 28
Crosby	May 5	" 7	Mayville	June 6	Sept. 26
Devils Lake	" 10	" 26	Minot	" 3	Aug. 28
Dickinson	" 4	Aug. 30	Moball	Apr. 30	Sept. 26
Dogden Butte	June 6	Sept. 27	Mott	May 3	Aug. 28
Drake	May 10	" 26	Napoleon	" 13	" 28
Dunn Center	Apr. 30	Aug. 30	New England	" 8	" 29
Dunseith	June 6	Sept. 26	New Salem	" 3	" 29
Eckman	" 6	" 9	Oakes	" 4	Sept. 26
Edgeley	" 6	Aug. 29	Park River	" 10	" 26
Edmore	" 6	" 31	Parshall	" 4	Aug. 28
Ellendale	May 5	Sept. 27	Pettibone	June 7	" 28
Energy	" 3	Aug. 28	Portal	May 13	Sept. 19
Fessenden	June 6	Sept. 5	Powers Lake	" 9	Aug. 29
Fort Yates	May 3	Aug. 28	Richardton	" 3	Sept. 26
Foxholm	June 6	Sept. 26	Sanish	" 3	Aug. 30
Fullerton	May 4	" 27	Sharon	June 6	Sept. 26
Gackle	" 5	" 8	Steele	May 5	Aug. 28
Garrison	" 3	Aug. 30	Towner	June 6	Sept. 5
Grafton	" 5	Sept. 9	Valley City	" 5	" 26
Grand Forks	June 6	" 26	Velva	Apr. 30	" 26
Granville	" 6	" 5	Wahpeton	May 10	" 27
Hankinson	May 3	" 26	Washburn	" 3	" 26
Hannah	June 5	" 1	Westhope	June 6	" 19
Hansboro	" 6	" 1	Williston	May 4	" 26
Hettinger	May 4	Aug. 30	Willow City	June 6	" 5
Hillsboro	" 13	Sept. 26	Wishek	May 6	Aug. 28
Howard	" 9	" 26	Moorhead, Minn.	" 10	Sept. 27

CHART SHOWING METEOROLOGICAL OBSERVATION.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations).

[WBO, Minneapolis, 2-14-36—1500]

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CLIMATOLOGICAL DATA

28

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLV BISMARCK, N. D., JANUARY 1936 No. 1

GENERAL SUMMARY

January 1936 was the third coldest month in the climatological history of North Dakota. Many stations in the eastern and central divisions reported the lowest mean temperatures ever recorded. The western division averages were considerably higher than the eastern and central divisions. Some stations reported minimum temperatures below zero on all days and maximum temperatures below zero on most days during the month. The precipitation averaged slightly above normal and due to the fact that there was no melting during the month, much snow remained on the ground. The greatest precipitation occurred in the western division. The continued cold weather and heavy snow cover caused much suffering to humans and to animals. Highways were blocked in many sections and much feeding of livestock was necessary.

TEMPERATURE

The mean temperature for the State was -5.8°, or 12.4° below the 1892-1936 average for January. The mean temperature for the eastern division was -8.4°; for the middle division, -7.3°; and for the western division, -1.7°. The highest mean temperature was 5.6° at Bowman, and the lowest, -15.2° at Amenia, making a range in mean temperature of 20.8°. The absolute range was 87°, from 43° at Hettinger on the 13th, to -44° at Edmore on the 24th. The average daily deficiency in temperature for the State since January 1, 1936, is 12.4°.

PRECIPITATION

The average precipitation for the State was 0.56 inch, or 0.11 inch more than the 1892-1936 average for January. In the eastern division the average amount was 0.51 inch; in the middle division, 0.48 inch; and in the western division, 0.69 inch. The greatest monthly amount reported was 2.20 inches at Howard; the least reported was 0.09 inch at Mayville. The greatest amount recorded in any 24 consecutive hours was 0.68 inch at Sharon on the 12th. The accumulated excess in precipitation for the State since January 1, 1936, is 0.11 inch. The average snowfall was 6.9 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	1	..	2	2	2	1	2	3	1	1	..	2	1
Fogs	14	13	2	1	2	1	..	..	4	2	3	..	..	..	4	2	..	3	..	..	1	1	1	5	..	2	8	3	1	1	1
Lunar halos	2	2	1	4	3	..	1	3	1	3	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	1
Solar halos	..	..	4	3	..	5	2	1	1	1	1	4	1	6	2	3	1	3	2	7	3	2	1	..	8	2	2	3	2	9	6
Sleet	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.16	30.73	27	29.44	2	6.5	27	nw.	3	71	72	73	40
Devils Lake	30.19	30.73	27	29.46	2	7.6	23	e.	12	97	90	94	60
Grand Forks	30.16	30.68	27	29.51	2	......	27	s.	8	80	....	82	....
Williston	30.15	30.70	26	29.39	2	6.0	21	nw.	3	81	71	76	51
Moorhead, Minn	30.18	30.73	27	29.46	3	7.7	20	nw.	3	97	90	96	52
Averages & ext's	30.17	30.73	27	29.39	2	7.0	27	nw.	3	85	81	84	51

† And other dates.

COMPARATIVE DATA FOR JANUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	3.3	58	−52	0.31	0.41	0.25	0.32	2.8	4	15	8	8
1893	0.8	52	−48	0.93	0.94	1.11	0.99	8.4	7	11	11	9
1894	0.6	60	−47	0.38	0.40	0.38	0.39	3.6	4	13	9	9
1895	−2.9	42	−46	0.53	0.69	0.47	0.56	5.5	5	16	8	7
1896	5.3	58	−42	0.75	0.77	0.80	0.77	6.6	6	9	9	13
1897	3.6	49	−38	0.91	0.64	0.76	0.77	7.5	5	11	9	11
1898	14.6	69	−32	0.14	0.12	0.07	0.11	1.1	2	15	8	8
1899	5.2	55	−41	0.29	0.20	0.26	0.25	2.4	3	13	9	9
1900	15.4	70	−30	0.27	0.27	0.12	0.22	2.0	3	15	9	7
1901	7.7	68	−39	0.29	0.29	0.26	0.28	3.0	4	14	8	9
1902	12.7	51	−40	0.17	0.03	0.23	0.14	1.4	2	17	7	7
1903	9.4	56	−37	0.72	0.58	0.68	0.66	6.7	5	13	8	10
1904	3.6	50	−52	0.41	0.36	0.42	0.40	4.0	5	15	6	10
1905	0.9	48	−40	0.26	0.30	0.41	0.32	2.9	3	15	8	8
1906	12.2	60	−38	0.75	0.72	0.61	0.69	6.9	4	14	6	11
1907	−6.2	45	−45	1.77	1.13	1.05	1.32	14.5	8	12	8	11
1908	17.0	70	−41	0.21	0.16	0.34	0.24	1.9	2	17	8	6
1909	3.5	53	−48	0.60	0.32	0.37	0.43	4.3	4	14	8	9
1910	9.4	49	−35	0.30	0.21	0.59	0.37	4.1	3	16	8	7
1911	−1.0	56	−43	0.86	0.96	0.69	0.84	8.5	6	11	8	12
1912	−4.6	63	−52	0.34	0.34	0.36	0.35	3.6	4	16	6	9
1913	3.2	60	−54	0.51	0.40	0.43	0.45	4.6	5	12	9	10
1914	14.8	62	−38	0.56	0.48	0.40	0.48	4.9	4	12	8	11
1915	5.8	51	−48	0.39	0.24	0.25	0.29	3.4	3	12	9	10
1916	−6.4	49	−56	1.58	1.24	1.26	1.36	15.1	6	13	8	10
1917	1.7	47	−46	0.82	0.69	0.65	0.72	8.6	5	13	8	10
1918	0.5	48	−44	0.41	0.43	0.58	0.47	5.0	5	12	8	11
1919	18.7	66	−44	0.24	0.21	0.10	0.18	1.7	2	17	8	6
1920	2.7	49	−44	1.26	0.96	0.68	0.97	10.0	5	10	9	12
1921	15.9	52	−31	0.29	0.20	0.22	0.24	2.5	2	13	9	9
1922	7.0	55	−46	0.68	0.36	0.42	0.49	5.2	5	12	9	10
1923	10.1	56	−35	0.59	0.43	0.54	0.52	6.0	5	9	9	13
1924	2.6	61	−42	0.30	0.20	0.18	0.23	2.5	3	14	9	8
1925	8.6	52	−35	0.33	0.18	0.22	0.24	2.5	3	11	10	10
1926	16.3	55	−30	0.31	0.34	0.49	0.38	4.1	4	13	8	10
1927	10.1	60	−44	0.50	0.36	0.41	0.42	4.3	4	14	8	9
1928	13.0	50	−41	0.21	0.19	0.19	0.20	2.3	3	14	9	8
1929	−4.8	42	−42	0.76	0.48	0.63	0.62	9.2	6	13	8	10
1930	−1.9	41	−43	0.26	0.22	0.40	0.29	2.7	4	12	9	10
1931	21.4	68	−31	0.15	0.15	0.14	0.15	1.4	2	15	8	8
1932	9.5	50	−34	0.47	0.62	0.59	0.56	6.3	4	12	7	12
1933	11.8	53	−30	0.92	0.70	0.79	0.80	10.0	7	12	7	12
1934	15.8	54	−36	0.29	0.14	0.17	0.20	2.0	3	11	9	11
1935	3.3	60	−44	0.55	0.29	0.39	0.41	4.9	6	8	10	13
1936	−5.8	43	−44	0.51	0.48	0.69	0.56	6.9	7	11	8	12
Period	6.3	70	−56	0.54	0.44	0.47	0.48	5.1	4	13	8	10

Climatological Data for January 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	-15.2	-20.1	10	1†	-40	24	40	0.50	+0.04	0.20	5.0	4	6	2	23	nw.	I. Idso.
Cavalier	Pembina	894	26	-9.7		20	3	-41	22	35	0.63	-0.04	0.12	6.3	9	7	13	11	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	-11.8		22	11	-40	24	33	0.98	+0.49	0.45	10.0	5	15	13	3	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	7								0.70		0.30	7.0	7	10	16	5	se.	Geo. E. Berg.
Devils Lake	Ramsey	1,478	39	-10.6	-12.4	26	10	-37	22	31	0.36	-0.11	0.25	4.4	9	6	9	16	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	-5.5	-14.3	27	8	-35	24	36	0.20	-0.20	0.06	2.5	4	4	16	11	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	12	-13.0	-14.3	25	10	-44	24	38	0.86	+0.22	0.42	8.8	13	9	11	11	nw.	E. D. Warner.
Ellendale	Dickey	1,457	41	-4.9	-15.6	32	9	-32	22	32	0.28	-0.21	0.10	4.0	9	10	6	15	nw.	J. E. Demmer.
Forman	Sargent	1,219	43								0.29	-0.17	0.06	2.7	7	3	11	17	nw.	Helge Dyste.
Fullerton	Dickey	1,439	38	-4.7	-13.6	28	9	-32	22	31	0.46	-0.33	0.14	4.6	8	5	12	14	nw.	F. O. Alin.
Grafton	Walsh	827	44	-9.2	-11.4	21	3	-39	22†	32	0.71	+0.25	0.47	15.8	6	15	12	4	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	45	-10.1	-13.6	23	3	-39	22	34	0.80	+0.29	0.32	10.5	8	2	22	7	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	-4.2		27	9	-34	22†	44	0.40		0.25	4.0	3	22	0	9	nw.	R. G. Stock.
Hannah	Cavalier	1,568	44	-12.0	-10.9	20	3	-41	24	37	0.63	-0.09	0.37	6.3	6	11	13	7	nw.	James Muir.
Hillsboro	Traill	901	30	-7.2	-11.8	21	8†	-38	22	30	0.57	+0.06	0.45	5.7	3	13	7	11	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	-7.2	-14.2	27	10†	-36	24	35	0.43	-0.12	0.15	4.5	5	14	5	12	nw.	S. Calvelage.
Langdon	Cavalier	1,615	40	-13.5	-12.6	21	10	-43	24	33	0.90	+0.33	0.60	9.0	2				nw.	R. T. Burke.
Larimore	Grand Forks	1,134	43	-9.2	-12.8	21	3	-39	22	34	0.48	-0.18	0.44	6.5	3	18	5	8	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	-5.4	-12.7	27	9	-40	24	36	0.55	-0.02	0.10	5.5	7	10	5	16	nw.	J. O. Halverson.
McLeod	Ransom	1,075	25	-6.4	-14.8	28	9	-38	24	31	0.55	-0.02	0.30	6.0	6	18	4	9	nw.	J. G. Carlson.
Mayville	Traill	975	40	-7.2	-13.0	23	3	-38	22	32	0.80	+0.40		8.0		11	8	12	n.	H. B. Addicott.
Oakes	Dickey	1,318	7	-5.5		31	9	-36	24	35	0.11		0.09	2.5	2	5	12	14	nw.	Eugene Naylor.
Park River	Walsh	998	32	-12.2	-14.9	19	2	-39	22	36	0.47	+0.08	0.31	12.7	4	16	4	11	nw.	C. B. Wright.
Pembina	Pembina	789	62	-11.2	-8.8	20	3	-42	21†	32	0.55	-0.09	0.30	10.3	4	14	9	8	nw.	E. N. Russell.
Petersburg	Nelson	1,520	6								0.30		0.28	3.0	2	13	5	13	nw.	T. M. Rykken.
Sharon	Steele	1,516	12	-9.5		20	3†	-38	22	30	0.84	+0.50	0.68	8.2	7	10	14	7	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	-5.6	-11.1	25	3†	-39	24	31	0.30	-0.20	0.12	3.5	11	12	6	13	nw.	I. C. Robertson.
Wahpeton	Richland	962	44	-2.3	-10.7	30	11	-36	22†	33	0.37	-0.05	0.10	4.2	8	12	3	16	nw.	C. J. Luick.
Moorhead, Minn.	Clay	904	55	-6.2	-10.0	25	10	-37	22	27	0.39	-0.28	0.21	6.3	11	5	12	14	n.	U. S. Weather Bureau.
Average for Eastern Division				-8.4	-12.9	32	9	-44	24	44	0.51	-0.03	0.68	6.2	6	11	9	11	nw.	
Middle Division																				
Ashley	McIntosh	2,001	40	-4.0	-12.6	30	9	-32	22	29	0.21	-0.26	0.04	7.0	9	13	6	12	nw.	H. D. Piper.
Bismarck	Burleigh	1,670	62	-3.8	-11.6	30	3	-28	22	34	0.36	-0.09	0.08	7.6	9	8	8	15	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	-9.2	-9.8	24	10	-36	20	34	0.57	+0.16	0.22	6.5	11	15	5	11	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	38	-10.2	-16.9	23	10	-34	21†	39	0.20	-0.12	0.20	2.0	1	6	9	16	nw.	L. A. Swanson.
Carson	Grant	2,500	24	-0.9	9.9	39	13	-30	19	53	0.70	+0.36	0.15	7.0	9	9	8	14	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	-5.4	-15.7	29	3	-32	24	36	0.53	+0.30	0.38	6.0	3	10	9	12	nw.	R. L. Williams.
Drake	McHenry	1,634	7	-7.9		28	10	-34	22	36	0.28		0.07	3.1	9	7	4	20	nw.	Peter Anton.
Dunseith	Rolette	1,682	40	-8.0	-10.5	24	10	-36	22	31	0.27	-0.17	0.20	3.0	4	13	15	3	nw.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	-13.0	-16.1	21	3	-39	24	38	0.40	+0.04	0.10	8.0	7	7	14	10	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	-4.2	-16.5	28	9	-30	19†	42	0.88	+0.57	0.24	13.0	8	9	13	9	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	24	-9.7	-14.2	28	2	-39	24	41	0.78	+0.30	0.50	10.0	6	12	8	11	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	-2.8	-12.0	30	1†	-36	31	42	0.65	+0.24	0.30	6.8	4	12	5	14	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	-9.3		30	3	-36	23	37	0.31	-0.02	0.11	4.0	6	10	9	12	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	-5.0		30	10	-35	27	31	0.21		0.10	3.0	5	12	5	14	nw.	A. H. Haut.
Garrison	McLean	1,901	59	-6.0	-13.6	30	2†	-28	22	40	1.05	+0.71	0.35	9.0	7	8	9	14	nw.	W. F. Robinson.
Granville	McHenry	1,504	29	-10.5	-15.1	25	2	-40	24	50	0.48	+0.12	0.15	15.5	11	7	10	14	nw.	W. A. Christianson.
Hansboro	Towner	1,597	28	-11.1	-11.0	22	9	-39	22	34	0.80	+0.14	0.30	11.0	5	20	8	3	nw.	C. E. Blackorby.
Leeds	Benson	1,515		-10.0		29	10	-36	21	37	0.93		0.44	8.5	4	7	13	11	ne.	Ole Semb.
Linton	Emmons	1,711	19	-4.3	-13.8	34	9	-39	31	44	0.53	+0.15	0.17	5.0	6	9	10	12	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	-5.8	-14.3	30	2†	-35	22	34	0.98	+0.57	0.40	9.8	12	18	8	5	nw.	Edw. Tapley.
Maddock	Benson	1,604	21	-9.3	-14.1	26	3†	-38	22	38	0.55	+0.25	0.31	6.0	6	11	15	5	nw.	A. T. Felland.
Mandan	Morton	1,750	22	-5.2	-13.5	29	2†	-29	22†	39	0.61	+0.26	0.14	8.2	11	9	2	20	w.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	33								0.42	-0.07	0.15	7.0	10	11	8	12		P. B. Anderson.
Max	McLean	2,093	7	-7.5		30	1	-31	21	37	0.50		0.20	5.0	5	9	1	21	nw.	A. W. Rice.
Minot	Ward	1,557	40	-7.7	-13.9	30	2	-32	22†	38	0.33	-0.04	0.15	4.0	7	5	4	22	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	-9.2	-13.8	25	2†	-34	24	40	0.52	+0.21	0.32	5.0	3	7	15	9	nw.	John Behan.
Napoleon	Logan	1,955	44	-6.0	-12.4	32	10	-35	22	41	0.45	+0.12	0.10	4.5	9	10	3	18	nw.	C. J. Hoof.
New Salem	Morton	2,163	32	-1.6	-10.7	35	3	-29	22†	44	0.60	+0.15	0.20	8.0	11	10	8	13	nw.	J. Christianson.
Pettibone	Kidder	1,856	27	-8.0	-11.0	32	10	-37	24	37	0.33	-0.08	0.17	4.0	4	5	9	17	nw.	Sam Loeppke.
Rugby (near)	Pierce	1,562	7								0.13		0.06	1.3	3	6	22	3	nw.	W. B. Paterson.
Ryder	Ward	2,108	7								0.32		0.20	6.0	7	15	1	15	nw.	S. C. Schellenbaum.
Stanton	Mercer	1,722	12								0.39		0.14	10.0	6	10	4	17	nw.	H. J. Giffey.
Steele	Kidder	1,857	42	-7.4	-14.7	24	10†	-38	22	34	0.18	-0.28	0.15	3.3	2	8	6	17	nw.	R. S. Armstrong.
Tagus	Mountrail	2,179	7								0.37		0.23	6.0	4	16	7	8	nw.	G. N. Pilgard.
Towner	McHenry	1,482	34	-8.8	-12.6	27	10	-37	22	39	0.50	+0.06	0.45	6.0	2	15	6	10	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	-9.8	-17.6	24	2	-33	22	36	0.42	+0.05	0.25	4.8	2	14	3	14	nw.	M. A. Slettum.
Tuttle	Kidder	1,936	28								0.38	-0.07	0.10	3.4	17	12	10	9	nw.	Adam Leno.
Velva	McHenry	1,511	9	-7.0		29	3	-37	24	42	0.56		0.15	9.0	8	6	13	12	nw.	Oscar Anderson.
Washburn	McLean	1,731	35	-4.4	-11.8	30	2	-28	22	36	0.59	+0.26	0.19	7.0	4	5	9	17	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	-10.8	-12.1	21	3	-38	20	37	0.34	+0.02	0.24	3.4	3	10	8	13	nw.	J. H. Munn.
Willow City	Bottineau	1,471	44	-12.8	-13.7	21	2	-40	24	40	0.15	-0.43	0.10	1.5	2	8	17	6	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	-4.8^{d}	-11.8	35^{1}	10	-33^{d}	24	43^{d}	0.68		0.11	8.0	12	9	2	20	nw.	E. W. Davis.
Zap	Mercer	1,838	21								0.18	-0.08	0.08	2.5	4	14	9	8		R. A. Norton.
Average for Middle Division				-7.3	-13.2	39	13	-40	24	53	0.48	+0.09	0.50	6.3	6	10	8	13	nw.	
Western Division																				
Alpha	Golden Valley		10								0.35	-0.11	0.10	5.0	8	17	4	10	nw.	H. A. Bury.
Arnegard (near)	McKenzie	2,238	23	-1.6	-10.6	30	2	-26	20	33	0.85	+0.38	0.30	8.5	7	14	3	14	nw.	Chas. A. Benson.
Beach	Golden Valley	2,759	30	5.2	-5.9	42	13	-24	6†	42	0.49	+0.02	0.09	5.0	8	11	8	12	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	-7.0	-15.6	30	2†	-33	19	29	0.36	+0.11	0.22	11.0	4	14	2	15	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	5.6	-7.4	41	13	-23	27	38	0.49	+0.03	0.20	4.9	9	11	10	10	nw.	George Larsen.
Corinth	Williams	2,180	8								1.26		0.40	12.6	8	0	19	12	nw.	T. C. Lorenzen.
Crosby	Divide	1,954	28	-6.1	-9.7	27	2	-30	19	37	0.41	0.00	0.27	4.4	7	7	1	21	nw.	J. H. Phelps.
Dickinson	Stark	2,543	44	0.0	-10.5	38	13	-32	19	47	0.55	+0.13	0.16	5.5	13	14	5	12	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	-2.4	-16.2	33	2	-31	19	36	0.69	+0.30	0.32	12.0	8	10	4	17	nw.	W. F. Moede.
Fairfield	Billings		7								1.00		0.30	10.0	6	14	3	14	nw.	F. R. Hecker.
Fryburg	Billings	2,790	18								0.33	-0.12	0.07	4.0	6	8	11	12	nw.	Verne King.
Hettinger	Adams	2,675	29	4.6	-8.4	43	13	-30	19	43	0.46	+0.16	0.09	4.6	8	13	14	4	nw.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	-6.8	-11.2	27	1	-32	6†	42	2.20	+1.69	0.50	17.1	8	11	10	10	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	-5.9		28	2	-30	24	37	0.51	+0.16	0.11	6.0	8	17	7	7	w.	Synthia M. Costello.
Marmarth	Slope	2,714	27	5.2	-7.6	37	2	-34	27	40	0.72	+0.32	0.25	10.7	9	6	10	15	nw.	S. P. Grane.
Mary	McKenzie		7								0.49		0.12	6.0	7	14	6	11	nw.	Fred Hartman.
Mott	Hettinger	2,424	29	3.4	-5.4	41	13	-31	19	47	0.64	0.00	0.12	6.5	10	12	4	15	se.	W. M. Hendricks.
New England	Hettinger	2,400	42	2.7	-10.7	41	13	-32	18	41	1.05	+0.55	0.24	11.0	8	11	3	17	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	21	-7.2		30	2	-35	19	39	0.22	-0.02	0.08	4.5	5	7	17	7	nw.	C. E. Shubert.
Portal	Burke	1,954	31	-8.1	-10.6	29	2	-30	6†	41	0.40	-0.02	0.20	4.0	3	7	7	17	w.	R. G. Wegener.
Powers Lake	Burke	2,205	31	0.1	-10.0	31	2	-34	19	31	0.40	-0.11	0.19	6.0	3	10	7	14	w.	Geo. B. Gee.
Richardton	Stark	2,467	20	0.9	-9.3	36	2†	-24	19	46	0.83	+0.45	0.17	10.7	9	14	3	14	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	11	-3.5		27	3	-28	20†	29	1.10		0.40	11.0	8	6	8	17	e.	H. J. Bugge.
Tioga	Williams	2,279	7								0.70		0.31	7.0	8	5	4	22	nw.	Anton Carlson.
Trotters	Golden Valley		10								0.68	+0.28	0.22	8.5	8	9	7	15		A. J. Nellermoe.
Williston	Williams	1,878	57	-2.4	-8.8	31	2	-30	19	36	0.71	+0.17	0.31	7.2	11	11	7	13	se.	U. S. Weather Bureau.
Average for Western Division				-1.7	-11.0	43	13	-35	19	47	0.69	+0.26	0.50	7.8	8	11	7	13	nw.	
Average for the State				-5.8	-12.4	43	13	-44	24	53	0.56	+0.11	0.68	6.8	7	11	8	12	nw.	

Explanatory notes will be found on opposite page.

Daily Precipitation for January 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red	.10		.10				T.	T.			T.				.20	.10			T	T.				T.							T.	0.50
Cavalier	do	T	T.	.05			.10					02	T.	.12	.10	.10			T						.10	.02				.02			0.63
Cooperstown	Sheyenne		T.	.01							.02		.45				T		.25					.25		T.	T						0.98
Courtenay	James					.10							.30	T.	T.	.05	T	.05				.10	.05				.05						0.70
Devils Lake ***	Devils Lake	T.	T.	T.		T.	.03		T		T.	.15	.10	.02	T.	.01	T.	T.	.02		T		T.	.01	.01	T.			.01	T.		T.	0.36
Edgeley	James											.06	.04				.05						.05										0.20
Edmore	Devils Lake	.01		.02								.42	.12	.10	T.	.03	.03		.02					.02	.03	.03		.01		.02		T.	0.86
Ellendale	James						.02				.01		.01			.10	.02		.03			.04		.02		T.			.03				0.28
Forman	Sheyenne			.06			.05					T.	T.			T	.06		T.	.03	.03	T.	.03	T.	T.				.03	T			0.29
Fullerton	James		T.	T							.05	T.	.04	T	T.	.14	T			.05	.06	T.		.03		.06	.03		T.	T.	T.		0.46
Grafton	Red		T	.05			.04						.47	.05	T.	.05								T.		.08				T			0.74
Grand Forks ***	do	T	T.	.10		T	.02		T.		.02	.26	.32	.02	T	T.			T.			T.		T.	.03	.03				T.		T.	0.80
Hankinson	do		.05				T									.25				T.									.10				0.40
Hannah	Pembina			.03			.07						.37	.04	T.	T.	.04		T.					T.	T.	.08				T.			0.63
Hillsboro	Red			.07									.45														.05						0.57
Jamestown	James					.10					.10	.15					.06		.02														0.43
Langdon	Pembina													.60			.30																0.90
Larimore	Red			.02			.02						.44																				0.48
Lisbon	Sheyenne			.10					T.		T	T.	.10	T		.10	.10	T.	T.	T.	T.	T		.05		.05			.05		T		0.55
McLeod	do			.30							.01		.11		T.		.06	.02											.05				0.55
Mayville	Red																																0.80
Oakes	James			T.			.02				T		T			.09	T.																0.11
Park River	Red		T.				.03				.31	.11	T.	T.															.02				0.47
Pembina	do						.03					T.	.30	.07	T.	T.										.15		T.		T.			0.55
Petersburg	do						T						.28	.02										T.		T							0.30
Sharon	do		T.	.03	T.		T.				.03	.03	.68	T.			T.	T.	.02					.01	T.	.04			T.	T			0.84
Valley City	Sheyenne		T.	.03			.01				.01	.01	.12			.02	T.		.01	.02				.01		.02	T.		.04				0.30
Wahpeton	Red			.05							.05		.05				.10	.05		.05						.01	T		.01				0.37
Moorhead, Minn. ***	do	T.	T.	.04		T.	.03		T.		.02	.07	.14	T.	T.	.03	.01		.01	.01	T	T.		T.	.01	T.			.02	T.		T.	0.39
Middle Division																																	
Ashley	Missouri			.03			.02						T.			.04	.02	.01	T.		.02	.02	.03	.02					T.				0.21
Bismarck ***	do		.02	T		.06	T.				.02	T.	T.		T.	.01	T.	.05	.06		.04	.02	.08	T.	T.				T.	T.	T.		0.36
Bottineau	Mouse						.04					T.	.22	.19		.01			.03	.01	T.		.01	.01	.02	.02				.01			0.57
Carrington ‖ ‖	James		T.									.20	T.				T.																0.20
Carson	Heart		.05	.05		.05										.15		.15	.05		.02	.08	.10										0.70
Dogden Butte	Mouse			T.		T.	T.					T.	.38			T.	.05	T.			T.		.10	T		T.				T.			0.53
Drake ‖ ‖	do			.04			.03						.07	.02			.03	.02		.02		T.		.03					T		.02		0.28
Dunseith	do											.20		.03		.02			.02				T.		T.								0.27
Eckman	do					.05						.05	.10			.05	.05		T.		T	T.	.05	T.	.05				T.	T.		T.	0.40
Energy	Missouri			.10		.05						.07	.24			.06		.08				.08	.20										0.88
Fessenden ‖ ‖	James			.07			.07					.50					T.	.03		.04		T.		.07		T.							0.78
Fort Yates	Missouri		T.			.18				T.						.30	T					.14	.03		T.								0.65
Foxholm (near)	Mouse					.06						.09	.11	T		.01	T.		.01		T.		.03		T							T.	0.31
Gackle	James					.05					T.					.10	.04		T.					.01		.01							0.21
Garrison	Missouri			.10		.10						T	.35			.10	.10		T.			T	T.	.20					.10				1.05
Granville	Mouse																																0.48
Hansboro	Devils Lake			.25			.08						.30			.07									.10								0.80
Leeds	do					.04						.44													.25	.20							0.93
Linton	Missouri					T.					T		T.			.10	.12	.05	T.		.04	T.	.17	.05					T.				0.53
McClusky	do			.05		.05					.05	.05	.40			.05	.05	.03					.06		.10				.05	.04			0.98
Maddock	Sheyenne			.05								T	.31	.03		T.	T.	T.	.10			T.	T	.03		.03							0.55
Mandan ‖ ‖	Missouri		.04			.07				.04	T.	.02				.03	.10	.01	.06		.08	.02	.14		T.			T.		T			0.61
Manfred	James			.02			.06					.15	.03	.01		.03	.05	T.				.01	.04						.02				0.42
Max ‖ ‖	Missouri		.10			.05						.20				.05	.10																0.50
Minot	Mouse			T.			.15					.05	.06	T.			.01	T.	.03				.02		.01								0.33
Mohall	do					T.	.05						.32			T.	T.		T.		T.		T.	T	.15				T	T.		T.	0.52
Napoleon ‖ ‖	Missouri						.05				T.	.10	.05	T.			.05	.02				.05		.05	.05		.03						0.45
New Salem	Heart		.03			.02	T.					.01	T.	T.	T.		.02	.10	.10	.02	.04	.04	.20	.02					T.	T.			0.60
Pettibone	James						T.				.17	T.	T	T.		T.	.08		.03		T.		T.	.05									0.33
Rugby (near)	Mouse												.06	.01		T.	T.		T.					.06		T.			T.				0.13
Ryder	Missouri											.20		T.	.01	T.	T	.01	.01		.02		.05	.02	T.								0.32
Stanton	do		.04									.06	.08			T.			.04		.03		.14			T.							0.39
Steele	do			T.		.03					.15	T.	T			T.	T.		T.		T.		T.	T.									0.18
Tagus	Mouse					.03						T.	.23			T.	.04				T.		.07										0.37
Towner	do												.45			T.					T.				.05								0.50
Turtle Lake	Missouri												.25			T			T.				.17		T.								0.42
Tuttle	do			.02		.02	.01				.10	.02	.01			.01	.01	.02	.04		.01	.02	.02	.03	T.	.01			.01	.02			0.38
Velva	Mouse		T.			T.	.05					.15	.12	T.		T.	.05	T.	.06				.09	.03	.01	T			T.	T.	T.		0.56
Washburn	Missouri			.16									.19				T.		.05			T.		.19		T.			T.				0.59
Westhope	Mouse						.02					.24	T.						.08		T.		T.		T.			T.					0.34
Willow City	do			T.		.05						.10											T.		T.				T.				0.15
Wishek ‖ ‖	Missouri				.05		.03				.02						.08	.02			.06	.11	.11	.06	.05				.06	.03			0.68
Zap	Knife			.08		T.						.03		T.		T.	T.	.03		T.	T	.04			T.				T.				0.18
Western Division																																	
Alpha	Lit. Missouri	T.		.01		.03						T.	.02			T.	T.	.05	.03		T.	.08	.10		.03		T.						0.35
Arnegard (near)	Missouri	T.				.15						.30		T.	T.		T	T.			.05	.05	.20	.05	.05								0.85
Beach	Lit. Missouri		.09	.05		.02							T.		T.	.09	T.	.06	.01		T.	.08	T.		T.	.09							0.49
Berthold Agency	Missouri			.07		T.										T		T.	.22		T.	.03	T.	.04	T.					T.			0.36
Bowman	Grand		T.	.01		.05							.04		.01	.07	.05					.05	.20	T.	.01	T.			T.				0.49
Corinth	Missouri					.10						.20				.02	T.	.02	.02	T.	T.	T.	.30	T.	.40	T.	T.	T.	T.	.20	T.		1.26
Crosby	Mouse					.04							.27				.02	.01				.02	.03		.02								0.41
Dickinson ‖ ‖	Heart	.01		.08	T	.01	.04					.01	.16		T.	T.	.04	.05	.02	T		.05	.04	.03	T.	.01							0.55
Dunn Center	Knife		.06			.32						.04	.08					.02		.04	.07		.06										0.69
Fairfield	do		.30			.10							.20								.10		.20			.10							1.00
Fryburg	Heart					T.					T.	.05	T.		T.	.05	T.	.05	.04	T.	.07	.07	T.	T.	T.	T.	T.			T.			0.33
Hettinger	Grand		.09			.02										.07	T.	.06	.02			.07	.07	.06	T.								0.46
Howard (near)	Missouri		.20			.20						T.	T.	.50			.20	.10	.10		T.		.50			.40						T.	2.20
Kenmare	Mouse	T.				T.	.12					T.	.14	T.		.04	T.		.09		T.	.04	.03		.02					.03			0.51
Marmarth	Lit. Missouri		T	.03		.06							.02			.08		.10	T.			.25	.12		.04	.02			T	T.			0.72
Mary	do		.12			.10						.04				T.			.12		.03	.05	.03										0.49
Mott	Cannon Ball		.10			.05							.02			.07		.05	.05		.05	.12	.06						.07				0.64
New England	do		.13		.10								.06			.17		.07	.16			.24	.12										1.05
Parshall	Missouri					.08						.05	.02				.03						.04										0.22
Portal ‖ ‖	Mouse											.20				.10								.10									0.40
Powers Lake	Missouri				.14									.19											.07								0.40
Richardton	Heart		.16	T.		.17						T.	.10			.02		.07	.04		.09	.09	.09	T.	T				T.				0.83
Sanish ‖ ‖	Missouri					.10							.40				.10	.10			.10		.10	.10	.10								1.10
Tioga	do				T	.05						.31				.02	.06	.04			.02	T.	.18		.02								0.70
Trotters	Lit. Missouri		.22			.07							.08		T.		T	.03	.04		.03	.14	.07										0.68
Williston ***	Missouri		.03			.05					T.	.31	T.		T.	.02	.01	.05	.04		.05	.01	.13	T.	.01								0.71

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

EXPLANATORY NOTES FOR PRECEDING PAGE

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agney, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Temperatures for January 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum...	10	10	0	-2	-4	-4	-3	-1	0	-4	-2	-6	-10	-12	-15	-8	-4	-10	-15	-15	-10	-25	-10	0	-2	-5	-5	0	-1	1	-2	-5.0
	Minimum...	-15	-16	-24	-20	-22	-25	-24	-26	-24	-26	-24	-25	-27	-28	-26	-26	-25	-28	-27	-25	-30	-37	-33	-40	-27	-22	-25	-23	-24	-21	-25	-25.5
Devils Lake	Maximum...	12	17	20	-7	-1	-2	0	17	9	26	4	-2	1	-1	-1	-7	-2	-7	-11	-11	-8	-28	-16	-1	-11	-9	-10	-8	3	-5	-6	-1.5
	Minimum...	-7	-4	-7	-19	-23	-21	-23	-5	-1	-2	-7	-15	-17	-17	-24	-21	-27	-29	-28	-28	-35	-37	-31	-32	-18	-22	-27	-22	-18	-18	-24	-19.6
Edgeley	Maximum...	17	18	17	0	1	0	0	27	26	26	26	11	11	11	-1	3	-4	-6	0	-3	-3	-2	-14	0	3	-7	-3	-6	4	6	0	5.1
	Minimum...	-6	5	0	-21	-22	-23	-25	-9	4	-2	-3	-6	-18	-5	-25	-8	-9	-25	-25	-21	-18	-33	-27	-35	-18	-22	-23	-21	-20	-12	-22	-16.1
Ellendale	Maximum...	16	16	23	8	3	4	1	20	32	27	5	9	12	3	0	0	-2	-3	-7	-4	3	-15	-13	-6	-2	-3	-4	0	5	-2	-1	4.0
	Minimum...	-5	-1	7	-15	-17	-11	-25	-12	2	2	4	-2	-13	-2	-19	-10	-11	-13	-22	-26	-15	-32	-27	-36	-15	-20	-22	-17	-21	-12	-27	-13.8
Fullerton	Maximum...	17	20	23	6	5	4	1	20	28	27	16	10	13	11	1	-1	-2	-2	-3	-4	1	-14	-12	-6	-6	-5	-6	-2	4	4	-2	4.7
	Minimum...	-6	-2	5	-16	-18	-12	-24	-11	3	4	-1	-2	-14	-4	-20	-9	-11	-18	-23	-27	-15	-32	-25	-28	-18	-21	-23	-15	-20	-11	-22	-14.1
Grafton	Maximum...	15	12	21	12	4	4	-5	19	19	14	18	1	-1	3	-4	-4	-4	-8	-7	-9	-9	-19	-19	-7	-6	-2	-2	-5	3	2	1	1.2
	Minimum...	-11	1	10	-13	-18	-13	-37	-12	-2	-11	-11	-6	-15	-10	-25	-21	-23	-33	-32	-29	-37	-39	-32	-39	-19	-20	-19	-28	-26	-12	-21	-19.6
Grand Forks	Maximum...	14	21	23	4	-1	1	-4	22	16	17	8	5	3	7	-6	-6	-2	-7	-11	-9	-8	-30	-21	-5	-6	-3	-6	0	1	-2	-2	0.4
	Minimum...	-9	2	4	-17	-20	-20	-27	-12	-4	-7	-8	-11	-17	-19	-28	-22	-26	-31	-31	-30	-31	-39	-36	-38	-20	-23	-24	-26	-26	-19	-25	-20.6
Hillsboro	Maximum...	12	20	20	13	0	0	-3	21	21	15	15	15	15	7	-5	-3	-1	-5	-6	-10	-5	-15	-25	-12	-8	-7	-5	-1	-1	-1	-3	1.9
	Minimum...	-3	-6	13	-10	-14	-11	-23	-8	3	-6	-6	-3	-15	-6	-25	-17	-18	-28	-24	-20	-23	-38	-32	-37	-19	-20	-20	-24	-25	-15	-24	-16.3
Jamestown	Maximum...	9	19	23	-2	-2	4	0	19	21	27	27	5	10	10	0	-2	-1	-2	-4	-7	0	-18	-13	-1	0	-7	-8	-2	-1	0	-3	3.3
	Minimum...	-7	1	-5	-21	-24	-19	-27	-7	0	-5	-6	-12	-17	-11	-25	-10	-8	-26	-26	-25	-20	-35	-30	-36	-21	-22	-27	-22	-17	-15	-25	-17.7
Langdon §	Maximum...	12	11	20	0	0	0	-4	15	6	21	-6	-4	-4	-5	0	-6	-5	-10	-14	-15	-10	-8	-18	-12	-6	-4	-6	-9	0	-5	-4	-2.3
	Minimum...	-17	-6	-4	-26	-26	-20	-36	-15	-8	-10	-15	-15	-14	-16	-30	-22	-10	-36	-35	-37	-40	-41	-38	-43	-35	-28	-38	-30	-26	-20	-30	-24.7
Larimore	Maximum...	13	14	21	8	-2	-2	-4	18	18	19	16	1	1	-2	-1	-7	-1	-2	-7	-11	-11	-23	-20	-4	-2	-6	-7	-2	2	0	-3	0.5
	Minimum...	-10	-7	8	-16	-23	-14	-28	-11	2	-5	-8	-9	-19	-16	-29	-24	-19	-31	-29	-29	-23	-39	-32	-38	-19	-19	-22	-25	-19	-15	-22	-19.0
Lisbon §	Maximum...	12	18	22	-4	3	3	-1	24	27	24	25	12	12	12	-2	-2	0	-3	-4	-3	3	-5	-16	-8	-1	-2	-3	-4	3	2	0	4.6
	Minimum...	-1	1	-7	-14	-17	-11	-23	-12	1	-3	-2	-1	-13	-2	-22	-13	-9	-26	-22	-28	-15	-33	-27	-40	-19	-20	-21	-21	-21	-12	-26	-15.5
Oakes	Maximum...	15	19	22	4	4	4	4	25	31	22	27	11	13	14	0	-2	-2	-2	-5	-4	3	-5	-12	-8	-7	-3	-4	2	4	3	0	5.6
	Minimum...	-4	-2	4	-17	-20	-14	-27	-10	-4	-1	-1	-1	-14	-5	-23	-13	-12	-22	-24	-33	-18	-33	-27	-36	-21	-23	-23	-21	-22	-14	-34	-16.6
Park River	Maximum...	10	19	18	2	-2	-12	-5	13	9	11	-2	-4	-2	-5	-5	-6	-6	-9	-24	-13	-13	-24	-19	-8	-11	-7	-3	-11	0	0	-3	-3.6
	Minimum...	-11	-4	-18	-18	-19	-14	-31	-20	-11	-5	-10	-10	-16	-12	-26	-19	-24	-28	-29	-30	-30	-39	-38	-35	-31	-19	-20	-24	-18	-15	-20	-20.8
Sharon	Maximum...	16	12	20	2	-3	-5	-4	19	15	20	18	1	0	2	-2	-7	-3	-7	-11	-13	-6	-24	-16	-6	0	-9	-8	-4	1	-3	-7	-0.4
	Minimum...	-9	-3	2	-18	-18	-18	-24	-10	-1	-4	-9	-12	-16	-12	-24	-18	-16	-30	-29	-25	-24	-38	-31	-36	-21	-21	-25	-21	-23	-18	-25	-18.6
Valley City	Maximum...	14	20	25	11	3	3	25	22	22	22	18	9	10	10	-3	-3	0	-3	-3	-6	0	-5	-17	-7	1	-7	-8	-3	3	-3	-4	4.7
	Minimum...	0	2	2	-18	-22	-16	1	-10	0	-5	-16	-5	-16	-5	-24	-13	-11	-29	-26	-23	-15	-35	-29	-39	-19	-21	-25	-22	-20	-14	-22	-16.0
Wahpeton	Maximum...	17	21	27	23	15	15	5	26	27	27	30	17	16	14	5	8	6	6	0	-4	0	-3	-16	-6	-2	-2	-1	-2	2	-1	-1	8.5
	Minimum...	2	2	18	-3	-17	-7	-22	-7	7	-3	-1	4	-13	-1	-18	-7	-13	-25	-15	-26	-16	-36	-30	-36	-17	-21	-24	-20	-24	-14	-23	-13.1
Moorhead, Minn.	Maximum...	14	23	24	4	7	4	0	23	20	25	12	14	9	8	-4	-2	-1	-5	-5	-6	-3	-29	-21	-6	-2	-5	-5	-2	0	-4	-3	2.7
	Minimum...	-1	3	4	-10	-13	-15	-19	-4	1	-1	-5	-11	-13	-15	-20	-14	-18	-24	-20	-18	-29	-37	-30	-31	-17	-19	-19	-17	-22	-14	-19	-15.1
Middle Division																																	
Ashley	Maximum...	18	22	22	6	9	7	1	17	30	27	27	7	15	15	-1	-1	-3	0	-1	-4	1	-4	-12	-8	-2	-6	1	0	4	4	-2	6.1
	Minimum...	6	17	-5	-20	-18	-18	-28	-10	5	1	-2	-3	-12	-6	-21	-6	-10	-24	-23	-23	-17	-32	-26	-30	-19	-20	-28	-20	-14	-12	-22	-14.1
Bismarck	Maximum...	20	27	30	0	8	-3	7	18	30	27	8	3	23	6	4	2	0	0	-9	-5	2	-18	-8	8	-6	-8	-10	0	7	-1	1	5.3
	Minimum...	1	-1	-4	-16	-9	-21	-22	-1	-4	2	0	-13	-10	-11	-14	-3	-8	-16	-21	-25	-18	-28	-18	-19	-14	-18	-23	-14	-9	-16	-27	-13.0
Bottineau	Maximum...	15	20	22	13	3	-5	-2	10	11	24	20	12	-1	1	2	0	3	-3	-7	-12	-11	-21	-13	-7	-7	-14	-8	-8	5	0	-6	1.2
	Minimum...	-5	-1	-2	-21	-18	-26	-33	-3	-10	-7	-5	-11	-12	-13	-24	-21	-12	-26	-30	-36	-27	-33	-29	-35	-24	-23	-30	-26	-24	-18	-24	-19.6
Carson	Maximum...	29	30	31	4	10	0	4	23	32	21	23	32	39	21	23	7	0	0	-5	-3	2	-5	0	12	12	-3	-3	0	2	10	0	11.2
	Minimum...	5	10	-1	-11	-10	-28	-23	-1	10	3	9	-11	-14	-8	-13	-6	-16	-17	-30	-20	-16	-26	-27	-16	-19	-26	-25	-18	-16	-20	-22	-13.0
Drake §	Maximum...	16	23	15	-6	-3	-9	6	19	20	28	2	-3	8	-3	0	-5	-2	-4	-10	-6	-1	-15	-10	5	-12	-11	-6	-5	6	-4	-2	1.0
	Minimum...	-7	-3	9	-21	-19	-24	-27	-10	3	2	-3	-6	-18	-14	-21	-16	-11	-24	-26	-25	-24	-34	-29	-28	-23	-22	-26	-22	-14	-15	-24	-16.8
Dunseith	Maximum...	15	20	22	13	3	-5	-2	10	11	24	20	12	-1	1	2	0	5	2	-10	-9	-5	-20	-22	-5	-4	-4	-3	-7	4	1	-6	2.0
	Minimum...	-9	-8	-6	-18	-19	-23	-28	2	-6	0	-10	-12	-13	-15	-21	-17	-14	-25	-24	-25	-22	-36	-32	-31	-22	-21	-20	-26	-21	-19	-20	-18.1
Fessenden §	Maximum...	14	18	22	4	0	-8	8	18	16	27	0	-3	3	-2	0	-6	0	-3	-10	-9	-3	-19	-12	2	-12	-10	-10	-5	5	-5	-2	0.9
	Minimum..	-10	-6	4	-22	-25	-24	-27	-13	-1	-5	-4	-5	-19	-13	-27	-19	-16	-30	-31	-26	-23	-36	-33	-39	-32	-23	-28	-33	-16	-21	-26	-20.3
Foxholm (near)	Maximum...	13	28	30	-6	-5	-5	7	16	18	25	9	-6	0	0	-7	-5	-7	-2	-9	-6	-8	-18	-13	6	-3	-12	-12	-6	6	1	-2	-0.9
	Minimum...	-6	-3	-7	-21	-21	-25	-27	-6	-1	3	-8	-15	-18	-14	-21	-16	-15	-20	-27	-23	-19	-34	-36	-31	-25	-22	-22	-19	-13	-18	-19	-17.7
Garrison	Maximum...	26	30	30	10	-3	-8	4	28	22	25	11	0	10	-4	-3	-3	-5	-8	-11	0	-3	-11	-5	-8	-12	-16	-12	-4	-3	-6	-3	2.2
	Minimum...	-3	-4	10	-17	-12	-24	-24	-12	-3	0	0	-3	-17	-8	-16	-12	-8	-14	-25	-20	-12	-28	-27	-21	-21	-20	-25	-25	-13	-14	-23	-14.2
Granville	Maximum...	10	25	15	-10	0	-10	0	10	10	10	0	5	0	-5	0	0	-3	-4	-8	-5	0	-18	-15	10	-15	-10	-10	-3	5	-5	-2	-0.7
	Minimum...	-4	-8	-5	-25	-20	-24	-26	-10	-5	-5	-5	-17	-22	-24	-26	-20	-10	-29	-30	-31	-25	-34	-26	-40	-22	-23	-30	-25	-17	-18	-24	-20.3
Hansboro	Maximum...	16	20	20	0	-6	-6	-4	10	22	18	3	2	-2	-2	-5	-5	-7	-5	-7	-10	-15	-22	-15	-7	-7	0	0	-3	0	-3	-2	-0.7
	Minimum...	-18	0	0	-24	-30	-24	-35	-13	-4	-7	-10	-11	-14	-19	-27	-24	-24	-34	-27	-32	-38	-39	-31	-28	-20	-19	-24	-23	-22	-23	-22	-21.5
Linton	Maximum...	20	28	29	4	11	11	12	21	34	30	19	6	20	18	5	5	-1	1	0	-3	1	-1	-6	-1	4	-9	-6	-4	5	5	2	8.4
	Minimum...	-2	-3	2	-22	-11	-24	-31	0	-10	-3	0	-3	-12	-7	-22	-3	-7	-26	-34	-33	-21	-30	-24	-22	-21	-21	-34	-24	-25	-16	-39	-17.0
McClusky	Maximum...	21	30	30	8	13	13	0	10	21	27	14	-1	16	10	-1	0	-1	-3	-12	0	-1	-17	2	3	3	0	0	-6	5	-1	-3	5.8
	Minimum..	9	6	7	-16	-14	-21	-24	-8	2	4	-6	-6	-6	-15	-20	-13	-9	-24	-30	-25	-21	-35	-27	-27	-26	-22	-32	-22	-17	-17	-30	-17.5
Maddock	Maximum...	15	20	26	0	-4	-2	7	18	16	26	26	-2	3	3	-2	-1	0	-6	-4	-10	-5	-17	-12	3	-2	-12	-10	-5	4	4	-4	2.4
	Minimum...	-12	-9	-4	-25	-26	-24	-26	-12	0	-9	-6	-10	-20	-14	-27	-23	-14	-33	-32	-28	-25	-38	-31	-35	-22	-25	-31	-26	-17	-21	-25	-21.0
Minot	Maximum...	19	30	26	-2	-3	-6	10	19	16	27	12	-4	5	-2	-1	-5	-6	0	-15	-6	-3	-17	-13	6	-2	-11	-7	-6	6	-1	0	1.7
	Minimum...	-4	-6	-4	-23	-20	-24	-27	0	-1	-4	-4	-12	-12	-12	-24	-15	-11	-23	-27	-22	-23	-32	-24	-32	-24	-17	-27	-19	-15	-17	-24	-17.1
Mohall	Maximum...	15	25	25	-5	-5	-7	4	6	15	14	8	-3	0	0	-6	-8	-10	1	-7	-8	-6	-16	-13	6	-3	-11	-8	-8	6	4	-4	0.0
	Minimum...	-4	-6	-5	-22	-20	-26	-28	-14	-5	6	-7	-12	-16	-13	-25	-18	-11	-21	-28	-25	-21	-32	-25	-34	-23	-24	-25	-25	-15	-20	-22	-18.3
Napoleon §	Maximum...	16	30	18	15	8	-11	11	20	27	32	3	4	18	-4	5	0	-2	-1	-9	-2	-2	-18	-5	3	-13	-10	-6	-5	5	-6	-4	3.8
	Minimum...	-5	-4	15	-22	-15	-21	-30	-1	4	3	0	-5	-19	-6	-23	-5	-9	-24	-29	-30	-18	-35	-28	-33	-19	-24	-31	-22	-17	-13	-26	-15.9
New Salem	Maximum...	25	31	35	0	7	10	6	17	32	30	25	14	28	32	22	8	0	1	-5	-1	1	-10	0	11	-7	-8	-4	-4	5	4	5	10.0
	Minimum...	17	-3	-1	-15	-13	-24	-24	-5	5	10	-3	-6	-16	-8	-15	-7	-12	-22	-27	-19	-11	-29	-29	-23	-17	-24	-25	-20	-10	-17	-20	-13.3
Steele	Maximum...	12	22	22	1	4	2	4	11	18	24	21	-2	14	13	-5	-5	-3	-3	-4	-7	-4	-4	-11	-4	-4	-11	-11	-6	2	2	-3	2.8
	Minimum...	-2	-2	1	-20	-18	-22	-27	-5	-3	3	-4	-4	-19	-14	-22	-20	-8	-21	-32	-30	-18	-38	-25	-36	-22	-24	-31	-22	-15	-15	-31	-17.6
Towner	Maximum...	18	26	26	-2	-6	-3	6	17	22	27	18	10	4	2	1	-1	-1	-1	-6	-8	0	-17	-12	4	2	-9	-9	-4	9	0	3	3.7
	Minimum...	-10	-8	-5	-26	-25	-26	-28	-10	-4	-2	-18	-14	-17	-15	-27	-21	-12	-29	-29	-32	-25	-37	-28	-35	-25	-24	-30	-27	-18	-21	-28	-21.2
Westhope	Maximum...	16	18	21	-2	-8	-7	-1	4	8	10	15	12	-4	0	-5	-5	-12	-4	-12	-15	-10	-18	-15	3	-5	-12	-7	-8	4	-5	-1	-1.5
	Minimum...	4	0	-2	-24	-20	-27	-27	-8	-4	-5	-3	-10	-15	-20	-26	-18	-24	-29	-33	-38	-30	-36	-27	-34	-26	-25	-23	-25	-23	-20	-24	-20.1
Western Division																																	
Arnegard (near)	Maximum...	15	30	30	5	8	-10	12	20	26	23	15	11	15	11	12	2	4	0	-4	-5	3	-2	2	2	-4	-10	-7	-4	-4	4	2	6.5
	Minimum...	5	1	-3	-10	-10	-15	-19	-2	11	10	-2	-3	-2	-3	-7	-12	-10	-14	-19	-26	-10	-18	-17	-12	-15	-20	-19	-16	-10	-15	-20	-9.7
Beach	Maximum...	30	34	32	24	18	-2	25	23	25	31	17	29	42	35	15	4	4	3	3	10	22	7	24	17	13	9	-3	-1	3	9	5	16.4
	Minimum...	9	12	-7	-8	-5	-24	-13	0	6	16	6	3	12	-7	0	-4	-8	-12	-24	-12	-2	-7	3	-9	-17	-19	-18	-14	-7	-22	-12	-5.9
Berthold Agency	Maximum...	10	30	30	3	0	-8	2	0	15	14	14	0	0	-2	0	0	-4	-7	-8	-5	-5	-8	-10	4	4	-12	-10	-3	7	7	-3	1.8
	Minimum...	-2	5	2	-15	-8	-30	-25	-10	-3	0	0	-18	-16	-10	-20	-14	-18	-21	-33	-28	-12	-24	-22	-22	-18	-23	-20	-20	-22	-15	-30	-15.9
Bowman	Maximum...	31	34	31	18	14	0	16	23	34	34	21	32	41	32	15	5	3	4	0	14	18	24	27	18	5	-3	-5	-2	0	10	4	16.1
	Minimum...	9	10	5	-2	-21	-15	-12	-7	7	8	9	8	10	-6	0	-3	-10	-22	-18	0	-7	0	10	-4	-15	-17	-23	-8	-10	-17	-10	-4.9
Crosby	Maximum...	15	27	25	5	-1	-10	8	12	18	20	4	-2	3	0	-4	-6	-4	-4	-8	-5	-2	-15	-2	3	3	-7	-10	-5	5	-3	-2	1.9
	Minimum...	1	0	-12	-15	-10	-26	-20	-2	-6	0	-5	-12	-16	-7	-15	-10	-12	-15	-30	-22	-18	-22	-18	-15	-20	-23	-19	-16	-14	-13	-24	-14.1
Dickinson §	Maximum...	27	36	15	12	12	-1	21	23	30	30	9	16	38	5	12	0	-2	2	-5	13	13	19	20	11	-8	-2	-4	-1	3	0	2	11.2
	Minimum...	4	-1	14	-10	0	-22	-20	-11	-7	6	4	-4	-9	-4	-12	-5	-5	-14	-32	-25	-16	-18	-17	-9	-13	-23	-29	-23	-11	-17	-21	-11.3
Dunn Center	Maximum...	24	33	29	6	9	-5	11	20	27	29	14	3	31	13	2	0	-1	0	-12	0	5	-1	6	13	0	-6	-6	-3	4	0	1	7.9
	Minimum...	-1	-3	0	-13	-9	-23	-22	-13	12	1	0	-11	-14	-5	-13	-5	-18	-20	-31	-23	-9	-21	-16	-16	-13	-18	-30	-16	-8	-12	-28	-12.8
Hettinger	Maximum...	37	34	14	12	14	5	11	26	33	36	26	32	43	38	9	10	2	5	-1	11	24	5	14	10	18	4	4	0	1	4	8	15.8
	Minimum...	14	14	6	-2	-1	-23	-13	-14	14	6	6	9	0	-4	-2	-2	-9	-17	-30	-15	-5	-15	-6	-4	-16	-20	-26	-9	-11	-20	-12	-6.7
Howard (near)	Maximum...	27	17	17	7	4	-10	15	20	22	8	3	-5	1	3	-1	-1	-5	-13	-15	-1	1	-14	-3	6	-1	-6	-6	-4	4	-7	-1	2.0
	Minimum...	-1	1	-6	-17	-10	-32	-27	-8	-6	-3	-5	-13	-15	-15	-10	-16	-15	-20	-32	-25	-14	-21	-22	-22	-21	-28	-21	-17	-17	-25	-25	-15.6
Kenmare	Maximum...	18	28	27	-4	5	-7	13	21	22	23	7	-3	1	0	-3	-5	-2	0	-7	-4	-4	-18	-10	-8	-4	-9	-5	-6	7	2	0	2.4
	Minimum...	-2	2	-4	-19	-7	-23	-24	0	0	0	-4	-9	-19	-9	-20	-11	-10	-23	-25	-20	-20	-27	-21	-30	-11	-22	-20	-20	-12	-18	-12	-14.2
Marmarth	Maximum...	31	37	33	20	16	-2	27	25	22	30	21	33	14	35	20	8	4	5	-2	16	26	17	30	24	20	13	0	0	2	8	7	17.4
	Minimum...	0	7	2	-7	-5	-27	-13	-14	-5	7	10	14	4	-5	0	0	-2	-7	-30	-15	-2	-2	-10	-2	-13	-20	-34	-8	-14	-18	-7	-7.0
Mott	Maximum...	30	34	38	11	15	14	11	28	36	35	29	17	41	34	7	8	1	0	1	4	17	2	21	16	15	3	-5	4	5	5	9	15.7
	Minimum...	8	3	5	-8	0	-21	-17	-12	11	7	6	-1	-6	-2	-5	-3	-10	-11	-31	-19	-11	-18	-15	-9	-15	-18	-24	-10	-10	-20	-17	-8.8
New England §	Maximum...	33	35	18	13	16	6	17	25	39	36	28	21	41	8	12	3	-3	9	3	15	16	22	24	18	4	3	-8	5	4	4	7	15.3
	Minimum...	4	15	-6	1	-22	-19	-14	1	12	4	5	-5	-2	-5	-4	-4	-14	-32	-17	-12	-17	-16	-7	-16	-19	-28	-24	-11	-22	-15	-17	-9.9
Williston	Maximum...	17	31	25	9	7	-11	19	22	30	22	5	4	10	3	2	0	-1	-3	-8	0	6	-9	3	10	-6	-5	-3	-1	6	-2	3	6.0
	Minimum...	3	3	-5	-9	-13	-22	-17	-8	12	3	0	-8	-4	-7	-9	-8	-12	-17	-30	-21	-13	-17	-10	-12	-16	-21	-15	-15	-10	-15	-22	-10.8

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 3-14-36--1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLV BISMARCK, N. D., FEBRUARY 1936 No. 2

GENERAL SUMMARY

February 1936, with an average temperature of -12.9°, was the coldest month of record in North Dakota. It was 10.8° colder than the next coldest February in 1904 and 6.5° lower than the coldest January of record. The average temperature for the combined months of January and February was -9.4° or 8.4° lower than the January-February, 1929 record. A new low record for North Dakota, -60°, was established at Parshall on the 15th. All sections of North Dakota were extremely cold and most stations broke their previous low records. New records were also established for continuous sub-zero days. Only a few windy days occurred, but schools were closed during the windy period. Considerable suffering to humans and animals was caused by the severely cold weather and some animals, particularly in the southwestern part of the State, were frozen to death. Precipitation averaged somewhat above normal and there was considerable snow on the ground all month.

TEMPERATURE

The mean temperature for the State was -12.9°, or 22.6° below the 1892-1936 average for February. The mean for the eastern division was -12.0°; for the middle division, -14.2°; and for the western division, -12.5°. The highest mean temperature was -7.0° at Wahpeton, and the lowest, -19.4° at Turtle Lake, making a range in mean temperature of 12.4°. The absolute range was 103°, from 43° at New England on the 29th, to -60° at Parshall on the 15th. The average daily deficiency in temperature for the State since January 1, 1936, is 17.5°.

PRECIPITATION

The average precipitation for the State was 0.70 inch, or 0.24 inch more than the 1892-1936 average for February. In the eastern division the average amount was 0.90 inch; in the middle division, 0.70 inch; and in the western division, 0.50 inch. The greatest monthly amount reported was 1.58 inches at Cooperstown and Fullerton; the least reported was 0.12 inch at Marmarth. The greatest amount recorded in any 24 consecutive hours was 0.66 inch at Moorhead, Minn. on the 26th. The accumulated excess in precipitation for the State since January 1, 1936, is 0.34 inch. The average snowfall for the State was 9.1 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	1	..	..	1	..	1	..	..	..	2	5	..	..	..	3	3	1	1	1	..	3	2	1	..	..	..
Fogs	..	..	1	..	3	6	..	..	..	1	2	2	..	6	7	5	..	..	..	..	..	1	5	7	..	..	..	2	1	..	..
Lunar halos	1	3	2	2	2	3	4	1	4	5	1	2	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	1	3	..	..
Solar halos	..	1	1	17	2	3	3	1	7	10	6	4	4	4	..	..	5	9	5	2	1	2	..	..	4	2	3	2	..	..	..
Sleet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.23	30.56	16	29.54	23	7.0	25	nw.	17	81	77	80	64
Devils Lake	30.23	30.52	6	29.59	23	8.9	32	n.	26	88	84	84	64
Grand Forks	30.19	30.52	6	29.54	24	......	28	nw.	8	66	....	74	....
Williston	30.25	30.60	7	29.63	24	5.4	24	nw.	17	84	66	74	67
Moorhead, Minn	30.21	30.52	29	29.46	24	8.8	23	nw.	9	97	89	96	66
Averages & ext's	30.22	30.60	7	29.54	23	7.5	32	n.	26	83	79	82	65

† And other dates.

COMPARATIVE DATA FOR FEBRUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	10.0	62	−45	0.59	0.77	0.37	0.58	4.9	4	14	7	8
1893	−0.3	52	−41	1.01	0.51	0.22	0.58	5.7	4	12	7	9
1894	8.0	55	−54	0.28	0.23	0.16	0.22	2.3	2	14	9	5
1895	5.9	65	−40	0.33	0.41	0.33	0.36	3.6	4	13	7	8
1896	14.3	64	−50	0.56	0.29	0.38	0.41	4.3	3	12	9	8
1897	6.1	52	−29	1.14	1.05	1.30	1.16	11.5	7	12	7	9
1898	13.3	65	−40	0.46	0.46	0.46	0.46	4.5	3	13	8	7
1899	0.4	60	−34	0.22	0.16	0.22	0.20	1.9	3	14	8	6
1900	1.3	46	−48	0.20	0.55	0.66	0.47	4.5	4	12	9	7
1901	7.1	60	−48	0.32	0.30	0.31	0.31	2.9	3	15	7	6
1902	12.1	51	−31	0.73	1.10	1.12	0.98	6.7	6	10	6	12
1903	3.1	46	−33	0.48	0.25	0.41	0.38	3.7	3	19	4	5
1904	−2.1	52	−49	0.81	0.56	0.69	0.69	7.6	5	13	6	10
1905	8.2	64	−42	0.25	0.31	0.37	0.31	2.9	2	19	4	5
1906	9.8	57	−46	0.20	0.07	0.28	0.18	1.4	2	13	8	7
1907	10.7	58	−38	0.36	0.21	0.42	0.33	2.8	3	15	7	6
1908	13.8	62	−49	1.56	0.68	0.87	1.04	10.1	5	12	7	10
1909	9.6	56	−34	0.28	0.36	0.37	0.34	3.7	4	11	7	10
1910	3.4	56	−34	0.57	0.40	0.81	0.59	5.6	4	14	7	7
1911	7.3	55	−50	0.84	0.74	0.52	0.70	8.0	3	15	8	5
1912	11.8	48	−38	0.19	0.18	0.09	0.15	1.7	2	10	9	10
1913	8.5	64	−33	0.08	0.09	0.09	0.09	1.0	2	12	9	7
1914	1.0	57	−44	0.34	0.28	0.40	0.34	3.8	3	12	8	8
1915	17.4	50	−47	1.32	0.27	0.26	0.62	6.1	3	9	5	14
1916	6.4	55	−20	0.41	0.45	0.58	0.48	4.8	4	14	8	7
1917	−0.7	61	−39	0.84	0.58	0.55	0.66	7.1	5	10	8	10
1918	10.8	60	−48	0.20	0.16	0.29	0.22	2.3	3	13	9	6
1919	7.7	58	−41	0.68	0.73	0.44	0.62	6.5	5	10	8	10
1920	12.5	53	−40	0.38	0.25	0.28	0.30	3.2	3	11	9	9
1921	19.9	64	−36	0.52	0.39	0.25	0.39	3.8	3	11	10	7
1922	0.7	45	−33	1.41	1.17	1.00	1.19	12.8	5	13	6	9
1923	4.1	48	−39	0.78	0.64	0.51	0.64	7.2	4	13	7	8
1924	20.3	67	−40	0.39	0.43	0.35	0.39	4.2	3	14	6	9
1925	16.5	62	−27	0.48	0.30	0.08	0.29	3.6	3	10	9	9
1926	22.3	58	−39	0.47	0.44	0.31	0.41	3.7	4	9	9	10
1927	13.3	50	−19	0.49	0.31	0.27	0.36	3.1	4	12	7	9
1928	18.8	59	−31	0.13	0.06	0.15	0.11	1.2	2	14	8	7
1929	2.8	44	−19	0.30	0.28	0.30	0.29	3.3	4	12	8	8
1930	21.7	63	−44	1.41	1.15	0.97	1.18	11.7	6	11	8	9
1931	28.0	62	−30	0.34	0.20	0.31	0.28	2.9	2	14	6	8
1932	13.6	69	−31	0.30	0.37	0.30	0.32	4.3	3	12	9	8
1933	7.9	58	−45	0.25	0.26	0.34	0.28	3.3	3	13	8	7
1934	19.5	61	−30	0.08	0.04	0.07	0.06	0.7	1	13	8	7
1935	24.0	63	−25	0.21	0.24	0.15	0.20	1.9	2	13	7	8
1936	−12.9	43	−60	0.90	0.70	0.50	0.70	9.1	6	12	8	9
Period	9.7	69	−60	0.54	0.43	0.42	0.46	4.7	4	13	7	8

Climatological Data for February 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	-14.0	-22.8	25	23	-42	15	38	1.19	+0.69	0.50	14.0	7	11	4	14	nw.	I. Idso.
Cavalier	Pembina	894	26	-12.7	....	24	23	-41	12	35	0.82	+0.30	0.34	11.5	4	18	1	10	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	-13.5	....	24	25	-47	15	39	1.58	+1.18	0.65	18.3	5	16	6	7	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	7	......	....	....	....	.....	....	.....	1.38	....	0.20	14.2	11	7	13	9	nw.	Geo. E. Berg.
Devils Lake	Ramsey	1,478	39	-15.0	-20.1	21	23	-46	15	29	0.65	+0.14	0.24	7.2	8	10	6	13	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	-11.0	-23.7	23	24	-39	6†	30	0.34	+0.01	0.10	3.5	4	6	17	6	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	12	-16.6	-23.8	16	23†	-53	15	35	0.68	+0.29	0.20	6.8	8	10	12	7	nw.	E. D. Warner.
Ellendale	Dickey	1,457	41	-9.3	-20.0	29	23	-39	16	31	0.25	-0.29	0.10	3.4	6	10	7	12	nw.	J. E. Denmer.
Forman	Sargent	1,249	43	......	....	....	....	.....	....	.....	0.53	-0.01	0.33	5.8	4	14	10	5	nw.	Helge Dyste.
Fullerton	Dickey	1,439	38	-8.7	-20.7	29	23	-36	15	31	1.58	+0.65	0.42	15.8	11	11	7	11	nw.	F. O. Alin.
Grafton	Walsh	827	44	-12.0	-18.7	24	23	-41	6†	32	1.51	+0.97	0.54	22.7	4	16	5	8	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	45	-13.0	-20.6	23	23	-42	16	29	1.09	+0.53	0.37	13.1	10	8	17	4	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	......	....	....	....	.....	....	.....	......	....	......	......	.....	.....	.....	.....	.....	R. G. Stock.
Hannah	Cavalier	1,568	44	-15.6	-18.1	18	23	-45	5	31	1.05	+0.46	0.50	10.5	6	10	12	7	nw.	James Muir.
Hillsboro	Traill	901	30	-12.0	-22.3	25	23	-40	15	27	0.88	+0.30	0.45	10.0	5	14	7	8	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	-12.0	-21.6	21	22†	-42	15	36	0.57	-0.02	0.25	8.5	8	12	7	10	nw.	S. Calvelage.
Langdon	Cavalier	1,615	40	-18.6	-23.4	15	23†	-51	16	43	1.08	+0.46	0.36	18.0	3	11	17	1	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	43	-11.9	-19.2	22	23	-41	15	28	0.83	+0.25	0.33	14.5	6	17	3	9	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	-8.4	-19.6	28	23	-38	6	31	0.73	+0.11	0.30	12.0	6	12	5	12	nw.	J. O. Halverson.
McLeod	Ransom	1,075	25	-9.5	-22.8	28	23†	-41	16	35	0.72	+0.11	0.29	12.2	8	18	5	6	nw.	J. G. Carlson.
Mayville	Traill	975	40	-11.1	-20.6	24	23	-40	15	26	1.04	+0.62	0.24	17.5	8	15	7	7	n.	H. B. Addicott.
Oakes	Dickey	1,318	7	-9.5	....	29	29	-46	16	35	0.83	....	0.30	9.5	5	7	14	8	nw.	Eugene Naylor.
Park River	Walsh	998	32	-14.4	-22.1	23	23	-42	15†	39	1.15	+0.75	0.65	16.5	6	11	8	10	nw.	C. B. Wright.
Pembina	Pembina	789	62	-13.7	-16.7	24	23	-44	5	37	1.03	+0.40	0.34	14.0	5	17	2	10	nw.	E. N. Russell.
Petersburg	Nelson	1,520	6	......	....	....	....	....	....	.....	0.96	....	0.42	10.0	5	16	2	11	nw.	T. M. Rykken.
Sharon	Steele	1,516	12	-12.8	......	19	23	-48	15	31	0.82	+0.49	0.40	9.3	7	10	9	10	nw.	Nels O. Greisheim.
Valley City	Barnes	1,245	30	-10.7	-22.2	23	23	-40	6†	33	1.05	+0.58	0.41	12.0	9	14	6	9	nw.	I. C. Robertson.
Wahpeton	Richland	962	44	-7.0	-19.0	34	23†	-39	15	31	0.45	-0.04	0.18	10.6	6	12	6	11	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	-9.8	-17.9	30	23	-37	15	33	1.38	+0.67	0.66	18.0	11	9	5	15	n.	U. S. Weather Bureau.
Average for East-	-ern Division	....	.....	-12.0	-20.6	34	23†	-53	15	43	0.90	+0.37	0.66	11.5	7	12	8	9	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	40	-9.8	-20.9	33	23	-41	16	33	0.72	+0.23	0.30	9.5	7	14	7	8	nw.	H. D. Piper.
Bismarck	Burleigh	1,670	62	-11.4	-21.7	23	23	-45	16	33	0.59	+0.13	0.17	9.3	10	9	13	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	-16.6	-20.8	27	29	-49	12	36	0.81	+0.46	0.22	13.0	6	22	1	6	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	38	-14.8	-23.5	35	29	-43	14	41	0.41	+0.04	0.30	4.5	3	4	9	16	nw.	L. A. Swanson.
Carson	Grant	2,500	24	-12.2	-27.6	24	29	-43	15	34	0.42	-0.02	0.12	7.0	8	14	10	5	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	-12.2	-30.0	20	29	-39	6	24	1.00	+0.65	0.30	12.0	5	12	7	10	nw.	R. L. Williams.
Drake	McHenry	1,634	7	-14.6	....	28	29	-42	15	29	0.51	....	0.15	6.1	7	9	6	14	nw.	Peter Anton.
Dunseith	Rolette	1,682	40	-13.8	-20.2	17	23	-40	12	25	0.63	+0.20	0.34	7.2	3	13	11	5	nw.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	-18.4	-26.0	19	29	-52	15	30	0.88	+0.52	0.20	12.0	7	9	15	5	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,759	24	-12.6	-31.8	30	29	-54	15	38	0.70	+0.25	0.20	12.0	6	12	15	2	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	24	-15.6	-25.7	35	29	-47	15	40	1.34	+0.84	0.27	14.6	8	11	5	13	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	-10.6	-22.4	26	23	-50	16	33	0.16	-0.33	0.12	2.5	2	15	7	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	-14.8	....	24	29	-44	15	31	1.13	+0.56	0.30	12.5	9	6	14	9	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	-11.1	....	22	23	-39	15†	27	0.61	....	0.27	8.3	6	11	12	6	nw.	A. H. Haut.
Garrison	McLean	1,901	59	-14.1	-25.0	18	24	-45	15†	26	0.60	+0.07	0.18	10.0	8	8	12	9	nw.	W. F. Robinson.
Granville	McHenry	1,504	29	-17.1	-27.2	18	23†	-52	15	29	0.91	+0.47	0.19	15.0	7	11	5	13	nw.	W. A. Christianson.
Hansboro	Towner	1,597	28	-15.6	-21.4	16	23	-42	6	35	0.56	+0.01	0.20	12.0	5	18	8	3	nw.	C. E. Blackorby.
Leeds	Benson	1,515	.....	-13.5	....	19	23	-43	6†	31	0.86	....	0.25	8.2	5	3	16	10	w.	Ole Semb.
Linton	Emmons	1,711	19	-11.9	-26.4	31	23	-52	16	39	0.13	-0.35	0.05	2.0	4	12	8	9	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	-15.4	-31.9	21	23	-53	15	29	0.90	+0.36	0.30	9.0	6	11	8	10	nw.	Edw. Tapley.
Maddock	Benson	1,604	21	-14.9	-26.0	20	23	-50	14	32	0.98	+0.60	0.28	12.0	5	10	10	9	nw.	A. T. Felland.
Mandan	Morton	1,750	22	-12.9	-25.8	33	29	-46	16	37	0.72	+0.36	0.20	8.5	10	11	1	17	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	33	.....	....	....	....	....	....	......	0.73	+0.27	0.25	9.5	7	14	6	9	.....	P. B. Anderson.
Max	McLean	2,093	7	-15.4	....	30	29	-47	16	33	0.60	....	0.24	10.0	4	15	2	12	nw.	A. W. Rice.
Minot	Ward	1,557	40	-15.4	-25.1	26	29	-49	15	33	0.69	+0.24	0.22	9.0	8	11	6	12	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	-14.0	-21.1	20	29	-44	16	30	0.76	+0.45	0.20	7.5	5	8	16	5	nw.	John Behan.
Napoleon	Logan	1,955	44	-13.6	-21.9	30	29	-47	15	35	0.55	+0.15	0.15	5.5	6	12	4	13	nw.	C. J. Hoof.
New Salem	Morton	2,163	32	-13.0	-26.1	28	29	-41	16	28	0.91	+0.46	0.30	10.0	8	14	5	10	nw.	J. Christianson.
Pettibone	Kidder	1,856	27	-14.0	-22.8	19	23	-50	15	36	0.76	+0.37	0.31	10.0	5	10	11	8	nw.	Sam Loeppke.
Rugby (near)	Pierce	1,562	7	......	....	....	....	.....	....	.....	0.34	....	0.11	3.5	7	16	8	5	nw.	W. B. Paterson.
Ryder	Ward	2,108	7	......	....	....	....	.....	....	.....	0.56	....	0.18	8.0	9	15	6	8	nw.	S. C. Schellenbaum.
Stanton	Mercer	1,722	12	......	....	....	....	.....	....	.....	0.91	....	0.25	10.5	4	11	6	12	nw.	H. J. Giffey.
Steele	Kidder	1,857	42	-14.7	-24.1	20	23	-50	16	34	0.14	-0.30	0.06	2.8	4	13	7	9	nw.	R. S. Armstrong.
Tagus	Mounrtail	2,179	7	......	....	....	....	.....	....	....	0.61	....	0.18	11.0	6	15	6	8	nw.	G. N. Pilgard.
Towner	McHenry	1,482	34	-16.2	-23.9	18	23†	-48	15	38	0.91	+0.47	0.40	12.0	6	10	13	6	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	-19.4	-31.2	18	29	-50	15†	28	0.96	+0.46	0.46	9.8	3	18	2	9	nw.	M. A. Slettum.
Tuttle	Kidder	1,936	28	......	....	....	....	.....	....	.....	0.60	+0.22	0.16	9.4	11	11	9	9	nw.	Adam Leno.
Velva	McHenry	1,511	9	-13.4	....	25	29	-47	6	36	1.09	....	0.26	14.0	7	4	17	8	nw.	Oscar Anderson.
Washburn	McLean	1,731	35	-12.5	-22.0	35	29	-45	16	34	0.44	+0.03	0.15	5.0	6	13	5	11	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	-16.4	-23.4	15	23†	-51	15	35	1.03	+0.82	0.36	15.0	6	13	10	6	nw.	J. H. Munn.
Willow City	Bottineau	1,471	44	-18.0	-22.9	19	29	-53	15	35	1.20	+0.65	0.60	12.0	4	15	10	4	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	-11.8[d]	-20.8	34[d]	23	-43[d]	16	47[d]	0.46	+0.11	0.11	6.9	7	10	2	17	nw.	E. W. Davis.
Zap	Mercer	1,838	21	......	....	....	....	.....	....	.....	0.14	-0.22	0.07	2.0	3	18	7	4	......	R. A. Norton.
Average for Mid-	-dle Division	....	.....	-14.2	-21.4	35	29	-54	15	47	0.70	+0.27	0.60	9.1	6	12	8	9	nw.	....
Western Division																				
Alpha	Golden Valley	....	10	......	....	....	....	.....	....	.....	0.14	-0.33	0.04	2.0	5	16	9	4	nw.	H. A. Bury.
Arnegard (near)	McKenzie	2,238	23	-12.1	-26.0	35	29	-44	15	44	0.60	+0.18	0.20	6.0	7	15	6	8	nw.	Chas. A. Benson.
Beach	Golden Valley	2,759	30	-9.8	-26.0	43	29	-43	15	47	0.40	-0.01	0.12	6.0	6	12	7	10	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	-16.0	-28.2	30	29	-56	15	37	0.63	+0.23	0.28	12 0	5	20	1	8	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	-8.6	-27.1	41	23	-43	15†	38	0.58	+0.10	0 26	9.3	7	15	9	5	nw.	George Larsen.
Corinth	Williams	2,180	8	......	....	....	....	.....	....	.....	1.21	....	0.50	18.0	11	8	13	8	nw.	T. C. Lorenzen.
Crosby	Divide	1,954	28	-14.9	-24.3	25	29	-47	16	35	0.34	-0.02	0.10	3.4	6	6	6	17	nw.	J. H. Phelps.
Dickinson	Stark	2,543	44	-12.2	-25.3	39	29	-47	16	49	0.42	-0.01	0.08	4.2	11	11	11	7	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	-11.0	-25.6	38	29	-52	15	37	0.58	+0.08	0.24	7.0	4	15	4	10	nw.	W. F. Moede.
Fairfield	Billings	....	7	......	......	....	....	.....	....	.....	0.42	....	0.12	7.0	5	17	5	7	nw.	F. R. Hecker.
Fryburg	Billings	2,790	18	......	....	....	....	.....	....	.....	0.26	-0.21	0.10	3.0	4	14	7	8	nw.	Verne King.
Hettinger	Adams	2,675	29	-7.1	-23.6	42	28	-45	16	40	0.19	-0.23	0.09	1.9	4	14	10	5	nw.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	-17.4	-26.4	24	29	-52	16	33	0.75	+0.19	0.20	8.0	5	15	11	3	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	-12.8	....	27	29	-41	6	34	1.04	+0.67	0.30	13.0	10	15	10	4	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	27	-8.8	-26.5	42	29	-52	15	48	0.12	-0.32	0.06	3.1	3	11	10	8	......	S. P. Grane.
Mary	McKenzie	....	7	......	......	....	....	.....	....	.....	0.31	....	0.11	8.4	6	17	4	8	nw.	Fred Hartman.
Mott	Hettinger	2,424	29	-8.4	-21.9	40	29	-43	16	48	0.51	-0.11	0.28	6.0	3	15	4	10	nw.	W. M. Hendricks.
New England	Hettinger	2,400	42	-8.8	-22.9	43	29	-46	14	37	0.61	+0.12	0.24	3.0	3	12	9	8	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	21	-16.2	....	28	29	-60	15	44	0.39	-0.03	0.12	4.5	5	9	17	3	nw.	C. E. Shubert.
Portal	Burke	1,954	31	-17.2	-22.6	30	29	-50	16	35	0.60	+0.20	0.20	5.5	4	9	8	12	w.	R. G. Wegener.
Powers Lake	Burke	2,205	31	-17.8	-34.3	18	23	-55	15	47	0.80	+0.34	0.22	11.5	5	17	2	10	e.	Geo. B. Gee.
Richardton	Stark	2,467	20	-10.4	-25.6	32	29	--38	15	36	0.30	-0.10	0.12	4.0	6	11	8	10	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	11	-14.6	-26.7	31	29	-55	15	40	0.58	....	0.10	11.5	9	3	15	11	nw.	H. J. Bugge.
Tioga	Williams	2,279	7	......	....	....	....	.....	....	.....	0.30	....	0.08	3.0	5	13	7	9	nw.	Anton Carlson.
Trotters	Golden Valley	....	10	......	....	....	....	.....	....	.....	0.44	+0.07	0.16	5.0	5	16	1	12	......	A. J. Nellermoe.
Williston	Williams	1,878	57	-13.6	-21.9	34	29	-50	16	35	0.61	+0.18	0.19	6.9	9	13	10	6	w.	U. S. Weather Bureau.
Average for West-	-ern Division	....	.....	-12.5	-25.8	43	29	-60	15	49	0.50	+0.06	0.50	6.7	6	13	8	8	nw.	....
Average for the-	-State	....	.....	-12.9	-23.6	43	29	-60	15	49	0.70	+0.23	0.66	9.1	6	12	8	9	nw.	....

Explanatory notes will be found on opposite page.

Daily Precipitation for February 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red						T.	.25	.10	.50	T				.03	.01	T.	T.	T.						T	.10	.20			T			1.19
Cavalier	do								.05		T.	T.		.30									T.		.13		.34						0.82
Cooperstown	Sheyenne									.45	T.		T.	.08				.35					.05				.65						1.58
Courtenay	James							.05	.20	.10		.03		.20		.10	.10						.15		.20		.20			.05			1.38
Devils Lake ***	Devils Lake			T.	T			.06	.03		T.	.01	.04	.20									.07	T.	.16	T.	.08		T	T.			0.65
Edgeley	James							.10						.10														.09	.05				0.34
Edmore	Devils Lake		T.		T.			.03	.10		T.	.02	.03	.12									.08		.20		.10						0.68
Ellendale	James							.02					.02	.02							T.				.10		.06			.03			0.25
Forman	Sheyenne							T.	.06			T.	T.	.05	T			T	T						.09		.33		T.	T			0.53
Fullerton	James							.09	.21	T.		.04	T.	.42	.21			.04						.03	.02		.42		.03	.07			1.58
Grafton	Red									.44		T.		.35	T.								T.			.18		.54					1.51
Grand Forks ***	do		T.		T.			.02	.20	.04		T.	.01	.24			T.	.01	.02				.04		.14		.37		T.	T.			1.09
Hankinson	do																																......
Hannah	Pembina								.14		T.	T.		.20				.03					.04		.14		.50			T.			1.05
Hillsboro	Red									.13		T			.20				T				.05			.05		.45		T			0.88
Jamestown	James							.02		.04		.02		.10				.04							.04		.25			.06			0.57
Langdon	Pembina													.36				.36								.36							1.08
Larimore	Red								.13					.19									.04		.12	.02	.33						0.83
Lisbon	Sheyenne							.03	.12	.10	T.	T.	T.	.12	T.			T	T.	T.			T		.06		.30		T.	T.			0.73
McLeod	do				.05					.21			.04		.03				.02							.05		.29		.03			0.72
Mayville	Red								.12					.24			.03						.12			.12	.18	.20	.03				1.04
Oakes	James								.30			T.	T.	.06				.12							.10		.25						0.83
Park River	Red								.03						.65									.04	.08	.20	.15						1.15
Pembina	do								.20	.05		T.		.31									T.		.13		.34						1.03
Petersburg	do								.26					.16									.03		.09		.42						0.96
Sharon	do							.02	.12	T.		.01	T.	.14				T.					.07	T.	.06	T.	.40	T.	T.	T.			0.82
Valley City	Sheyenne				.10			.17	.15			.05		.06	.01								.02		.08		.41			T.			1.05
Wahpeton	Red				T.			.02	.05	T			.01	.06	T.			T.	T.						.13	T.	.18			T.			0.45
Moorhead, Minn. ***	do				.01			.09	.17	.06	.01	.01	T	.09				T.	T				.06	.09	.13		.66	T.	T	T.			1.38
Middle Division																																	
Ashley	Missouri							.30				T.	.20	.07											.01		.04		.03	.07			0.72
Bismarck ***	do			T.	T.			.08		.01		.02	.03	.15											.11	.04	.11		.02	.02			0.59
Bottineau	Mouse								.04	.16				.14									.14		.22		.11						0.81
Carrington ‖ ‖	James							.01					.10													.30							0.41
Carson	Heart							.06	.06			.03	.06	.03											.03		.12		.03				0.42
Dogden Butte	Mouse							T	.25			T.		.30									.11		.12		.22						1.00
Drake ‖ ‖	do								.06	T.		T.	.03	.15	.05								.06	T.		.12		.04	T.				0.51
Dunseith	do													.20									.09		.34								0.63
Eckman	do							.08				.08		.10				.20					.14	T.	.12		.16						0.88
Energy	Missouri							.20				.08		.15											.10		.12			.05			0.70
Fessenden ‖ ‖	James				T.				.20	.14				.27	.16				.15				.06			.16		.20					1.34
Fort Yates	Missouri													.12											T.					.04			0.16
Foxholm (near)	Mouse			T.				.12	.04	.03	T.	.05	T.	.30									.17		.25		.15	T.	.02				1.13
Gackle	James						.11					.10	.03	.05		.05									T.		.27			T.			0.61
Garrison	Missouri			T.	T.				.06	.06		.06	.06	.18									.06		.06		.06	T	T.	T.			0.60
Granville	Mouse						.06		.12			T.		.18									.12		.19		.18	.06	T.				0.91
Hansboro	Devils Lake								.05					.12										.03	.20		.16						0.56
Leeds	do									.25				.25								.10			.16		.10						0.86
Linton	Missouri							.03				T.	.05	T.											T.		.04		T.	.01			0.13
McClusky	do			T.				.15	.07			T.		.20											.30		.15			.03			0.90
Maddock	Sheyenne							T	.09	T.				.25				.18							.18	T.	.28						0.98
Mandan ‖ ‖	Missouri		T	T.			.01	.11	.01			.03	.11	.07										.02	.09	.20	T.	T.	.07				0.72
Manfred	James							.08	.05		T.	.01		.25							.08				.25	T.		T		.01			0.73
Max ‖ ‖	Missouri											.24											.12		.12		.12						0.60
Minot	Mouse			T.				.09				.01	T.	.10				.02	.03				.10		.22	T.	.12	T.	T.				0.69
Mohall	do							.11	T.		T.	T	T.	.20									.10	T.	.20	T.	.15		T.				0.76
Napoleon ‖ ‖	Missouri								.10						.10										.05	.05		.15		.10			0.55
New Salem	Heart				T.			.10				.04	.03	.30											.18		.18		.02	.06			0.91
Pettibone	James							T.	.16			T		.11				.31							.03		.15			T.			0.76
Rugby (near)	Mouse							.02	.03				.06						.02				.08		.11		.02						0.34
Ryder	Missouri		T	T.							T.	.03	.07	T								.03		.05	.02	.15			.01	.02			0.56
Stanton	do							.25						.23											.25		.18						0.91
Steele	do							.01				T.	T.	.05											.06					.02			0.14
Tagus	Mouse							.07			T	T.		.09									.09		.13	T.	.18	.05		T.			0.61
Towner	do							.05	.05					.21			T.	T.					.10		.40		.10						0.91
Turtle Lake	Missouri												.46												.25		.25						0.96
Tuttle	do				.01			.05	.02	.02		.02	T.	.12				.02							.12	T.	.16		.02	.04			0.60
Velva	Mouse				T			.15	.02	T.		.11	T.	.17				T.					.17		.21		.26						1.09
Washburn	Missouri								.08				.04	.10	.04											.15	.03						0.44
Westhope	Mouse							.10	.10		T.	T.		.21									.09		.17		.36						1.03
Willow City	do							.10						.40									.10		.60								1.20
Wishek ‖ ‖	Missouri								.10		.08		.11	.06	.03												.06	.02					0.46
Zap	Knife			T.				.07				.03		.04											T.	T.			T.	T.			0.14
Western Division																																	
Alpha	Lit. Missouri					T.	T.					.03	.02		.03					.04			T.		T	T.		.02	T				0.14
Arnegard (near)	Missouri							.10				.05		.20									.05		.05		.10		.05				0.60
Beach	Lit. Missouri				T.		T.	.12				.11	T.	.04						T.			T.		.08		.02		.03				0.40
Berthold Agency	Missouri							.10				T	T.	.15											.28		.05		T	.05			0.63
Bowman	Grand					T.		.26				.14	.02	.01						T.					T.	T.	.09	.02	.04				0.58
Corinth	Missouri			.01	.02		.06	.10				.04	.06	.25				.50					.05		.04		.08						1.21
Crosby	Mouse							.04				.04		.08				.05							.10		.03						0.34
Dickinson ‖ ‖	Heart			T.			T.	.03	.07	T.		.01	.07	.06	T.						.02				.01	.02	.08		.03	.02			0.42
Dunn Center	Knife							.18				T.		.11													.24		.05				0.58
Fairfield	do							.06					.12												.06	.12			.06				0.42
Fryburg	Heart							T.					.04	.04										T.		.08			.10	T.			0.26
Hettinger	Grand							.09	T.			.03	.03	T												T.	.04		T.				0.19
Howard (near)	Missouri					T		T.			.15	T.		.20										T	*	*	.40						0.75
Kenmare	Mouse			T.				.14	.05		T.	.07		.10				.30					.13	.02	.03	.05	.15		T.				1.04
Marmarth	Lit. Missouri						T.	T.				.05	.06	.01											T.	T.	T.	T.	T				0.12
Mary	do				.06			.11				.02	.05														.04		.03				0.31
Mott	Cannon Ball							.12					.11														.28						0.51
New England	do							.24						.19											.18								0.61
Parshall	Missouri							.12						.06									.10		.06			.05					0.39
Portal ‖ ‖	Mouse						.10						.20										T	.10	.20								0.60
Powers Lake	Missouri									.17				.19				.13					.09			.22							0.80
Richardton	Heart							.12				.03		.04											.06		.03		.02	T.			0.30
Sanish ‖ ‖	Missouri			T.				.10				T.	.05	.10									.10		.05	.05	.05		.05	.03			0.58
Tioga	do							.08					.08											.05		.07		.02					0.30
Trotters	Lit. Missouri							.16				.08		.12						.04			T.				.04						0.44
Williston ***	Missouri						.03	.16				.03	.02	.09								T.	.14	T.	.04	.07	T.		.03	T.			0.61

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

EXPLANATORY NOTES FOR PRECEDING PAGE

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agncy, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Temperatures for February 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum	0	0	-3	-20	-20	-18	-10	-12	-10	-15	-16	-18	-15	-20	-20	-16	-10	-8	5	5	8	10	25	15	15	15	18	20	24	....	....	-3.7
	Minimum	-30	-25	-25	-40	-39	-35	-24	-20	-33	-37	-39	-38	-35	-38	-42	-38	-28	-18	-25	-28	-30	-20	-5	-5	0	-1	-5	-10	4	....	....	-24.4
Devils Lake	Maximum	-3	-5	-12	-19	-20	-18	-16	-12	-9	-6	-17	-18	-13	-24	-22	-23	-11	-6	-6	1	7	12	21	12	4	1	3	1	15	....	....	-6.4
	Minimum	-26	-18	-21	-32	-38	-42	-35	-17	-20	-22	-30	-38	-34	-40	-46	-42	-28	-19	-27	-28	-22	0	8	-2	-16	-13	-18	-9	-9	....	....	-23.6
Edgeley	Maximum	-5	5	-5	-1	-11	-15	-15	-15	-4	-5	-6	-16	-12	-13	-16	-17	-13	3	6	4	3	10	20	23	16	8	4	8	13	....	....	-1.6
	Minimum	-22	-17	-19	-21	-35	-39	-28	-22	-22	-23	-26	-31	-20	-31	-37	-39	-28	-23	-23	-20	-15	-10	-10	5	-9	0	-13	-8	-4	....	....	-20.3
Ellendale	Maximum	4	3	-1	-11	-14	-15	-16	-15	-2	-3	-13	-15	-7	-15	-16	-12	-11	-4	-1	4	2	24	29	20	15	5	8	10	20	....	....	-0.9
	Minimum	-17	-20	-14	-16	-30	-33	-25	-20	-22	-22	-26	-28	-20	-30	-34	-39	-27	-14	-22	-20	-21	-7	2	12	-6	1	-11	-1	0	....	....	-17.7
Fullerton	Maximum	1	5	-3	-2	-13	-15	-14	-14	-4	-5	-6	-15	-8	-12	-16	-15	-13	-2	1	2	4	24	29	26	17	16	12	11	18	....	....	0.3
	Minimum	-18	-17	-16	-19	-32	-35	-25	-20	-19	-21	-26	-27	-19	-31	-36	-35	-26	-14	-23	-22	-23	-7	3	11	-7	2	-10	-1	-1	....	....	-17.7
Grafton	Maximum	-2	-4	-7	-11	-19	-13	-14	-7	-5	2	-1	-15	-9	-11	-18	-19	-8	-1	5	2	8	13	24	23	11	7	7	3	7	....	....	-1.9
	Minimum	-32	-19	-37	-30	-39	-41	-37	-16	-12	-16	-27	-40	-21	-34	-41	-37	-25	-14	-23	-2	-21	-10	11	-9	-15	-9	-11	-3	-10	....	....	-22.1
Grand Forks	Maximum	-1	-5	-9	-19	-22	-19	-15	-6	-6	-1	-10	-16	-6	-17	-16	-17	-9	1	1	-2	23	18	24	18	6	12	3	4	13	....	....	-3.2
	Minimum	-28	-21	-32	-30	-41	-40	-38	-15	-15	-19	-30	-37	-22	-34	-41	-42	-25	-17	-26	-27	-26	-9	9	2	-17	0	-19	-12	-13	....	....	-22.9
Hillsboro	Maximum	-5	-3	-3	-12	-21	-22	-16	-8	-4	-4	-6	-8	-18	-23	-15	-20	-10	3	0	0	5	18	25	17	2	5	5	2	10	....	....	-3.7
	Minimum	-27	-21	-26	-23	-37	-38	-33	-16	-9	-24	-28	-34	-28	-34	-40	-38	-26	-15	-22	-21	-22	-8	9	13	-10	-5	-13	-6	-11	....	....	-20.4
Jamestown	Maximum	-4	-4	-2	-4	-16	-18	-17	-14	-6	-5	-10	-18	-11	-16	-22	-20	-12	-4	-3	9	14	21	21	20	12	4	13	7	15	....	....	-2.4
	Minimum	-25	-17	-24	-25	-35	-41	-33	-20	-18	-26	-28	-34	-22	-37	-42	-40	-31	-16	-29	-24	-22	-7	2	4	-11	-4	-16	-3	-5	....	....	-21.7
Langdon §	Maximum	-7	-6	-10	-23	-20	-18	-14	-10	-5	-2	-12	-15	-15	-20	-15	-14	-10	-5	-2	0	2	12	15	6	5	0	-4	7	15	....	....	-5.7
	Minimum	-34	-32	-33	-39	-45	-45	-40	-40	-25	-20	-35	-43	-39	-41	-48	-51	-29	-25	-31	-33	-32	-31	-15	-12	-20	-20	-25	-18	-15	....	....	-31.6
Larimore	Maximum	-5	-5	-7	-17	-20	-20	-15	-8	-5	1	-5	-15	-10	-12	-19	-17	-10	-1	3	0	6	18	22	20	13	5	8	4	11	....	....	-2.8
	Minimum	-26	-14	-31	-27	-40	-40	-35	-16	-10	-18	-33	-39	-20	-35	-41	-35	-25	-15	-23	-23	-17	-8	6	7	-11	-3	-18	-7	-11	....	....	-21.0
Lisbon §	Maximum	2	3	-3	-4	-11	-14	-8	-11	-2	-3	-4	-14	-5	-11	-14	-14	-11	2	3	8	8	24	28	23	19	13	6	10	13	....	....	1.1
	Minimum	-24	-19	-17	-21	-33	-38	-28	-16	-12	-19	-26	-26	-18	-29	-35	-37	-26	-13	-24	-23	-21	-8	1	15	-5	0	-11	-7	-9	....	....	-18.0
Oakes	Maximum	5	4	-3	-5	-12	-15	-14	-14	-3	-2	-8	-12	-5	-10	-12	-11	-12	-1	0	4	4	23	28	23	20	10	8	10	29	....	....	1.0
	Minimum	-30	-26	-16	-25	-35	-35	-28	-17	-17	-19	-28	-28	-20	-33	-37	-46	-28	-15	-25	-23	-30	-5	1	12	-7	1	-12	-4	-5	....	....	-20.0
Park River	Maximum	-7	-12	-11	-19	-20	-18	-14	-10	-5	0	-12	-10	-11	-15	-15	-21	-10	-3	0	1	2	20	23	18	10	1	7	10	20	....	....	-3.5
	Minimum	-26	-26	-34	-29	-39	-39	-36	-26	-15	-17	-29	-38	-36	-36	-42	-42	-36	-26	-25	-25	-25	-19	-3	7	-15	-14	-20	-9	-13	....	....	-25.3
Sharon	Maximum	-4	-4	-6	-19	-18	-12	-17	-10	-6	-4	-9	-12	-11	-18	-20	-23	-13	-3	-2	0	7	16	19	18	10	3	8	6	9	....	....	-4.0
	Minimum	-30	-18	-23	-28	-38	-40	-28	-17	-13	-17	-30	-34	-21	-40	-48	-39	-29	-16	-27	-19	-24	-5	1	6	-16	-3	-18	-7	-9	....	....	-21.7
Valley City	Maximum	-1	-2	-4	-12	-14	-15	-13	-11	-3	-5	-5	-15	-8	-11	-21	-17	-12	-1	0	5	12	22	23	21	15	4	10	9	13	....	....	-1.2
	Minimum	-26	-18	-20	-24	-36	-40	-28	-18	-14	-18	-27	-32	-21	-32	-40	-37	-30	-16	-24	-27	-21	-7	1	9	-9	-4	-14	-3	-9	....	....	-20.2
Wahpeton	Maximum	1	3	-3	-7	-12	-10	-3	-3	-3	-2	-4	-11	-1	-4	-13	-12	-11	2	2	5	11	21	34	34	21	25	17	9	13	....	....	3.4
	Minimum	-24	-18	-12	-23	-33	-32	-28	-14	-9	-20	-25	-27	-16	-32	-39	-38	-27	-16	-25	-20	-20	-4	9	16	-7	2	-10	-3	-11	....	....	-17.4
Moorhead, Minn.	Maximum	0	-3	-8	-14	-19	-18	-12	-6	-5	-5	-7	-13	-4	-17	-16	-15	-11	-1	0	-2	8	20	30	27	9	23	4	7	11	....	....	-1.3
	Minimum	-22	-16	-19	-22	-31	-35	-29	-14	-15	-16	-26	-28	-22	-31	-37	-34	-27	-15	-23	-20	-25	-4	9	9	-5	-1	-12	-8	-8	....	....	-18.2
Middle Division																																	
Ashley	Maximum	1	5	2	-5	-10	-14	-17	-18	-6	-1	-5	-12	-9	-15	-16	-15	-12	-4	2	5	9	24	33	26	16	10	13	11	13	....	....	0.4
	Minimum	-21	-16	-16	-20	-33	-37	-25	-27	-27	-26	-28	-30	-20	-33	-40	-41	-32	-17	-28	-24	-24	-4	3	9	-14	-2	-13	2	0	....	....	-20.1
Bismarck	Maximum	3	-1	2	0	-15	-14	-16	-18	-8	-5	-15	-17	-14	-19	-17	-20	-9	-5	-3	1	6	16	23	15	12	4	16	11	23	....	....	-2.2
	Minimum	-22	-22	-13	-23	-33	-39	-24	-27	-25	-28	-25	-27	-26	-33	-42	-45	-28	-17	-26	-22	-27	4	8	-2	-17	-10	-11	2	3	....	....	-20.6
Bottineau	Maximum	-6	2	-12	-17	-18	-20	-12	-12	-6	-7	-11	-18	-12	-27	-28	-28	-12	-7	-2	-2	3	10	22	20	12	3	2	4	27	....	....	-5.2
	Minimum	-29	-28	-25	-36	-42	-47	-41	-23	-26	-29	-40	-49	-37	-48	-47	-45	-48	-32	-30	-29	-27	-4	-1	7	-23	-4	-15	-3	-8	....	....	-27.9
Carson	Maximum	1	4	2	-1	-12	-20	-22	-24	-10	-5	-17	-19	-16	-20	-20	-22	-12	-8	-3	3	5	17	17	15	10	5	17	10	21	....	....	-3.5
	Minimum	-21	-18	-15	-21	-30	-33	-27	-35	-30	-28	-30	-30	-27	-38	-43	-42	-33	-15	-29	-22	-15	-10	10	4	-10	-11	-17	7	5	....	....	-20.8
Drake §	Maximum	-2	-1	-4	-15	-20	-20	-17	-11	-11	-8	-15	-19	-14	-23	-18	-24	-10	-6	-5	-1	8	11	18	12	1	1	10	5	28	....	....	-5.2
	Minimum	-23	-19	-21	-29	-33	-38	-34	-26	-25	-25	-30	-38	-35	-38	-42	-41	-34	-25	-27	-25	-21	-18	4	8	-17	-11	-17	-9	-4	....	....	-23.9
Dunseith	Maximum	-5	-2	-9	-15	-16	-17	-12	-13	-10	-9	-9	-16	-18	-17	-22	-28	-12	-7	-1	-3	4	10	17	11	10	8	0	6	14	....	....	-5.6
	Minimum	-27	-21	-23	-33	-35	-36	-28	-21	-18	-22	-28	-40	-33	-35	-35	-38	-37	-14	-21	-17	-19	-9	1	4	-15	-7	-17	-6	-11	....	....	-22.1
Fessenden §	Maximum	-3	-5	-19	-16	-17	-20	-17	-11	-10	-6	-16	-19	-12	-21	-29	-21	-10	-6	-6	-2	10	13	20	12	9	0	10	11	35	....	....	-4.7
	Minimum	-26	-23	-26	-35	-38	-45	-42	-32	-24	-27	-32	-39	-37	-41	-47	-45	-37	-26	-27	-29	-25	-12	1	9	-20	-10	-21	-11	-5	....	....	-26.6
Foxholm (near)	Maximum	-3	-4	-6	-10	-18	-22	-18	-16	-14	-8	-12	-23	-18	-25	-23	-25	-14	-10	-5	-2	3	8	12	11	7	-2	8	7	24	....	....	-6.8
	Minimum	-22	-14	-21	-30	-34	-40	-31	-28	-24	-27	-29	-39	-27	-37	-44	-42	-41	-16	-23	-23	-19	-2	1	4	-16	-8	-14	-9	-7	....	....	-22.8
Garrison	Maximum	-4	-7	-10	-18	-17	-22	-18	-16	-13	-9	-20	-12	-16	-18	-25	-23	-13	-13	-2	2	2	16	18	13	5	0	8	9	20	....	....	-6.3
	Minimum	-23	-20	-17	-24	-27	-37	-34	-32	-27	-27	-28	-35	-19	-36	-45	-45	-33	-15	-23	-22	-21	-3	4	5	-15	-12	-13	-3	0	....	....	-21.9
Granville	Maximum	-5	-2	-5	-10	-20	-21	-20	-17	-12	-10	-20	-22	-21	-23	-24	-22	-18	-12	-8	-5	-4	5	18	10	6	-2	2	4	18	....	....	-8.3
	Minimum	-28	-20	-26	-32	-47	-32	-30	-24	-32	-29	-33	-42	-33	-42	-52	-48	-35	-14	-30	-32	-25	-4	4	6	-23	-12	-21	-7	-8	....	....	-25.9
Hausboro	Maximum	-10	-8	-15	-20	-18	-20	-20	-13	-8	-5	-12	-20	-13	-24	-22	-22	-14	-8	1	2	10	10	16	10	7	0	0	5	11	....	....	-6.9
	Minimum	-28	-20	-28	-35	-39	-42	-37	-20	-18	-22	-34	-39	-34	-35	-35	-38	-24	-14	-24	-27	-25	-12	-7	4	-18	-11	-21	-9	-13	....	....	-24.3
Linton	Maximum	3	5	0	-6	-11	-13	-7	-18	-8	-6	-11	-13	-10	-16	-15	-20	-11	-5	-2	5	7	24	31	24	16	11	17	16	21	....	....	0.3
	Minimum	-33	-30	-17	-25	-41	-37	-24	-29	-30	-37	-31	-32	-19	-42	-49	-52	-33	-16	-36	-26	-32	1	5	9	-20	-3	-15	-4	0	....	....	-24.1
McClusky	Maximum	-3	-3	-3	-15	-19	-17	-20	-20	-10	-10	-20	-23	-20	-26	-25	-23	-16	-8	-5	0	5	13	21	17	5	1	10	8	18	....	....	-6.5
	Minimum	-25	-22	-23	-29	-34	-43	-29	-30	-24	-30	-30	-41	-30	-41	-53	-47	-35	-18	-31	-29	-13	-4	4	3	-17	-7	-16	-4	-5	....	....	-24.2
Maddock	Maximum	-2	0	-6	-15	-16	-16	-16	-12	-10	-8	-6	-14	-12	-18	-15	-20	-12	-6	-7	0	4	9	20	17	10	0	5	7	16	....	....	-4.2
	Minimum	-26	-22	-29	-32	-40	-46	-34	-21	-16	-39	-34	-43	-25	-50	-45	-44	-32	-16	-30	-30	-27	-9	2	7	-19	-5	-22	-11	-11	....	....	-25.6
Minot	Maximum	-1	-1	-3	-16	-18	-24	-17	-18	-15	-13	-14	-21	-23	-21	-19	-25	-13	-5	-4	2	4	10	15	10	2	-2	13	10	26	....	....	-6.3
	Minimum	-26	-18	-25	-28	-34	-45	-29	-26	-22	-30	-30	-39	-31	-39	-49	-46	-31	-16	-26	-26	-26	-1	3	-7	-18	-8	-20	-9	-7	....	....	-24.4
Mohall	Maximum	-1	-1	-4	-12	-16	-12	-15	-15	-11	-7	-9	-14	-18	-18	-23	-23	-12	-10	-1	2	5	10	13	14	12	0	6	3	20	....	....	-4.7
	Minimum	-21	-18	-26	-36	-37	-43	-31	-26	-19	-25	-29	-41	-27	-39	-42	-41	-28	-16	-26	-27	-22	-8	2	6	-18	-5	-17	-5	-10	....	....	-23.4
Napoleon §	Maximum	-2	-1	-3	-15	-15	-15	-19	-22	-13	-9	-14	-14	-14	-21	-21	-22	-14	-7	-3	5	10	19	29	19	15	1	15	8	30	....	....	-3.2
	Minimum	-26	-20	-20	-25	-40	-41	-30	-30	-30	-31	-35	-34	-22	-42	-47	-46	-35	-19	-30	-27	-25	-5	1	8	-17	-5	-20	-2	-3	....	....	-24.1
New Salem	Maximum	5	0	4	-8	-15	-20	-20	-26	-14	-9	-18	-17	-19	-23	-20	-24	-15	-7	-5	0	3	12	18	19	7	9	14	5	28	....	....	-4.7
	Minimum	-20	-17	-17	-23	-31	-35	-28	-34	-34	-28	-31	-31	-29	-35	-40	-41	-33	-17	-25	-18	-21	0	2	3	-16	-9	-13	1	0	....	....	-21.4
Steele	Maximum	-7	-5	-6	-12	-15	-17	-20	-20	-11	-11	-18	-19	-11	-23	-22	-23	-14	-6	-4	-5	8	16	20	12	10	9	9	8	15	....	....	-5.6
	Minimum	-28	-25	-18	-25	-32	-41	-31	-29	-26	-32	-28	-34	-25	-40	-47	-50	-33	-16	-31	-27	-26	-12	3	3	-16	-3	-16	-2	-3	....	....	-23.8
Towner	Maximum	-4	-3	-5	-17	-20	-20	-15	-13	-5	-4	-7	-27	-10	-28	-20	-25	-16	-10	-5	0	4	7	18	12	14	5	4	-2	18	....	....	-6.0
	Minimum	-26	-26	-24	-34	-38	-47	-33	-23	-23	-26	-35	-44	-28	-44	-48	-46	-33	-19	-35	-35	-30	-6	0	5	-21	-5	-22	-8	-11	....	....	-26.5
Westhope	Maximum	-4	-2	-4	-15	-18	-20	-18	-16	-10	-8	-12	-17	-16	-20	-27	-24	-7	-8	-6	-8	-5	13	15	11	12	0	0	5	15	....	....	-6.7
	Minimum	-28	-16	-31	-34	-44	-47	-37	-20	-26	-29	-34	-47	-29	-46	-51	-46	-22	-14	-31	-32	-29	-7	1	6	-23	-8	-20	-9	-6	....	....	-26.2
Western Division																																	
Arnegard (near)	Maximum	3	3	2	-5	-13	-18	-17	-19	-13	-9	-15	-16	-19	-23	-30	-30	-13	-9	2	4	12	11	14	10	6	4	34	14	35	....	....	-3.3
	Minimum	-20	-18	-17	-22	-30	-33	-23	-38	-32	-30	-28	-29	-23	-30	-44	-42	-42	-18	-22	-20	-21	0	4	6	-16	-14	-10	3	3	....	....	-20.9
Beach	Maximum	3	1	3	-5	-11	-12	-16	-26	-15	-12	-12	-16	-18	-16	-14	-18	-12	-8	8	8	13	21	28	10	9	4	40	32	43	....	..	0.4
	Minimum	-20	-19	-13	-21	-26	-29	-26	-36	-33	-22	-26	-25	-25	-39	-43	-42	-35	-21	-26	-24	-22	5	2	-1	-10	-17	-7	8	10	....	....	-20.1
Berthold Agency	Maximum	-2	-2	0	7	-13	-18	-15	-18	-18	-20	-20	-22	-22	-23	-28	-28	-12	-10	-7	-4	5	15	10	5	0	0	19	18	30	....	....	-6.0
	Minimum	-30	-30	-22	-24	-35	-42	-23	-33	-30	-40	-32	-38	-27	-44	-56	-55	-40	-14	-32	-27	-32	0	5	0	-23	-17	-16	-2	2	....	....	-26.1
Bowman	Maximum	0	7	1	-7	-8	-16	-19	-21	-5	5	-10	-18	-16	-14	-18	-21	-18	-14	6	7	14	24	41	10	15	3	38	33	40	....	....	1.3
	Minimum	-20	-21	-10	-21	-22	-28	-23	-37	-31	-26	-23	-25	-21	-39	-43	-43	-36	-28	-23	-20	-17	2	10	-2	-6	-16	0	15	15	....	....	-18.6
Crosby	Maximum	-6	-2	2	-10	-14	-22	-15	-20	-15	-12	-15	-20	-20	-26	-25	-25	-15	-8	-6	-3	12	10	10	10	1	0	16	7	25	....	....	-6.4
	Minimum	-24	-24	-19	-26	-29	-40	-26	-29	-27	-28	-27	-39	-27	-36	-45	-47	-31	-20	-27	-21	-23	-5	0	1	-20	-17	-15	-4	-3	....	....	-23.4
Dickinson §	Maximum	0	1	2	-12	-12	-16	-17	-21	-10	0	-17	-18	-18	-17	-17	-21	-10	-7	3	0	13	18	31	10	7	7	34	18	39	....	....	-1.0
	Minimum	-21	-23	-22	-20	-33	-33	-32	-34	-33	-35	-33	-29	-21	-37	-46	-47	-43	-30	-30	-23	-21	-15	8	2	-11	-12	-15	5	8	....	....	-23.4
Dunn Center	Maximum	-1	-1	2	-7	-9	-12	-13	-17	-14	-6	-8	-14	-16	-16	-17	-19	-13	-1	4	11	11	25	18	12	5	4	26	19	38	....	...	-0.3
	Minimum	-26	-19	-16	-22	-35	-39	-22	-36	-31	-36	-33	-34	-28	-37	-52	-50	-39	-29	-22	-26	5	8	3	0	-17	-10	-2	7	8	....	....	-21.7
Hettinger	Maximum	3	8	0	-6	-10	-15	-18	-21	-6	9	-8	-16	-13	-10	-15	-12	-13	0	3	9	10	23	38	22	11	9	37	42	38	....	....	3.4
	Minimum	-21	-25	-10	-20	-25	-29	-23	-34	-30	-31	-26	-24	-22	-35	-43	-45	-30	-18	-26	-21	-28	3	14	6	-6	-4	7	21	16	....	....	-17.6
Howard (near)	Maximum	-5	-6	-1	-5	-13	-21	-21	-21	-20	-14	-11	-27	-23	-27	-37	-36	-21	-9	-3	-3	5	10	10	-5	-5	10	16	17	24	....	....	-8.3
	Minimum	-25	-25	-22	-18	-35	-40	-25	-37	-30	-30	-30	-41	-31	-45	-47	-52	-42	-23	-28	-25	-23	-7	-6	-10	-21	-18	-17	-14	-2	....	....	-26.5
Kenmare	Maximum	-2	-4	-1	-7	-12	-19	-14	-16	-12	-8	-11	-18	-18	-22	-22	-23	-14	-8	-2	3	8	13	13	11	5	3	12	10	27	....	....	-4.4
	Minimum	-19	-14	-21	-27	-30	-41	-27	-26	-24	-25	-27	-36	-25	-35	-38	-40	-30	-16	-21	-22	-20	-11	5	4	-15	-4	-17	-7	-7	....	....	-21.2
Marmarth	Maximum	5	2	2	-8	-7	-12	-15	-17	-3	3	-10	-17	-16	-15	-17	-11	-12	-5	5	2	10	23	37	16	17	8	41	32	42	...	....	2.8
	Minimum	-23	-30	-10	-20	-30	-24	-24	-37	-41	-32	-24	-23	-23	-45	-52	-46	-32	-21	-28	-25	-25	7	15	5	-15	-19	-7	18	17	....	....	-20.5
Mott	Maximum	7	5	6	-2	-11	-11	-18	-18	-4	2	-5	-14	-10	-15	-9	-8	-11	-1	4	5	12	22	28	18	11	9	32	31	40	...	....	2.4
	Minimum	-15	-21	-9	-18	-30	-34	-22	-33	-30	-31	-30	-25	-20	-37	-38	-43	-30	-15	-25	-24	-27	6	10	6	-10	-11	-16	9	9	....	...	-19.1
New England §	Maximum	11	7	10	-8	-11	-12	-14	-16	-7	7	-11	-16	-13	-11	-9	-12	-16	-5	7	10	10	25	39	14	9	8	36	22	43	....	....	3.3
	Minimum	-24	-21	-19	-28	-36	-32	-35	-34	-33	-29	-25	-24	-35	-46	-45	-39	-24	-27	-22	-27	-11	9	5	-3	-17	-15	4	9	17	....	....	-20.9
Williston	Maximum	-1	-4	3	-9	-18	-16	-15	-21	-15	-9	-15	-20	-17	-22	-25	-28	-11	-7	-5	0	12	11	10	10	0	0	24	7	34	....	...	-5.1
	Minimum	-20	-22	-13	-23	-29	-31	-21	-34	-31	-33	-25	-33	-29	-39	-47	-50	-34	-17	-27	-22	-23	0	0	-8	-19	-15	-5	1	6	...	....	-22.2

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 3-31-36--1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLV Bismarck, N. D., March 1936 No. 3

GENERAL SUMMARY

Temperatures were above normal most of March, but cold weather prevailed on the 5th and at the close of the month. The precipitation averaged slightly above normal and January and February were also above average. The greatest amounts of precipitation occurred in the northern districts. The snowfall disappeared rapidly in the southern part of the State early in the month, but much snow remained on the ground at the end of the month in the northern districts. Considerable feeding of livestock was necessary in the northern part of the State, and the cold weather near the end of the month delayed farm work. Some highways were snow blocked in the northern part of the State. Flooding, due to ice gorges, occurred in some sections of the Missouri River bottoms during the second and third decades.

TEMPERATURE

The mean temperature for the State was 25.4°, or 1.8° above the 1892-1936 average for March. The mean for the eastern division was 24.4°; for the middle division, 25.0°; and for the western division, 26.8°. The highest mean temperature was 32.0° at Hettinger, and the lowest, 17.8° at Langdon, making a range in mean temperature of 14.2°. The absolute range was 88°, from 61° at four stations in the southwestern section on the 9th and 17th, to −27° at Hannah on the 5th. The average daily deficiency in temperature for the State since January 1, 1936, is 11.6°.

PRECIPITATION

The average precipitation for the State was 0.81 inch, or 0.03 inch more than the 1892–1936 average for March. In the eastern division the average amount was 0.73 inch; in the middle division, 0.75 inch, and in the western division, 0.94 inch. The greatest monthly amount reported was 2.48 inches at Howard; the least reported was 0.21 inch at Hettinger. The greatest amount recorded in any 24 consecutive hours was 1.46 inches at Pettibone on the 26th. The accumulated excess in precipitation for the State since January 1, 1936, is 0.42 inch. The average snowfall for the State was 8.1 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	3	6	11	4	1	1	..	4	6	1	1	1	..	1
Fogs	..	1	..	..	3	3	1	1	..	1	..	3	..	1	8	1	1	3	1	2	1	7	1	..	..	3	7	2	1	..	..
Lunar halos	..	4	2	1	1	1	1	3	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	2	2
Solar halos	..	..	..	2	1	..	..	3	..	..	..	3	1	..	1	1	1	3	..	1	2	..	..	1	..	..	..	1	2	6	1
Sleet	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	2	1	..	..	3	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.90	30.42	5	29.45	3	10.4	30	nw.	20	85	70	72	53
Devils Lake	29.88	30.52	5	29.38	24	11.4	33	nw.	3	91	82	87	50
Grand Forks	29.84	30.51	5	29.23	24	......	38	nw.	3	82	....	85	....
Williston	29.91	30.36	11	29.46	21	9.8	35	w.	7	84	72	72	61
Moorhead, Minn	29.88	30.55	5	29.16	24	10.3	27	nw.	11	90	76	82	56
Averages & ext's	29.88	30.55	5	29.16	24	10.5	38	nw.	3	86	75	80	55

† And other dates.

COMPARATIVE DATA FOR MARCH

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	24.2	66	−35	0.87	0.98	0.65	0.83	1.9	4	12	8	11
1893	13.9	68	−35	1.10	1.30	0.46	0.95	10.0	5	13	7	11
1894	24.8	69	−22	1.20	1.71	1.43	1.45	10.1	5	12	9	10
1895	23.2	75	−35	0.07	0.21	0.24	0.17	1.0	2	16	10	5
1896	15.7	70	−35	1.19	1.15	1.06	1.13	8.0	8	12	10	9
1897	11.9	58	−48	1.15	1.04	1.90	1.36	8.0	7	15	7	9
1898	21.3	79	−24	0.77	0.80	0.80	0.79	6.7	5	13	8	10
1999	7.5	72	−30	1.23	0.96	0.68	0.96	10.0	5	12	10	9
1900	20.3	77	−24	0.96	0.96	1.11	1.01	8.5	5	14	7	10
1901	25.3	85	−32	0.95	0.85	0.78	0.86	5.2	5	15	8	8
1902	27.4	65	−25	2.75	2.90	2.55	2.73	11.7	8	10	6	15
1903	22.1	80	−24	0.78	0.44	0.42	0.55	5.1	3	12	6	13
1904	18.2	64	−26	1.26	1.33	1.64	1.41	11.5	5	11	6	14
1905	32.5	81	−25	1.09	0.85	0.32	0.75	2.3	4	11	8	12
1906	18.5	67	−34	0.31	0.39	0.44	0.38	3.1	3	15	6	10
1907	23.1	83	−20	0.57	0.58	1.00	0.72	5.1	4	14	9	8
1908	21.1	68	−31	1.17	0.94	1.53	1.21	12.1	8	10	9	12
1909	24.0	61	−24	0.34	0.40	0.26	0.33	2.7	4	10	9	12
1910	41.3	90	− 7	0.83	0.93	1.08	0.94	0.3	3	18	8	5
1911	30.6	78	−18	0.14	0.26	0.29	0.23	1.6	2	16	10	5
1912	15.4	65	−28	0.28	0.32	0.52	0.37	3.6	3	17	8	6
1913	17.2	70	−31	0.82	0.73	1.00	0.85	8.2	6	12	9	10
1914	25.5	76	−20	0.83	1.06	0.75	0.88	9.2	5	10	9	12
1915	22.9	63	−23	0.38	0.20	0.07	0.22	2.0	2	16	6	9
1916	20.3	69	−45	1.43	1.82	1.00	1.42	13.5	6	11	9	11
1917	22.2	67	−39	0.44	0.33	0.37	0.38	3.9	3	13	10	8
1918	35.0	82	−15	0.32	0.46	0.42	0.40	2.9	2	16	8	7
1919	17.8	67	−35	0.63	0.93	0.78	0.78	6.2	4	12	9	10
1920	22.4	67	−32	0.46	0.83	1.20	0.83	7.1	4	15	8	8
1921	25.2	75	−22	1.07	1.02	0.81	0.97	9.1	6	9	12	10
1922	25.8	60	−30	0.96	0.67	0.50	0.71	6.4	4	12	7	12
1923	18.3	65	−35	0.34	0.44	0.35	0.38	4.8	4	10	10	11
1924	25.5	58	−20	0.32	0.36	0.75	0.48	4.4	4	10	9	12
1925	27.4	75	−26	0.74	0.56	0.75	0.68	6.0	4	14	9	8
1926	25.8	83	−23	0.35	0.19	0.17	0.24	1.8	3	13	10	8
1927	30.4	77	−10	0.90	0.78	0.47	0.72	6.5	5	13	8	10
1928	28.1	85	−17	0.69	0.55	0.31	0.45	4.8	3	15	8	8
1929	30.5	77	−15	0.68	0.65	1.02	0.78	5.3	5	12	8	11
1930	26.1	62	−17	0.17	0.05	0.05	0.09	0.9	1	17	8	6
1931	25.7	63	−24	0.99	0.85	0.99	0.94	4.8	5	11	8	12
1932	18.9	64	−30	0.52	0.60	0.80	0.64	6.0	6	10	11	10
1933	28.5	70	−14	0.46	0.41	0.49	0.45	3.7	3	14	10	7
1934	26.3	74	−12	0.43	0.34	0.71	0.49	3.6	4	11	11	9
1935	26.3	75	−37	2.00	0.89	0.90	1.26	7.0	5	9	11	11
1936	25.4	61	−27	0.74	0.80	0.91	0.82	8.1	6	10	11	10
Period	23.6	90	−48	0.79	0.77	0.77	0.78	5.9	4	13	8	10

Climatological Data for March 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	24.0	-0.6	48	19	-12	5	30	1.00	+0.51	......	4.0	8	3	8	20	nw.	I. Idso.
Cavalier	Pembina	894	26	22.5	....	43	18	-14	5	41	0.55	-0.16	0.28	7.4	6	11	9	11	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	24.2	....	45	19	-20	5	50	0.35	-0.28	0.35	4.0	1	18	5	8	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,478	39	22.6	+2.8	44	19	-16	5	38	0.51	-0.27	0.28	5.5	10	4	8	19	w.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	25.4	-0.9	58	8	-7	4	37	0.38	-0.33	0.30	3.8	2	2	28	1	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	12	20.4	-0.6	40	20	-25	5	32	1.33	+0.87	0.40	12.8	10	3	7	21	nw.	E. D. Warner.
Ellendale	Dickey	1,457	41	29.4	+3.8	60	9	-5	5	32	0.43	-0.48	0.29	3.8	3	12	10	9	nw.	J. E. Demmer.
Fullerton	Dickey	1,439	38	29.2	+2.4	58	9	-6	5	32	0.82	-0.38	0.33	8.2	4	6	14	11	nw.	F. O. Alin.
Grafton	Walsh	827	44	22.4	+1.2	43	22	-19	5	53	0.93	+0.28	0.40	5.8	4	10	12	9	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	45	21.1	-1.3	42	18†	-22	5	37	1.09	+0.35	0.42	6.6	13	2	20	9	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	27.0	....	55	19	-10	5	46	0.89	....	0.40	7.0	4	13	10	8	nw.	R. G. Stock.
Hannah	Cavalier	1,568	44	19.8	+1.0	38	2†	-27	5	34	0.77	+0.08	0.40	7.2	7	8	8	15	nw.	James Muir.
Hillsboro	Traill	901	30	23.0	+2.6	43	19	-17	5	31	0.70	-0.05	0.35	3.8	6	3	8	20	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	26.8	+2.8	54	9†	-11	5	40	0.95	+0.08	0.65	9.5	4	6	15	10	nw.	S. Calvelage.
Langdon	Cavalier	1,615	40	17.8	-1.8	40	19	-18	5	52	0.50	-0.03	0.50	5.0	1	16	12	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	43	23.3	+1.0	42	21	-20	5	31	0.45	-0.32	0.25	6.5	7	9	9	13	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	28.2	+1.1	53	9†	-9	5	40	0.50	-0.14	0.24	4.8	4	2	17	12	nw.	J. O. Halverson.
McLeod	Ransom	1,075	25	26.4	-1.3	53	19	-3	1†	43	1.57	+0.86	1.42	15.7	2	19	3	9	nw.	J. G. Carlson.
Mayville	Traill	975	40	24.9	+0.4	45	19†	-17	5	48	0.77	+0.08	0.43	8.0	11	7	13	11	n.	H. B. Addicott.
Oakes	Dickey	1,318	7	29.5	....	58	9	-8	5	40	0.28	....	0.28	1.0	1	3	21	7	nw.	Eugene Naylor.
Park River	Walsh	998	32	20.0	-3.1	....	....	.....	....	......	0.88	+0.26	.....	......	......	......	......	......	.....	C. B. Wright.
Pembina	Nelson	1,520	6	19.3	+1.1	42	22	-24	5	36	1.01	+0.20	0.30	9.5	6	8	6	17	nw.	E. N. Russell.
Sharon	Steele	1,516	12	22.6	....	43	19	-18	5	28	0.51	-0.13	0.32	3.8	12	4	9	18	w.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	27.4	+1.4	50	9†	-13	5	39	0.36	-0.31	0.22	5.5	4	13	7	11	nw.	I. C. Robertson.
Wahpeton	Richland	962	44	27.6	+0.1	51	19	-14	5	43	0.63	-0.02	0.52	2.7	3	7	15	9	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	24.0	+1.3	48	19	-13	5	36	1.31	+0.30	0.79	13.1	10	2	8	21	nw.	U. S. Weather Bureau.
Average for Eastern Division		....	.....	24.4	+0.8	60	9	-27	5	53	0.73	0.00	1.42	6.4	6	8	11	12	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	40	28.8	+4.5	56	9†	-4	5	37	0.77	-0.02	0.40	9.5	5	15	8	8	nw.	H. D. Piper.
Bismarck	Burleigh	1,670	62	28.2	+4.0	55	17	0	5	31	0.88	-0.01	0.45	11.6	6	5	13	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	22.4	+2.3	45	9	-15	5	31	0.42	-0.24	0.14	4.0	9	15	7	9	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	38	24.8	+1.4	48	17	-10	5	47	0.50	-0.17	0.50	5.0	1	2	12	17	nw.	L. A. Swanson.
Carson	Grant	2,500	24	27.4	+1.1	61	17	-2	31	37	1.26	+0.51	0.60	12.2	8	12	12	7	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	25.4	-1.1	45	19	-8	5	36	0.95	+0.37	0.38	10.0	4	10	8	13	nw.	R. L. Williams.
Drake	McHenry	1,634	7	23.3	....	49	19	-13	5	43	0.60	....	0.38	5.8	9	11	5	15	nw.	Peter Anton.
Dunseith	Rolette	1,682	40	20.2	0.0	42	2	-16	5	33	0.28	-0.35	0.09	3.0	6	13	13	5	nw.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	21.6	-1.3	42	14†	-13	5	36	0.68	+0.15	0.27	11.0	8	3	16	12	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	27.0	-2.2	50	17	-2	26†	36	0.86	+0.09	0.18	10.5	6	2	27	2	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	24	23.8	+0.4	47	19	-16	5	49	0.88	+0.13	0.62	8.5	4	5	11	15	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	30.4	+4.1	61	9	5	26†	40	0.91	+0.06	0.42	6.0	4	14	5	12	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	23.2	....	43	17†	-9	30	33	1.19	+0.52	0.31	11.6	8	8	11	12	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	27.0	....	54	9	-8	5	39	0.63	....	0.38	8.0	3	10	11	10	nw.	A. H. Haut.
Garrison	McLean	1,901	59	25.8	+2.0	50	8	-6	31	42	0.80	-0.05	0.39	8.0	3	9	17	5	nw.	W. F. Robinson.
Granville	McHenry	1,504	29	24.4	+0.3	42	8†	-12	29	34	0.86	+0.36	0.46	13.5	4	4	18	9	nw.	W. A. Christianson.
Hansboro	Towner	1,597	28	21.0	+0.4	44	17	-22	5	39	0.80	-0.14	0.50	9.0	2	18	10	3	nw.	C. E. Blackorby.
Leeds	Benson	1,515	.....	24.3	....	45	19	-17	5	33	0.59	....	0.21	7.4	5	11	16	4	nw.	Ole Semb.
Linton	Emmons	1,711	19	28.8	+1.1	55	9	-4	26	39	0.54	-0.25	0.20	4.2	6	9	13	9	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	29.0	+3.0	45	19	-9	5†	38	0.79	-0.01	0.30	7.5	5	12	6	13	nw.	Edw. Tapley.
Maddock	Benson	1,604	21	24.4	-0.2	47	19	-19	5	46	0.30	-0.23	0.15	3.0	4	5	11	15	nw.	A. T. Felland.
Mandan	Morton	1,750	22	27.4	+0.7	56	17	-1	5	38	1.12	+0.27	0.39	11.8	7	13	2	16	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	22.4	....	44	3	-10	28	40	0.90	....	0.40	9.0	4	13	3	15	nw.	A. W. Rice.
Minot	Ward	1,557	40	24.3	+1.5	48	17	-11	29	36	0.33	-0.30	0.14	5.0	5	6	14	11	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	24.4	+3.5	43	18†	-8	6	32	1.14	+0.50	0.35	5.5	7	8	17	6	nw.	John Behan.
Napoleon	Logan	1,955	44	26.1	+3.4	53	9†	-10	5	38	1.20	+0.37	0.60	11.5	6	14	8	9	nw.	C. J. Hoof.
New Salem	Morton	2,163	32	27.6	+1.7	55	17	-2	31	33	0.74	-0.11	0.35	7.4	5	13	11	7	nw.	J. Christianson.
Pettibone	Kidder	1,856	27	24.4	+0.1	48	17	-14	5	45	1.87	+1.25	1.46	9.6	4	4	12	15	nw.	Sam Loeppke.
Steele	Kidder	1,857	42	24.4	+0.3	48	17	-14	5	42	0.50	-0.31	0.15	4.4	5	5	14	12	nw.	R. S. Armstrong.
Towner	McHenry	1,482	34	22.8	+0.7	42	19†	-17	5	35	1.00	+0.27	0.45	12.0	4	11	13	7	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	23.1	-1.7	42	18	-9	5	35	0.66	-0.22	0.28	6.0	4	19	1	11	nw.	M. A. Slettum.
Velva	McHenry	1,511	9	26.0	....	48	19	-9	5	35	0.89	....	0.38	12.5	5	5	13	13	nw.	Oscar Anderson.
Washburn	McLean	1,731	35	26.8	+2.4	50	17†	-2	5†	36	0.53	-0.21	0.25	3.5	6	11	6	14	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	21.4	-0.6	41	19	-7	29	24	1.19	+0.66	0.48	12.0	6	11	14	6	nw.	J. H. Munn.
Willow City	Bottineau	1,471	44	20.6	+0.9	42	17	-25	5	44	0.60	-0.14	0.35	6.0	3	7	14	10	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	27.8^{e}	+1.5	55^{e}	9	-4^{e}	5	41^{e}	0.74	+0.03	0.38	7.4	8	......	......	......	.....	E. W. Davis.
Average for Middle Division		....	.....	25.0	+1.0	61	9†	-25	5	49	0.75	+0.02	1.46	8.1	5	10	11	10	nw.	....
Western Division																				
Arnegard (near)	McKenzie	2,238	23	25.9	+0.6	47	8	-11	30†	37	1.47	+0.79	0.60	14.8	7	15	10	6	nw.	Chas. A. Benson.
Beach	Golden Valley	2,759	30	29.5	+2.3	53	21	-3	30†	34	0.72	-0.04	0.34	5.9	7	7	11	13	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	24.4	-1.6	48	9	-4	26†	26	0.79	+0.23	0.35	12.8	5	20	5	6	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	30.0	+2.3	58	17	0	30†	30	0.39	-0.28	0.24	4.0	5	16	9	6	nw.	George Larsen.
Crosby	Divide	1,954	28	23.0	-0.5	45	19	-8	29†	37	1.25	+0.58	0.50	12.5	4	5	6	20	nw.	J. H. Phelps.
Dickinson	Stark	2,543	44	27.6	+2.3	60	17	-1	31	38	0.59	-0.15	0.15	5.2	9	14	11	6	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	27.4	+1.9	57	17	-4	31	32	0.63	-0.20	0.36	9.0	5	7	15	9	nw.	W. F. Moede.
Hettinger	Adams	2,675	29	32.0	+3.4	60	17	1	30	32	0.20	-0.50	0.09	2.0	3	14	13	4	nw.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	21.1	-0.8	40	18†	-15	31	34	2.48	+1.58	0.71	24.3	6	10	15	6	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	25.3	....	45	18†	-5	5	34	1.24	+0.61	0.36	12.0	7	11	14	6	w.	Synthia M. Costello.
Marmarth	Slope	2,714	27	31.7	+4.0	60	17	0	30†	30	0.36	-0.36	0.25	4.2	7	8	8	15	nw.	S. P. Grane.
Mott	Hettinger	2,424	29	31.3	+4.4	61	17	2	30†	32	0.67	-0.26	0.36	4.0	5	14	8	9	nw.	W. M. Hendricks.
New England	Hettinger	2,400	42	30.0	+4.8	61	17	-1	29	34	0.56	-0.22	0.21	6.0	6	13	10	8	se.	F. S. Sleight.
Parshall	Mountrail	1,929	21	23.0	....	44	17†	-14	29†	38	0.47	-0.04	0.15	7.0	5	2	24	5	nw.	C. E. Shubert.
Portal	Burke	1,954	31	21.0	+3.3	44	17	-11	31	37	0.96	+0.36	0.30	8.5	8	9	10	12	w.	R. G. Wegener.
Powers Lake	Burke	2,205	31	25.6	+0.5	48	16	-15	30	45	1.18	+0.49	0.28	17.0	6	14	7	10	w.	Geo. B. Gee.
Richardton	Stark	2,467	20	28.6	+1.5	58	17†	-2	31	33	0.84	+0.12	0.37	8.8	4	11	12	8	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	11	25.5	+1.2	50	18	-8	31	39	1.07	....	0.65	11.0	4	2	19	10	nw.	H. J. Bugge.
Williston	Williams	1,878	57	25.9	+3.0	55	17	-8	31	33	1.51	+0.82	0.54	18.2	12	10	14	7	w.	U. S. Weather Bureau.
Average for Western Division		....	.....	26.8	+1.6	61	17	-15	30†	45	0.94	+0.22	0.71	9.7	6	11	11	9	nw.	....
Average for the State		....	.....	25.4	+1.1	61	9†	-27	5	53	0.81	+0.08	1.46	8.1	6	10	11	10	nw.	....

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agney, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for March 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																1.00
Cavalier	do			.05	.02			T.						T.	.02	.08		T.		T.				.10	T.		T.	.28					0.55
Cooperstown	Sheyenne									T.	T.							T.							.35			T.					0.35
Courtenay	James			T.	T.	.05		.10		.05					.02									T.	.40								0.62
Devils Lake ***	Devils Lake			.04	.01	T.	T.	T.		.02	.01		T.		.03	.03			T.		.01			.14	.15	T.			.07	T.	T.	T.	0.51
Edgeley	James											.08													.30								0.38
Edmore	Devils Lake			.12	.01			.08		.01	.10				.08	.25					.03				.25	T.		T.	.40				1.33
Ellendale	James									T.				.06										.08	.29						T.		0.43
Forman	Sheyenne	T.									T.	.15													.45								0.60
Fullerton	James										.12			.07	T.									.30	.33				T.				0.82
Grafton	Red			T.	T.					T.	T.				T.	.14			.17		T					.40			.22		T.	T.	0.93
Grand Forks ***	do	.10		.08	.02			.01		.09	.09	.07			.03	.08	T.		.04		T.			.02	.42	T.			.04		T.	T.	1.09
Hankinson	do									.20														.40	.29								0.89
Hannah	Pembina			.09	.02			T.		.05				T.	.04	T.					T.	.02			.40	T			.15				0.77
Hillsboro	Red	.10								.10		.07			.03				T.						.35			.05					0.70
Jamestown	James									T.	.10			.05											.65		.15		T.				0.95
Langdon	Pembina																												.50				0.50
Larimore	Red	.04		T.		.02		T.		.03	.02				T.	.07			T.		T.				.25				.02				0.45
Lisbon	Sheyenne	T.	T.	T.							.02	.20			T.	T.					T.			T	.24			.04	T				0.50
McLeod	do			T.								.15									T.					1.42		T.					1.57
Mayville	Red	.02				.03				.10						.05			.04					.43	.02			.04	.02	.01	.01	T.	0.77
Oakes	James											T.				T.									.28								0.28
Park River	Red																																
Pembina	do		T.	.17	T.			.07							.30						.09				.27				.11				1.01
Petersburg	do			T.		.02		T.		.04	T.					.07			.09		T.				.24				.05		T.		0.51
Sharon	do	T		.01	T.	T.	T.	.02		.03	.03			T.	.01	.02			.02		.01			.01	.32	T.		.01	.02		T.	T.	0.51
Valley City	Sheyenne			T.							.07				.02										.22			.05					0.36
Wahpeton	Red											.08				T						T.			.52			.03					0.63
Moorhead, Minn. ***	do	.01	T	.01	T.		T.	T.	T.	.01	.11	.17			.01	.02	T.		T.		T.			.10	.69			.18	T.		T	T.	1.31
Middle Division																																	
Ashley	Missouri										.05			.11	.01									.20	.40								0.77
Bismarck ***	do			T.		T				.04	.12			.15	.07									.28	.22			T.	T	T.			0.88
Bottineau	Mouse			.03				.14						.08		.01								.02	.06	.01		.01	.06				0.42
Carrington ‖‖	James												T.											.50			T.						0.50
Carson	Heart									.04	.20			.15	.05		.02							.60	.10			.10					1.26
Dogden Butte	Mouse			T.						.01	T			T.	T.	T.								.26	.30			T.	.38				0.95
Drake ‖‖	do				T.	T.					.01	.03		.02	.01	.02									.38	.01		T.	.02	.10			0.60
Dunseith	do							.02			.01			.07	T.								T.	.03	.09			T.	.06				0.28
Eckman	do			T.		T.		T.		.05				.05	.05	.05							T.	.08	.27			T.	.10		.03		0.68
Energy	Missouri									.10	.15			.12	T.									.15	.18				.16				0.86
Fessenden ‖‖	James				T.													.09							.62	.02				.15			0.88
Fort Yates	Missouri									T.	.16			.42	.04									.29									0.91
Foxholm (near)	Mouse			.12	T.			T			.01			.31	.06	T.							.02	.19	.18				.30				1.19
Gackle	James									.03	T.			T										.22	.38			T.					0.63
Garrison	Missouri										T.			.20	T.										.39	T.			.21		T.		0.80
Granville	Mouse			.03	T.	T.					T.	T.		T.	T.	.04									.46		T.		.33		T.		0.86
Hansboro	Devils Lake																								.50				.30				0.80
Leeds	do				.08											.10								.05	.15				.21				0.59
Linton	Missouri									.13	.08			.05	.03									.20	.05								0.54
McClusky	do	T.		T.							.05			T.	T	T.								.30	.30			.04	.10		T.		0.79
Maddock	Sheyenne			T.		T				T.	.06			T.	T	T.			.03					T	.15	T.			.06		T.	T.	0.30
Mandan ‖‖	Missouri									.03	.30	.25		.07									.07	.39	.01							T	1.12
Manfred	James			.01						.03	T			.10	.02									.10	.30			.01	.23		T.		0.80
Max ‖‖	Missouri								T.		.10		.10											T	.40				.30				0.90
Minot	Mouse				T.	T.					.07			.06	T.									.14	.02			T	.04				0.33
Mohall	do		.15		.15	T			T.			.02			.20	.16	.11							T.	T.	.35				T		T.	1.14
Napoleon ‖‖	Missouri										.05	.10			.10	.15									.60	.20					T.		1.20
New Salem	Heart									T	.10			.12	.02									.35	.15			T	T.				0.74
Pettibone	James			T.							T.			.15	T.	T								.08	1.46			.18					1.87
Rugby (near)	Mouse			.05						T				.02	.01										.08				.06				0.22
Ryder	Missouri		T.	.01						T.	.02		.05	.06	.08		.01						.01	.15	.02			.09	.04	T	T		0.54
Stanton	do										.15			.15																			0.30
Steele	do									.04	.12			.15	.07									.12				T.					0.50
Tagus	Mouse			.01							.01			.09	.09								T	.18	.12				.30				0.80
Towner	do			.10										.05									T.		.45			.40					1.00
Turtle Lake	Missouri			T.						.11	T.			T.	T.									.28	.15				.12				0.66
Tuttle	do			T.					.01	.02				.01	.04									.20	.16			.01	T.				0.45
Velva	Mouse			.03	T.					T.	T.			.05	T.	T.								.17	.38			T	.26				0.89
Washburn	Missouri	.03										.05		.12											.25	T.		.03		.05			0.53
Westhope	Mouse			.05	T																		.06	.38	.48	.01				.21			1.19
Willow City	do			.05	T.									T.									T.		.20				.35			T.	0.60
Wishek ‖‖	Missouri		.03									.05		.09	.05		.04								.38	.08			.02				0.74
Zap	Knife									.01	.03			.04	T.										.07				T.				0.15
Western Division																																	
Alpha	Lit. Missouri	T		T.							.04	T.			T.	T.							T	.26	.02		T.		T.	T.		T.	0.32
Arnegard (near)	Missouri										.10	.05		.20	.10									.60		.07				.35			1.47
Beach	Lit. Missouri									.05	.08	T.		.18	T.	.01								.34	.03			T.	.03	T			0.72
Berthold Agency	Missouri									T	.12	T.		T	.08								T.	.12	.12		T.		.35				0.79
Bowman	Grand									.02	.07		.05		T	T.								.24	T.			T.	T.	T.		.01	0.39
Corinth	Missouri			.06						T.	.04			.25	.50			.02					.04	.25	.75		.08		.12		.10	T.	2.21
Crosby	Mouse										T.	T.			.20									.50	.35				.20				1.25
Dickinson ‖‖	Heart	T			T.						.07	.04	T	.11	.02	T.	.06							.15	.12	T.		T.	.01	T	.01		0.59
Dunn Center	Knife									.10	.07			.06										.36	T.				.04				0.63
Fairfield	do										.10	.10		.20										.20	.20				.20				1.00
Fryburg	Heart				.02							.04		.08			T.							.32	T.			.05	T.	T.	T.	T.	0.51
Hettinger	Grand									T.	.03			.08		T.								.09	T.					T.		T.	0.20
Howard (near)	Missouri									*	*	*	.60								T	T.	T.	*	.66		.71		.51			T.	2.48
Kenmare	Mouse			.11				T.			T.			.06	.12								.08	.35	.36		T.		.16		T.		1.24
Marmarth	Lit. Missouri			T						.01	.04		T.	.02	.01	T.			.01					.25	T		T.	.02		T.			0.36
Mary	do			T.						.15	.12	.04			.09									.32	.10				.05				0.87
Mott	Cannon Ball									T	.12			.13	T		.02							.36				.04					0.67
New England	do										.18		.06			.03							.06	.21								.02	0.56
Parshall	Missouri			T							.05				.05									.15	.08				.14				0.47
Portal ‖‖	Mouse			.15									.01	.10	.05							T.		.20	.30				.15				0.96
Powers Lake	Missouri												.07				.21	.13						.22	.28					.27			1.18
Richardton	Heart									T.	.16			.10										.37			.21	T.	T.	T			0.84
Sanish ‖‖	Missouri									T.	.20				.20									.65	.02								1.07
Tioga	do									.10			.08		.14								.34	.26	.08	.01	.38	.20					1.59
Trotters	Lit. Missouri			T.					.04					.12					.01					.34	.08					T.			0.59
Williston ***	Missouri			T.						.08	.04	.04	.09	.02	.08		T.						.10	.49	.03		.01	.02	.51	T		T.	1.51

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

*Daily Temperatures for March 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum	34	35	38	32	13	24	30	34	41	39	30	18	24	32	32	31	35	42	48	42	40	45	38	33	28	22	28	36	20	18	18	31.6
	Minimum	10	15	16	2	-12	10	23	23	22	29	17	8	3	19	26	21	16	27	25	32	28	32	33	17	13	17	10	12	9	8	4	16.5
Devils Lake	Maximum	34	39	36	28	16	27	39	36	41	35	31	21	29	37	29	27	42	38	44	37	37	39	32	29	25	28	32	22	15	11	15	30.7
	Minimum	14	22	13	-10	-16	16	19	23	30	22	19	8	11	24	21	16	15	28	24	28	22	30	28	14	8	3	19	4	0	0	-3	14.6
Edgeley	Maximum	36	39	38	30	34	38	50	58	45	44	40	24	24	31	32	34	35	36	35	38	44	40	40	38	26	25	34	25	25	25	20	34.9
	Minimum	12	22	12	-7	12	20	30	38	28	30	16	14	12	20	24	16	24	24	20	18	25	25	30	20	10	4	11	11	14	6	0	17.9
Ellendale	Maximum	38	44	46	34	17	35	50	49	60	38	35	33	31	39	39	37	51	42	55	49	49	50	35	32	28	27	39	38	25	22	23	38.4
	Minimum	14	21	32	16	-5	14	18	32	28	30	24	25	15	22	25	22	19	30	28	29	21	30	32	23	12	11	11	24	12	10	4	20.3
Fullerton	Maximum	38	42	44	33	17	34	48	45	58	48	37	31	32	40	37	36	51	49	54	48	47	50	42	32	28	26	39	38	33	24	22	38.8
	Minimum	18	23	30	8	-6	14	17	31	28	29	23	21	15	24	25	21	19	29	27	26	20	30	31	20	12	10	11	23	11	10	4	19.5
Grafton	Maximum	36	40	41	31	4	39	37	35	39	40	32	30	22	30	34	33	33	36	40	39	38	43	41	31	26	28	32	32	29	19	17	32.4
	Minimum	7	10	29	-8	-19	-14	10	26	20	29	20	8	3	18	24	15	5	27	13	28	22	30	28	20	12	3	7	17	-6	-1	-1	12.3
Grand Forks	Maximum	35	39	36	25	4	24	36	33	35	35	30	19	23	31	32	30	34	42	42	40	38	40	35	34	27	25	30	25	21	17	17	30.1
	Minimum	12	7	15	-12	-22	4	18	25	20	30	16	5	0	20	22	12	4	22	17	29	20	30	32	17	11	4	6	9	1	2	0	12.1
Hillsboro	Maximum	35	37	38	30	12	25	34	31	35	30	30	30	22	30	31	27	34	35	43	42	37	36	36	34	26	26	28	28	20	20	18	30.3
	Minimum	9	13	25	-1	-17	2	25	22	22	22	27	8	1	19	25	27	9	30	22	31	23	28	33	22	11	8	9	17	5	5	2	15.6
Jamestown	Maximum	37	42	41	31	29	32	45	46	54	42	34	28	30	41	35	32	54	43	50	44	44	42	36	32	26	28	34	30	20	16	14	35.9
	Minimum	13	21	26	10	-11	14	20	27	29	28	22	15	15	23	23	21	19	30	26	26	21	31	30	17	9	3	15	17	5	1	-1	17.7
Langdon §	Maximum	35	37	36	18	20	30	36	34	38	31	30	20	28	32	32	29	36	38	40	38	38	33	34	30	25	35	36	20	18	12	12	30.0
	Minimum	-10	-15	-15	-5	-18	-10	18	18	21	20	20	4	4	10	22	10	5	16	12	12	17	15	22	22	7	7	-5	-5	-8	-8	-10	5.6
Larimore	Maximum	36	39	38	30	11	28	38	38	39	37	31	24	29	34	34	29	36	38	41	38	42	38	37	31	28	29	37	29	21	16	20	32.1
	Minimum	8	19	28	0	-20	4	16	25	23	26	24	6	0	20	24	17	7	29	25	31	22	26	29	20	9	4	8	16	3	2	-1	14.5
Lisbon §	Maximum	40	38	42	38	31	30	43	42	53	44	35	34	32	37	37	32	49	45	53	48	45	45	47	36	29	27	37	36	25	20	22	37.8
	Minimum	11	22	30	10	-9	13	10	30	26	31	25	16	12	24	27	20	18	31	27	28	22	22	33	23	12	11	9	19	10	9	4	18.6
Oakes	Maximum	40	40	42	32	32	32	48	44	58	45	37	32	31	37	39	39	51	52	56	50	48	50	42	35	30	27	42	45	26	28	25	39.8
	Minimum	17	22	26	14	-8	13	14	29	28	28	23	20	13	24	25	20	19	29	25	27	20	30	31	25	12	11	12	22	10	10	5	19.2
Sharon	Maximum	34	37	37	27	10	27	38	34	40	36	32	25	28	33	31	28	37	36	43	37	38	38	33	30	26	28	33	27	18	16	17	30.8
	Minimum	8	18	24	-1	-18	9	13	23	26	26	21	7	5	20	23	17	12	29	22	28	20	28	28	17	7	4	11	15	1	1	-2	14.3
Valley City	Maximum	38	40	42	37	25	29	45	43	50	44	35	33	30	37	37	33	48	47	50	50	45	42	43	34	29	28	35	33	21	21	17	36.8
	Minimum	11	22	28	8	-13	-10	12	26	26	28	23	12	11	23	25	18	15	30	25	28	22	30	31	21	11	10	10	18	7	5	1	18.1
Wahpeton	Maximum	38	39	41	36	29	28	38	38	45	44	33	28	28	34	34	33	38	41	51	49	46	46	46	39	29	28	31	43	27	22	23	36.3
	Minimum	11	14	26	8	-14	8	22	29	25	31	25	9	4	20	28	20	19	33	27	30	26	34	34	23	14	17	10	20	12	12	5	18.8
Moorhead, Minn.	Maximum	35	39	39	31	10	26	39	34	41	39	30	18	24	32	32	31	35	42	48	42	40	45	38	33	28	22	28	36	20	18	18	32.0
	Minimum	11	9	18	-5	-13	10	22	23	22	29	17	8	3	19	26	21	16	27	25	32	28	32	33	17	13	12	10	12	9	8	4	16.1
Middle Division																																	
Ashley	Maximum	39	42	43	36	30	35	46	49	56	47	38	38	35	40	39	36	56	52	54	52	46	50	41	31	27	30	40	37	21	19	20	39.5
	Minimum	11	20	31	12	-4	15	20	26	33	28	20	22	17	20	20	21	19	31	30	25	12	30	29	18	7	3	10	19	9	6	1	18.1
Bismarck	Maximum	40	43	45	35	26	39	46	49	50	39	37	35	32	41	37	34	55	43	51	41	46	40	33	23	26	32	37	28	17	17	16	36.5
	Minimum	23	25	22	11	0	19	28	28	34	25	23	20	24	27	19	21	24	30	26	28	24	32	23	17	9	4	21	15	9	5	4	20.0
Bottineau	Maximum	36	41	40	28	14	28	36	39	45	42	35	33	29	37	34	29	42	40	44	40	37	36	28	25	21	22	32	25	18	12	13	31.6
	Minimum	18	15	25	-3	-15	10	15	18	28	25	22	15	14	26	18	14	12	26	16	27	15	14	25	15	8	11	12	8	-11	-9	-8	13.1
Carson	Maximum	40	42	40	35	27	35	41	50	52	38	33	36	38	38	48	42	61	41	52	37	39	39	37	22	36	32	41	26	16	16	16	37.0
	Minimum	23	25	22	14	9	22	20	26	32	26	15	15	24	25	16	16	24	32	25	29	24	24	10	12	2	3	15	15	7	5	-2	17.9
Drake §	Maximum	36	39	35	30	24	34	38	40	43	33	33	27	32	40	30	30	43	40	49	40	40	37	28	20	24	29	30	21	17	11	13	31.8
	Minimum	5	23	16	8	-13	-9	17	20	30	27	22	20	18	21	20	18	19	26	27	30	23	25	27	17	9	2	9	17	-6	-5	-5	14.8
Fessenden §	Maximum	37	40	37	30	22	38	38	43	40	32	34	27	39	38	27	31	44	40	47	39	42	40	36	22	25	32	39	23	11	13	17	33.0
	Minimum	9	20	29	8	-16	-11	14	23	30	27	19	16	17	18	20	10	16	24	24	29	22	29	28	20	6	-2	9	19	-1	-4	-4	14.5
Foxholm (near)	Maximum	34	40	38	28	24	34	36	38	41	37	33	30	33	39	30	29	43	42	43	36	38	34	29	22	19	28	27	20	11	10	12	30.9
	Minimum	21	21	21	7	-8	19	23	20	32	25	25	15	22	24	14	16	18	24	25	31	21	28	21	14	6	-5	17	10	-7	-9	-6	15.6
Garrison	Maximum	39	41	43	32	29	43	42	50	47	36	37	35	33	41	32	33	48	42	44	46	43	35	33	25	25	32	29	24	18	10	13	34.8
	Minimum	18	29	26	9	-4	1	20	24	31	29	23	16	18	24	22	16	21	28	24	24	22	31	27	16	-3	15	19	18	-5	-5	-6	16.7
Granville	Maximum	35	39	38	32	20	40	37	42	42	40	35	33	34	40	32	30	41	36	38	41	35	33	30	24	23	28	25	26	15	18	15	32.2
	Minimum	19	22	28	8	10	15	17	20	32	27	25	20	20	27	19	16	20	28	24	29	22	30	24	17	9	-6	10	12	-12	-7	-6	16.7
Hansboro	Maximum	33	41	40	18	12	26	36	35	41	36	35	34	30	34	30	30	44	37	40	40	36	34	32	25	32	32	30	27	20	15	15	31.8
	Minimum	10	18	18	-3	-22	12	12	14	24	25	14	10	10	20	16	11	8	25	18	20	17	25	23	13	8	-7	10	7	-7	-9	-5	10.8
Linton	Maximum	41	45	43	34	34	40	46	49	55	45	38	40	36	44	39	36	56	49	53	44	48	50	40	30	29	35	40	37	24	20	20	40.0
	Minimum	15	12	23	12	0	7	19	23	29	29	22	24	20	22	17	20	24	32	22	24	17	32	28	16	6	-4	15	21	10	5	2	17.5
McClusky	Maximum	36	39	39	35	29	35	40	39	43	38	35	30	33	40	30	32	42	40	45	41	42	38	36	24	23	29	35	26	14	11	14	42.9
	Minimum	13	18	24	3	-9	13	19	28	28	25	21	15	19	25	18	17	18	28	21	25	21	29	21	14	6	-2	15	11	-7	-5	-9	15.0
Maddock	Maximum	34	40	37	31	27	29	40	42	41	42	33	32	32	41	36	31	41	42	47	44	38	37	34	28	26	29	34	29	18	12	11	33.6
	Minimum	14	20	28	5	-19	13	13	21	28	26	15	14	14	26	17	14	18	29	25	28	20	29	26	17	6	2	20	16	-2	-4	-5	15.3
Minot	Maximum	35	46	41	25	26	39	37	38	44	41	33	31	29	35	37	33	48	40	45	40	39	33	32	23	21	32	29	26	10	14	13	32.7
	Minimum	22	23	23	7	-5	21	26	24	32	26	20	20	12	19	23	18	23	27	24	24	19	29	21	15	8	-4	14	8	-11	-8	-7	15.9
Mohall	Maximum	35	41	41	40	29	22	38	38	39	41	41	39	35	38	40	33	32	43	40	43	43	38	33	29	22	20	25	25	25	19	16	33.6
	Minimum	17	25	24	13	6	-8	17	16	19	31	25	25	17	19	19	9	12	15	33	23	31	19	28	22	15	7	-7	6	9	-5	-7	15.3
Napoleon §	Maximum	36	40	40	31	23	34	43	45	53	34	37	38	30	41	37	35	53	44	52	43	45	48	33	25	24	30	40	28	20	17	18	35.9
	Minimum	11	20	31	9	-10	13	20	25	34	31	18	19	16	19	19	18	24	30	23	27	18	29	25	16	4	-8	5	20	3	0	-4	16.3
New Salem	Maximum	42	42	47	35	27	40	43	49	50	49	36	33	34	38	39	38	55	53	51	43	41	40	39	22	25	31	35	39	22	20	15	37.8
	Minimum	24	24	24	11	1	20	25	24	34	25	20	15	18	15	17	18	22	32	25	20	21	29	20	15	5	2	20	9	3	0	-2	17.3
Steele	Maximum	36	40	36	29	28	33	44	45	45	41	33	27	30	40	30	30	48	41	47	45	43	38	35	28	25	35	32	24	16	14	12	33.9
	Minimum	13	15	4	4	-14	9	18	24	27	26	18	16	15	19	18	18	15	29	20	24	24	31	28	20	4	-2	18	14	5	4	-2	14.9
Towner	Maximum	39	40	40	31	24	25	34	37	39	39	31	31	31	36	37	30	39	40	42	42	40	36	34	28	24	30	26	30	30	16	14	32.7
	Minimum	11	17	24	2	-17	13	13	16	31	24	20	15	15	25	16	12	15	25	30	28	17	27	20	14	4	-5	4	9	-8	-8	-9	12.9
Westhope	Maximum	35	38	37	25	15	30	36	33	37	34	33	32	29	30	26	36	40	40	41	38	40	32	26	21	20	20	26	21	13	9	14	29.3
	Minimum	15	18	21	1	13	10	16	17	25	26	25	16	14	16	6	15	18	25	20	25	22	17	21	15	7	9	5	7	-7	-6	-9	13.6
Western Division																																	
Arnegard (near)	Maximum	34	42	36	33	32	43	36	47	45	43	32	37	34	32	37	34	33	44	38	43	37	45	37	31	26	34	32	28	19	9	14	34.4
	Minimum	16	24	25	16	10	28	24	25	32	32	24	9	26	24	19	19	24	26	27	25	25	24	24	14	3	-3	11	16	-8	-11	-11	17.4
Beach	Maximum	40	43	41	43	43	46	41	48	47	42	36	42	46	40	42	43	48	48	44	44	53	44	31	22	25	39	34	29	15	9	13	38.1
	Minimum	34	28	24	16	16	25	30	28	36	28	25	20	27	23	22	23	32	32	28	31	24	29	21	15	-2	5	20	12	2	-3	-3	20.9
Berthold Agency	Maximum	37	40	41	23	30	36	37	38	48	42	30	30	30	35	38	34	42	42	42	42	42	40	32	18	17	22	28	28	12	10	5	32.0
	Minimum	14	15	23	11	4	12	25	20	35	28	20	14	25	24	18	20	24	30	30	32	22	28	18	13	7	-4	14	6	-2	-4	-4	16.7
Bowman	Maximum	40	42	41	36	42	46	41	50	48	38	34	42	45	37	39	42	58	43	48	44	54	39	29	24	26	38	37	29	26	17	16	38.4
	Minimum	34	27	31	15	19	22	28	29	28	30	22	18	22	29	21	25	28	33	27	31	25	29	23	16	5	8	15	25	5	0	0	21.6
Crosby	Maximum	37	41	37	31	36	34	35	39	40	36	35	30	30	33	34	35	42	42	45	39	38	34	34	24	20	27	25	16	10	8	12	31.6
	Minimum	20	20	20	9	6	18	20	16	29	27	20	7	23	21	15	15	5	24	22	28	24	28	20	13	5	-6	9	8	-8	-4	-8	14.4
Dickinson §	Maximum	38	40	40	35	35	42	41	49	48	34	33	39	41	37	42	38	60	43	50	41	50	32	29	26	23	35	34	22	13	14	16	36.1
	Minimum	18	24	28	13	13	17	23	28	31	28	25	14	23	28	20	16	22	33	26	29	25	29	26	16	4	2	13	19	4	0	-1	19.2
Dunn Center	Maximum	36	43	40	35	34	42	39	46	48	40	35	38	38	38	45	35	57	45	50	43	45	37	30	23	23	32	31	26	15	9	9	35.7
	Minimum	25	22	24	15	13	23	33	25	35	28	25	13	26	28	15	20	25	32	19	34	23	27	22	19	7	1	18	14	-1	-2	-4	19.2
Hettinger	Maximum	40	44	43	38	42	47	46	52	50	49	35	41	44	40	35	41	60	58	50	46	50	42	30	27	27	38	40	35	21	22	20	40.4
	Minimum	31	30	27	31	24	26	30	27	34	29	26	23	28	30	29	23	28	34	25	31	27	24	23	17	7	8	25	19	8	1	2	23.5
Howard (near)	Maximum	33	39	36	29	30	29	35	36	39	35	35	32	34	38	34	32	38	40	40	35	34	34	24	22	20	28	28	15	10	8	14	30.2
	Minimum	14	17	9	6	-4	14	25	22	32	25	17	5	10	20	17	18	10	23	22	25	22	22	18	10	0	-2	5	5	-11	-10	-15	12.0
Kenmare	Maximum	37	42	40	31	29	38	35	40	42	38	37	34	31	34	35	37	44	45	45	43	38	35	26	23	22	26	28	19	15	12	14	32.7
	Minimum	14	23	24	9	-5	20	26	22	22	28	24	18	24	21	15	18	23	24	26	32	22	26	22	15	-3	15	9	13	5	-3	-4	17.9
Marmarth	Maximum	41	45	43	37	47	49	45	53	51	40	36	41	44	43	42	45	60	52	50	54	52	42	33	23	31	40	40	34	19	20	18	41.0
	Minimum	36	27	27	17	18	27	31	27	33	30	21	28	20	32	22	24	32	32	29	30	30	23	23	16	4	10	20	16	9	0	0	22.4
Mott	Maximum	42	44	43	38	35	45	47	53	52	50	36	39	43	40	42	44	61	52	51	49	51	49	32	25	29	38	37	34	22	19	19	40.7
	Minimum	28	26	28	16	13	24	29	27	32	29	25	16	29	31	20	24	29	37	26	29	24	29	24	17	7	5	23	19	9	2	2	21.9
New England §	Maximum	48	45	44	45	47	48	49	51	51	36	35	41	44	43	43	45	61	45	51	47	52	42	29	25	35	40	37	25	17	18	20	40.6
	Minimum	28	33	17	15	13	21	26	29	28	26	10	21	30	19	20	27	34	25	30	25	26	25	16	5	6	16	19	7	-1	0	6	19.4
Williston	Maximum	39	40	39	32	36	40	38	47	44	36	35	37	35	34	40	33	55	44	49	41	44	36	26	21	22	31	27	18	12	10	13	34.0
	Minimum	28	25	16	13	8	23	31	28	32	30	25	15	25	18	16	21	29	28	29	30	28	26	20	12	6	-2	13	0	-6	-6	-8	17.8

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 5-1-36--1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLV Bismarck, N. D., April 1936 No. 4

GENERAL SUMMARY

April 1936 was cold and dry. It was the coldest April since 1920. The first week was unusually cold, but this was followed by somewhat higher temperatures. April 1926 was the only drier month of the same name since State-wide records began in 1892, but due to above average snowfall during February and March, there was ample moisture in the top soil. Considerable plowing was accomplished and spring wheat seeding made excellent progress. Grasses made slow growth, but there was ample feed for livestock. About 20,000 acres of bottom lands were under water from the 1st to the 12th along the Missouri River north of Bismarck due to ice gorges, and some alfalfa fields and pastures were destroyed. Light to moderate dust storms occurred at a few stations in the southern and central parts of the State on the 13th and 23d.

TEMPERATURE

The mean temperature for the State was 35.6°, or 5.8° below the 1892-1936 average for April. The mean for the eastern division was 35.5°; for the middle division, 35.3°; and for the western division, 35.9°. The highest mean temperature was 42.6° at Fort Yates, and the lowest, 29.4° at Langdon, making a range in mean temperature of 13.2°. The absolute range was 102°, from 87° at Marmarth and Mott on the 19th, to -15° at Parshall on the 5th and Langdon on the 8th. The average daily deficiency in temperature for the State since January 1, 1936, is 10.2°.

PRECIPITATION

The average precipitation for the State was 0.39 inch, or 1.03 inches less than the 1892-1936 average for April. In the eastern division the average amount was 0.53 inch; in the middle division, 0.26 inch, and in the western division, 0.37 inch. The greatest monthly amount reported was 1.52 inches at Wahpeton; there was none at Langdon. The greatest amount recorded in any 24 consecutive hours was 0.85 inch at Bowman on the 30th. The accumulated deficiency in precipitation for the State since January 1, 1936, is 0.61 inch. The average snowfall for the State was 0.5 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	..	..	..	..	3	2	6	13	11	17	18	11	8	9	5	1	..	1	..	1	..	..	..	..
Fogs	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	..	..	..	..
Lunar halos	7	6	8	6	2	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..
Solar halos	11	9	4	2	..	..	..	2	1	1	2	1	1	3	..	..	2	2	..	..	5	..	2	..	..	2	1	1	2	4	..
Sleet	..	..	..	..	..	1	1	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	3	..	..	2	3	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3	1	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.09	30.58	21	29.48	13	9.8	31	nw.	13	77	50	51	57
Devils Lake	30.11	30.60	21	29.43	13	10.6	32	nw.	13	86	54	58	71
Grand Forks	30.08	30.54	21	29.46	13	......	38	s.	13	79	....	62	....
Williston	30.09	30.56	21	29.51	13	8.4	30	nw.	13	78	50	48	69
Moorhead, Minn	30.09	30.54	21	29.47	13	9.4	24	nw.	15	81	59	61	68
Averages & ext's	30.09	30.60	21	29.43	13	9.6	38	s.	13	80	53	56	66

† And other dates.

COMPARATIVE DATA FOR APRIL

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	37.6	75	− 2	2.58	3.09	2.29	2.65	6.3	7	10	6	14
1893	34.3	77	− 8	2.45	1.56	1.09	1.70	7.8	6	7	9	14
1894	42.8	92	12	3.66	2.93	2.50	3.03	4.4	9	8	10	12
1895	49.6	87	10	2.10	2.38	2.20	2.23	0.0	5	13	8	9
1896	40.1	92	2	5.50	3.73	2.18	3.80	5.1	9	9	8	13
1897	40.8	93	7	0.80	1.20	1.24	1.08	1.1	5	12	8	10
1898	41.9	87	− 4	1.38	1.36	1.40	1.38	0.5	5	14	9	7
1899	38.0	86	−22	1.46	1.31	1.31	1.36	6.3	6	12	10	8
1900	49.3	93	11	0.75	0.75	1.05	0.85	T.	3	20	6	4
1901	44.5	92	10	1.40	0.72	0.82	0.98	0.3	4	12	9	9
1902	40.2	87	− 2	1.35	0.88	0.95	1.06	2.9	3	12	8	10
1903	42.5	83	8	1.67	1.10	0.92	1.23	2.7	5	16	6	8
1904	37.4	91	2	2.22	1.21	0.72	1.38	8.1	5	13	5	12
1905	40.2	83	3	1.04	0.38	0.11	0.51	3.7	3	15	8	7
1906	46.7	88	8	1.96	1.06	1.48	1.50	1.3	5	14	7	9
1907	31.9	80	− 6	0.77	0.36	0.44	0.52	4.2	4	10	9	11
1908	43.9	91	−19	1.12	1.53	1.91	1.52	5.9	5	16	6	8
1909	34.2	80	3	0.95	0.71	0.64	0.77	5.1	6	10	9	11
1910	48.0	96	4	1.52	1.03	1.56	1.37	2.9	4	16	8	6
1911	41.5	90	− 5	2.12	0.80	0.64	1.19	6.3	5	15	6	9
1912	44.4	88	2	2.61	2.32	2.22	2.35	1.7	7	14	8	8
1913	46.8	94	11	1.00	0.70	0.23	0.64	2.4	4	16	6	8
1914	40.9	84	2	2.49	1.31	0.58	1.46	2.8	6	9	10	11
1915	50.3	99	5	1.42	0.98	0.68	1.03	T	5	15	8	7
1916	39.2	79	− 6	1.70	1.07	1.54	1.44	2.9	5	10	10	10
1917	37.2	73	5	1.89	1.67	1.49	1.68	5.6	7	9	9	12
1918	41.4	81	0	2.38	1.87	2.28	2.18	3.0	7	12	8	10
1919	42.3	79	6	1 45	1.40	1.72	1.52	6.2	6	11	9	10
1920	32.1	63	−11	0.73	0.67	1.12	0.84	2.1	5	13	8	9
1921	41.1	91	1	1.84	2.07	1.40	1.77	3.8	7	14	7	9
1922	42.3	89	− 2	1.17	0.79	0.79	0.92	2.3	6	10	9	11
1923	38.7	89	−15	1.22	1.63	1.51	1.45	7.2	5	13	8	9
1924	39.3	84	6	3.94	2.31	1.35	2.53	7.5	9	8	9	13
1925	47.8	85	10	2.21	1.37	1.22	1.60	T.	6	11	10	9
1926	42.8	98	− 4	0.17	0.34	0.32	0.28	0.9	3	17	8	5
1927	41.4	95	7	2.05	1.46	1.67	1.73	2.3	7	10	8	12
1928	35.9	84	− 6	0.92	0.88	0.92	0.91	5.0	5	12	10	8
1929	41.5	85	− 9	1.68	1.36	0.88	1.31	3.4	6	12	9	9
1930	47.3	86	8	1.16	1.14	1.45	1.25	0.5	6	14	7	9
1931	44.1	87	3	0.75	0.37	0.18	0.43	0.7	2	18	8	4
1932	44.1	79	0	2.50	2.09	1.84	2.14	0.7	8	9	9	12
1933	40.0	84	2	1.44	1.20	1.35	1.33	7.3	5	11	9	10
1934	43.7	95	7	0.75	0.34	0.24	0.44	1.9	3	15	8	7
1935	38.4	83	0	2.62	1.75	1.42	1.93	3.6	8	9	9	12
1936	35.6	87	−15	0.53	0.26	0.37	0.39	0.5	4	14	10	6
Period	41.4	99	−22	1.72	1.32	1.21	1.42	3.3	5	12	8	10

Climatological Data for April 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	36.8	−5.2	78	13	−4	6	40	0.39	−1.28	0.35	0.4	3	10	1	19	nw.	I. Idso.
Cavalier	Pembina	894	26	34.0	......	72	13	−4	7	40	0.07	−1.28	0.03	T.	4	17	8	5	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	36.2	......	77	13	3	3†	42	0.16	−1.23	0.16	T	1	20	4	6	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	39	33.8	−5.0	73	13	−1	7	36	0.44	−1.08	0.29	0.3	6	10	10	10	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	35.8	−6.9	83	13	−2	7	52	0.62	−1.15	0.28	0.5	5	3	21	6	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. D. Warner.
Ellendale	Dickey	1,457	41	38.0	−5.6	84	13	0	7	51	1.06	−0.73	0.38	0.5	5	13	9	8	nw.	J. E. Demmer.
Fullerton	Dickey	1,439	38	37.8	−5.0	82	13	1	7	48	1.20	−0.94	0.37	0.8	5	10	10	10	nw.	F. O. Alin.
Grafton	Walsh	827	44	35.8	−4.8	72	13	−2	7	43	0.47	−0.74	0.42	T.	2	17	9	4	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	45	33.8	−7.9	70	13	−5	7	37	0.40	−1.22	0.15	1.7	6	6	20	4	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	36.4	......	75	13	1	7	45	1.06	......	0.50	T.	5	18	4	8	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	44	32.2	−5.9	67	18†	−12	7	39	0.12	−0.92	0.06	1.2	3	13	13	4	nw.	James Muir.
Hillsboro	Traill	901	30	35.8	−7.0	71	13	−2	7	37	0.16	−1.68	0.16	T	1	16	9	5	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	35.4	−6.7	80	13	−2	7	51	0.31	−1.27	0.25	T.	3	10	13	7	nw.	S. Calvelage.
Langdon	Cavalier	1,615	40	29.4	−8.4	70	13	−15	8	55	0.00	−1.15	0.00	0.0	0	21	9	0	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	43	34.6	−5.8	72	13	−5	7	43	0.28	−1.32	0.15	0.5	2	19	8	3	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	36.4	−6.0	79	13	−1	7	50	0.99	−0.82	0.44	0.1	6	12	10	8	nw.	J. O. Halverson.
McLeod	Ransom	1,075	25	39.1	−5.1	80	13	−1	6	44	1.12	−0.81	0.48	T.	4	19	6	5	se.	J. G. Carlson.
Mayville	Traill	975	40	37.0	−6.0	76	14	−1	7	41	0.17	−1.40	0.05	0.1	6	9	19	2	n.	H. B. Addicott.
Oakes	Dickey	1,318	7	38.4	......	85	13	−1	7	50	1.11	......	0.40	1.0	6	7	16	7	nw.	Eugene Naylor.
Park River	Walsh	998	32	32.2	−9.1	72	13	−6	7	51	0.23	−1.05	0.23	T.	1	14	10	6	nw.	C. B. Wright.
Pembina	Nelson	1,520	6	32.0	−6.6	68	26	−10	7	40	0.12	−1.08	0.08	0.8	2	21	4	5	nw.	E. N. Russell.
Sharon	Steele	1,516	12	34.3	......	73	13	−5	7	39	0.31	−1.19	0.13	1.5	6	10	10	10	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	37.0	−5.6	79	13	−2	7	48	0.35	−1.19	0.22	0.1	4	16	8	6	ne.	I. C. Robertson.
Wahpeton	Richland	962	44	38.8	−5.6	77	13	−1	7	41	1.52	−0.41	0.60	0.9	10	17	7	6	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	35.9	−4.7	72	13	2	7	36	0.74	−1.44	0.46	1.1	5	7	14	9	n.	U. S. Weather Bureau.
Average for Eastern Division		......	......	35.5	−6.0	85	13	−15	8	55	0.53	−1.05	0.60	0.4	4	14	10	6	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	40	37.8	−4.8	81	13	−2	7	44	0.81	−0.85	0.30	1.0	4	18	5	7	nw.	H. D. Piper.
Bismarck	Burleigh	1,670	62	38.1	−4.0	81	19	3	7	45	0.37	−1.15	0.33	0.1	5	11	9	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	33.4	−5.7	73	18	−9	7	42	0.09	−0.68	0.06	0.7	3	23	5	2	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	38	34.4	−5.2	79	13	−4	6	46	0.20	−1.05	0.20	0.0	1	10	11	9	nw.	L. A. Swanson.
Carson	Grant	2,500	24	36.7	−6.0	85	19	−5	3†	43	0.89	−0.35	0.80	1.0	4	11	6	13	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	35.6	−6.4	71	18	−9	6	40	0.10	−1.14	0.10	T.	1	13	7	10	nw.	R. L. Williams.
Drake	McHenry	1,634	7	33.2	......	71	13	−4	7	40	0.12	......	0.04	0.3	6	11	7	12	nw.	Peter Anton.
Dunseith	Rolette	1,682	40	32.5	−7.4	71	18	−9	7	41	0.02	−0.80	0.02	0.2	1	17	11	2	nw.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	33.2	−7.4	75	18	−14	5	45	0.07	−0.79	0.02	T.	4	12	13	5	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	37.8	−6.8	76	19	0	3†	41	0.20	−0.76	0.10	0	2	13	13	4	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	24	34.4	−6.3	76	13	−3	7	41	0.09	−1.16	0.08	0.5	2	10	12	8	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	42.6	−2.3	85	14†	1	3	43	1.10	−0.18	0.55	T.	3	18	6	6	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	34.6	......	73	18	−8	5	40	0.07	−1.28	0.04	T.	2	11	12	7	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	37.8	......	77	13	−1	7	35	0.33	......	0.26	0.1	4	17	7	6	nw.	A. H. Haut.
Garrison	McLean	1,901	59	34.6	−7.7	76	18	−5	3	46	0.13	−0.96	0.08	T.	3	16	6	8	nw.	W. F. Robinson.
Granville	McHenry	1,504	29	34.2	−6.6	74	18†	−8	5	41	T.	−0.81	T.	T	0	11	9	10	nw.	W. A. Christianson.
Hansboro	Towner	1,597	28	32.6	−6.3	70	18	−11	7	46	0.26	−1.00	0.10	2.0	4	18	6	6	nw.	C. E. Blackorby.
Leeds	Benson	1,515	.....	37.0	.....	84	13	−1	7	48	T.	......	T	T.	0	17	11	2	w.	Ole Semb.
Linton	Emmons	1,711	19	38.6	−4.1	85	19	−4	3	55	0.94	−0.31	0.43	0.1	5	10	12	8	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	35.8	−5.8	79	18	−9	7	46	0.21	−0.99	0.05	1.5	5	18	3	9	ne.	Edw. Tapley.
Maddock	Benson	1,604	21	35.2	−5.8	75	13	−2	7	40	0.38	−0.75	0.18	T.	3	8	13	9	nw.	A. T. Felland.
Mandan	Morton	1,750	22	36.8	−5.9	80	19	0	7	45	0.48	−0.69	0.34	T.	3	14	3	13	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	32.3	......	74	13	−9	3†	43	0.26	......	0.12	0.5	3	16	0	14	......	A. W. Rice.
Minot	Ward	1,557	40	32.0	−8.8	68	13	−9	5	43	0.06	−1.14	0.05	T.	2	12	12	6	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	34.3	−6.2	77	18	−9	5	45	0.06	−0.84	0.05	T.	2	8	16	6	nw.	John Behan.
Napoleon	Logan	1,955	44	36.2	−5.2	81	13	−6	7	44	0.43	−1.11	0.15	1.2	10	18	3	9	nw.	C. J. Hoof.
New Salem	Morton	2,163	32	37.0	−5.4	83	19	−4	3	51	0.68	−0.36	0.58	0.3	4	16	8	6	nw.	J. Christianson.
Pettibone	Kidder	1,856	27	35.4	−5.5	78	13	−2	6	45	T.	−1.12	T.	T.	0	12	8	10	nw.	Sam Loeppke.
Steele	Kidder	1,857	42	34.2	−9.0	78	13	−2	7	46	0.02	−1.14	0.02	T.	1	10	9	11	nw.	R. S. Armstrong.
Towner	McHenry	1,482	34	34.3	−7.6	74	18	−11	6	43	0.10	−0.77	0.10	0.8	1	17	8	5	sw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	33.6	−7.9	70	18	−6	5	38	0.05	−0.98	0.03	0.0	2	21	2	7	n.	M. A. Slettum.
Velva	McHenry	1,511	9	36.0	......	75	13	−7	5	40	0.14	......	0.05	0.5	5	7	13	10	nw.	Oscar Anderson.
Washburn	McLean	1,731	35	37.0	−6.8	80	19	1	1†	41	0.08	−0.89	0.05	0.0	2	18	5	7	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	32.6	−7.3	73	18	−9	1	44	0.15	−0.65	0.10	0.0	2	15	11	4	sw.	J. H. Munn.
Willow City	Bottineau	1,471	44	31.0	−8.6	74	18	−12	7	44	0.03	−0.84	0.03	0.5	1	17	10	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	37.3	−4.6	84	13	−3	7	54	0.71	−0.64	0.20	0.6	8	......	......	......	nw.	E. W. Davis.
Average for Middle Division		......	......	35.3	−6.2	85	14†	−14	5	55	0.26	−0.85	0.80	0.4	3	14	9	7	nw.	......
Western Division																				
Arnegard (near)	McKenzie	2,238	23	35.6	−5.5	82	18	−9	3†	49	0.17	−0.99	0.10	0.0	2	19	7	4	nw.	Chas. A. Benson.
Beach	Golden Valley	2,759	30	38.6	−3.4	85	19	−4	3	46	0.34	−0.81	0.14	0.6	5	12	13	5	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	30.6	−12.9	75	19	−8	3	42	0.20	−0.81	0.20	T.	1	18	2	10	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	38.2	−4.4	85	19	−4	3	46	1.36	+0.24	0.85	0.5	8	12	12	6	nw.	George Larsen.
Crosby	Divide	1,954	28	32.8	−7.4	78	18	−9	7	47	0.42	−0.56	0.20	1.4	5	11	9	10	s.	J. H. Phelps.
Dickinson	Stark	2,543	44	35.4	−6.7	83	19	−4	3	52	0.21	−0.87	0.11	1.7	6	10	11	9	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	35.8	−6.0	84	19	−3	3	52	0.06	−1.20	0.04	0.0	2	10	11	9	s.	W. F. Moede.
Hettinger	Adams	2,675	29	38.7	−4.1	84	19	−6	3	53	1.03	+0.06	0.62	0.6	7	18	6	6	se.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	34.1	−5.0	77	18	−10	4†	47	0.02	−1.10	0.01	T.	2	14	14	2	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	35.8	......	76	18	−5	1	40	0.07	−0.88	0.05	0.0	3	16	8	6	w.	Synthia M. Costello.
Marmarth	Slope	2,714	27	41.5	−1.5	87	19	−4	3	54	0.45	−0.57	0.32	1.8	4	11	9	10	nw.	S. P. Grane.
Mott	Hettinger	2,424	29	40.2	−1.6	87	19	−4	3	55	0.98	−0.23	0.81	0.5	7	15	4	11	nw.	W. M. Hendricks.
New England	Hettinger	2,400	42	38.8	−3.5	83	18	−7	2	49	0.78	−0.23	0.38	T.	6	11	10	9	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	21	30.6	......	72	18	−15	5	42	0.08	−0.87	0.05	T.	4	11	15	4	se.	C. E. Shubert.
Portal	Burke	1,954	31	32.0	−9.4	74	18	−14	1	45	0.16	−0.81	0.16	T	1	13	6	11	w.	R. G. Wegener.
Powers Lake	Burke	2,205	31	33.2	−7.6	70	18	−9	1	38	0.50	−0.71	0.22	5.0	3	22	7	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	20	38.6	−2.5	81	19	−2	3	52	0 48	−0.66	0.32	0.5	4	8	11	11	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	11	34.6	−7.9	78	18	−10	3†	57	0.14	......	0.09	T.	2	7	17	6	nw.	H. J. Bugge.
Williston	Williams	1,878	57	37.2	−4.8	82	19	−2	5	46	0.12	−1.08	0.08	0.4	2	12	12	6	se.	U. S. Weather Bureau.
Average for Western Division		......	......	35.9	−5.9	87	19	−15	5	57	0.37	−0.72	0.85	0.7	4	13	10	7	nw.	......
Average for the State		......	......	35.6	−6.0	87	19	−15	5†	57	0.39	−0.87	0.85	0.5	4	14	10	6	nw.	......

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for April 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																		
Amenia	Red	.01	.03	T.		T										T.												T	.35	T.	T.		0.39
Cavalier	do												.01	.02		.01	.03				T.	T.		T.	T.	T		T.	T.				0.07
Cooperstown	Sheyenne	T.					T																		T				T.		.16		0.16
Courtenay	James																								T.	.04				.12		0.16
Devils Lake ***	Devils Lake			T.	T.	.01	T.			T.		T.	.03		T					T.	T.		.01	.04	T		.06	.29		T.		0.44
Edgeley	James			.05																				.12			.28		.12	.05		0.62
Edmore	Devils Lake																																.....
Ellendale	James			.06																				.25			.09	.38		.28		1.06
Forman	Sheyenne			.04		.01				T.														.28			.04	.54		.27		1.18
Fullerton	James	T.			.08																		T.	.37	T.		.10	.33		.32		1.20
Grafton	Red						T.	T.			T.		T.			.05					T.			T	T				.42				0.47
Grand Forks ***	do	T.	T.				T.	T.			T.	T.	T.	T.	T	.01					.03			.01	.14			T.	.06		.15		0.40
Hankinson‖ ‖	do	T.			.04	T.	T				T.														.35			.02	.50		.15		1.06
Hannah	Pembina						T	.02					T		T						T.			.04					.06				0.12
Hillsboro	Red													T.		T.					T.				T.			T.	.16		T.		0.16
Jamestown ‖ ‖	James						T.	.05																	.01						.25		0.31
Langdon‖ ‖	Pembina																																0.00
Larimore	Red						T.				T.			T.							T.			T.	.15				.13		T.		0.28
Lisbon	Sheyenne	T.	T		T.	T.		.01								T.										.21		.17	.09	.44	.07		0.99
McLeod	do	T				T.					T.														.25			.23	.48		.16		1.12
Mayville	Red	T.					.01							.01			T				T.			T.	T.	.05		.03	.05	T.	.02		0.17
Oakes	James			.07		.01																			.33			.13	.40		.17		1.11
Park River	Red						T.														T			T.		T.				.23				0.23
Pembina	do						.04	T.									.08				T.								T.				0.12
Petersburg	do						T														T			.01	.11				.03		.01		0.16
Sharon	do	T					.01	T.			T.			.01		T.					T.			T.	.10	.01		T	.05		.13		0.31
Valley City	Sheyenne						.01																		T.			.01	.11		.22		0.35
Wahpeton	Red			.05		.02	T.			.04	.09	T	T.											.32	.08		.13	.60	.01	.18		1.52
Moorhead, Minn. ***	do	T.			T.		.07				T.	T.		T.							T.			T.	.09			.10	.46		.02		0.74
Middle Division																																		
Ashley	Missouri	T.			T		.02																		.29				.30		.20		0.81
Bismarck ***	do	T.	.01		T.	T.	T.					.01													.01			.01	T.		.33		0.37
Bottineau	Mouse						.06	.01																			'02					0.09
Carrington ‖ ‖	James																														.20		0.20
Carson	Heart	.05			.02	.02																									.80		0.89
Dogden Butte	Mouse						T	T.				T.													T			T.	.10				0.10
Drake‖ ‖	do						.01	.02					T			.01										.03		.01	.04				0.12
Dunseith	do						.02	T																									0.02
Eckman	do						T.	.02						T.											.02			.02	.01				0.07
Energy	Missouri																								.10		T.				.10		0.20
Fessenden ‖ ‖	James																									.08		.01					0.09
Fort Yates	Missouri	T	T.				T.																		.05			.50			.55		1.10
Foxholm (near)	Mouse						T.					.04													.03		T.		T.				0.07
Gackle	James						T.																		.02			.03	.02		.26		0.33
Garrison ‖ ‖	Missouri						T.						.01															.04	.08				0.13
Granville	Mouse				T.		T.	T.	T.																T.			T.	T		T.		T.
Hansboro	Devils Lake														.05									.10				.03	.08				0.26
Leeds	do						T.							T																			T.
Linton	Missouri	T.	T.				T.						.03												.04			.43	.04		.40		0.94
McClusky	do				.04		.05	.04																		.05			.03					0.21
Maddock	Sheyenne	T.					T.						T.												.07			.13	.18				0.38
Mandan ‖ ‖	Missouri	T.			T							T.											T	.03			T.	T.	.11	.34		0.48
Manfred	James						.01																		.05				T.				0.06
Max ‖ ‖	Missouri						.04																					.12	.10				0.26
Minot‖ ‖	Mouse								T.																	T.		.05	.01				0.06
Mohall	do	T.					T.	T				T.	T.	T.											.01			05	T.				0.06
Napoleon ‖ ‖	Missouri	.02	.03			.02		.03					.02												T.	.02		.15	.05	.06	.03		0.43
New Salem	Heart	.02	T.	T.	T.	.01	T.						T.												.07						.58		0.68
Pettibone	James																								T.						T.		T.
Rugby (near)	Mouse						.02									.01									.01			T.	T.				0.04
Ryder	Missouri							.10				T.	.01													.01		.04	T.				0.16
Steele	do	T.					T.																		T						.02		0.02
Tagus	Mouse						.10	.05				.04		T.											.04		.02	T.	.02				0.27
Towner	do						.10	T				T																T.				0.10
Turtle Lake	Missouri																								.03			T.			.02		0.05
Tuttle	do		T.		.03	T.	.01					.01													.02				T		.01		0.08
Velva	Mouse				T.		.02	T.				.01													.01			.05	.05		T		0.14
Washburn ‖ ‖	Missouri																									.05			.03				0.08
Westhope	Mouse											T				.10												.05					0.15
Willow City	do						.03					T.												T.		T.		T.				0.03
Wishek ‖ ‖	Missouri	.02	.01		.01			.02																		.20		.20		.15	.10		0.71
Zap	Knife						T.																		.09		.02	.09			.20		0.40
Western Division																																		
Alpha	Lit. Missouri	.04	T.		T.		T.	T	T		T.	T.												T.	.07			.04			.33		0.48
Arnegard (near)	Missouri											T												.07		T.	.10						0.17
Beach	Lit. Missouri	.06				.01	T.																		.03			.10			.14		0.34
Berthold Agency	Missouri							T.	T			T.													T.			.20					0.20
Bowman	Grand	T.		T.	.02		T	.03			T.													.19	.03			.15	.04	.05	.85		1.36
Corinth	Missouri						.05	.08				.18													.09		.05	.08					0.53
Crosby‖ ‖	Mouse							.02	.05	.07			.20																.08				0.42
Dickinson ‖ ‖	Heart	.03	.01	T.		T.	T.	T.	T.			.01	.03												.02	.11			T				0.21
Dunn Center‖ ‖	Knife.																									.04			.02				0.06
Epping	Missouri						T.					.02													.08		.03	.03					0.16
Fairfield	Knife																														.15		0.15
Fryburg	Heart	T.	.05	T.	.02							T.	T.								T.				.10			.02			.28		0.47
Hettinger	Grand	.04			.02																		.15	.03			.13		.04	.62		1.03
Howard (near)	Missouri					T.						T.	T.		T.											.01	.01	T					0.02
Kenmare	Mouse											.01													.05		T.	.01	T.				0.07
Marmarth	Lit. Missouri	.07			T.																			.01	T.			.05			.32		0.45
Mary	do	.05	T.								T.	.03													.04								0.12
Mott	Cannon Ball	.03			T.	T			.02				.01											T.	.05			.04	.02		.81		0.98
New England‖ ‖	do						.01					.01												.15			.05			.18	.38		0.78
Parshall ‖ ‖	Missouri						T.	.01	T.			.01													.01		T.	.05					0.08
Portal ‖ ‖	Mouse						T.		T																		.16		T.				0.16
Powers Lake	Missouri							.22																		.21		.07						0.50
Richardton	Heart	.04	T	T	T.			T.				.02													.10				T.		.32		0.48
Sanish ‖ ‖	Missouri	T.						T.	T																	.05		T.	.09				0.14
Tioga ‖	do					T.	.02																		.06			.08					0.16
Trotters	Lit. Missouri																								.12		T	.12					0.24
Williston ***	Missouri						T.	.04				T.			T.									T.	.08		T	T.					0.12

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum	30	30	32	34	33	34	33	48	50	52	54	60	78	68	60	50	54	50	52	50	41	54	56	58	60	64	60	55	52	52	....	50.2
	Minimum	5	6	8	10	8	-4	5	28	26	30	29	36	38	31	30	27	24	26	28	27	26	14	34	29	31	33	32	30	28	30	....	23.5
Devils Lake	Maximum	18	19	28	24	27	27	29	47	52	56	49	52	73	47	51	53	52	67	57	34	35	49	45	36	54	63	55	33	54	53	....	44.6
	Minimum	1	7	4	9	4	2	-1	28	26	35	33	34	37	35	34	28	27	32	32	22	18	19	28	26	29	30	33	26	23	30	....	23.0
Edgeley	Maximum	18	17	30	30	27	28	32	58	56	56	56	60	83	71	60	54	52	65	64	67	40	51	54	40	54	60	58	50	50	47	....	49.6
	Minimum	9	6	11	21	9	17	-2	12	26	26	32	26	31	31	30	20	18	24	20	30	11	17	32	20	28	42	26	24	34	27	....	21.9
Ellendale	Maximum	22	23	36	34	30	29	32	59	54	64	58	63	84	62	54	55	56	65	73	45	43	55	45	36	54	62	68	45	48	44	....	49.9
	Minimum	11	9	5	23	8	17	0	29	30	25	34	35	33	33	34	28	24	29	35	35	15	22	35	32	30	29	45	32	27	37	....	26.0
Fullerton	Maximum	21	22	35	31	28	27	32	58	54	62	57	62	82	67	55	55	53	64	70	57	43	55	51	38	56	63	67	49	50	45	....	50.3
	Minimum	12	8	5	21	8	17	1	29	29	27	32	31	34	34	32	27	21	28	34	31	14	20	34	31	29	31	45	31	27	37	....	25.3
Grafton	Maximum	22	24	31	30	29	29	25	43	51	56	55	51	72	68	51	50	53	66	67	61	35	47	47	45	53	66	65	45	54	56	....	48.2
	Minimum	-1	2	7	10	2	14	-2	23	27	33	36	36	32	34	35	33	29	30	36	29	18	15	29	25	30	23	42	27	23	28	....	23.5
Grand Forks	Maximum	18	26	31	23	28	28	28	42	47	53	55	50	70	45	50	50	51	64	54	38	36	46	46	35	53	64	63	36	51	55	....	44.5
	Minimum	5	2	6	11	3	5	-5	27	25	33	33	36	33	35	35	31	26	31	34	24	19	18	30	28	25	28	32	28	28	31	...	23.2
Hillsboro	Maximum	25	24	31	31	28	28	27	46	49	54	53	51	71	70	47	47	48	64	62	45	34	48	47	45	55	63	63	50	50	48	....	46.8
	Minimum	9	7	9	13	4	16	-2	26	26	32	34	36	34	35	32	32	28	29	37	30	19	17	32	28	29	26	42	29	29	30	....	24.9
Jamestown §	Maximum	20	22	33	31	28	26	32	53	56	60	55	56	80	58	55	55	54	68	70	49	41	60	46	38	59	60	66	42	50	44	....	48.9
	Minimum	8	5	2	5	9	9	-2	2	28	28	33	32	31	34	31	31	31	26	33	29	15	19	23	28	23	28	32	26	24	25	....	21.9
Langdon §	Maximum	10	20	26	20	26	28	25	40	45	50	50	47	70	38	40	50	53	50	35	34	47	44	42	45	64	54	40	32	52	60	....	41.2
	Minimum	-6	-5	-4	-9	10	14	-5	-15	20	28	34	33	30	27	25	28	23	29	28	23	14	15	23	25	25	25	30	22	15	25	....	17.6
Larimore	Maximum	20	27	29	25	29	28	29	43	52	54	53	51	72	60	53	53	51	64	55	40	36	49	45	43	54	68	65	47	55	54	....	46.8
	Minimum	0	3	7	10	0	15	-5	26	25	32	33	35	33	35	34	29	24	29	32	28	16	11	29	23	27	25	40	26	24	26	....	22.4
Lisbon §	Maximum	19	21	36	33	31	29	34	57	53	64	59	62	79	58	55	56	54	65	65	43	42	52	46	39	52	60	67	48	48	46	....	49.1
	Minimum	13	9	8	12	10	17	-1	7	28	27	32	25	37	37	32	27	22	23	37	33	18	19	25	32	29	26	44	31	27	28	....	23.8
Oakes	Maximum	23	27	38	34	31	29	31	59	55	64	61	65	85	74	59	57	54	66	71	45	43	55	53	39	57	64	69	60	49	46	....	52.1
	Minimum	18	8	5	23	8	16	-1	29	27	27	29	30	35	33	30	24	19	22	32	31	14	20	34	31	29	30	43	30	26	37	....	24.6
Sharon	Maximum	20	22	30	25	28	23	27	50	54	55	51	51	73	57	50	53	51	65	57	43	37	48	42	38	51	62	61	41	60	48	....	45.8
	Minimum	5	5	4	12	4	10	-5	26	27	34	31	33	34	34	32	26	26	27	37	26	16	16	28	24	24	29	41	26	24	29	....	22.8
Valley City	Maximum	20	21	32	30	30	30	31	55	54	61	55	56	79	78	56	55	53	66	66	58	40	52	52	46	56	63	63	61	51	52	....	50.7
	Minimum	9	7	5	18	8	17	-2	27	25	28	32	33	34	30	32	27	20	22	36	20	17	18	32	27	26	24	44	28	25	31	....	23.3
Wahpeton	Maximum	21	26	35	35	33	29	28	55	53	58	56	61	77	76	54	55	52	62	68	67	40	52	52	44	56	63	67	66	46	49	....	51.2
	Minimum	14	8	9	25	11	17	-1	25	27	31	33	37	36	38	32	29	24	24	35	33	19	19	36	32	29	29	40	32	29	39	....	26.4
Moorhead, Minn.	Maximum	17	23	31	32	27	27	30	47	50	53	53	56	72	48	50	51	49	61	60	40	36	50	45	41	54	63	65	49	46	50	....	45.9
	Minimum	10	7	9	14	8	6	2	28	30	33	35	37	36	37	35	32	29	31	38	24	20	23	33	32	30	31	34	30	29	35	....	25.9
Middle Division																																	
Ashley	Maximum	19	20	34	31	28	27	31	56	56	62	59	60	81	71	62	56	57	66	78	67	44	54	49	45	51	61	66	62	50	45	....	51.6
	Minimum	7	6	0	20	10	13	-2	28	28	31	31	32	37	31	35	25	20	26	35	28	12	22	28	29	30	30	44	31	22	35	....	24.1
Bismarck	Maximum	16	19	34	27	31	29	34	53	55	60	55	58	77	62	54	56	58	71	81	43	43	56	47	38	57	61	64	46	54	45	....	49.5
	Minimum	9	10	3	16	5	5	3	29	29	38	34	36	40	32	36	27	27	36	36	27	18	26	36	33	38	38	45	32	20	37	....	26.7
Bottineau	Maximum	18	18	26	27	28	25	25	42	43	50	49	50	67	46	52	54	54	73	67	50	40	50	51	40	55	62	55	54	57	61	....	46.3
	Minimum	-7	0	-5	3	8	9	-9	14	19	30	28	30	39	34	30	25	24	35	33	25	12	19	28	30	29	30	36	25	15	29	....	20.6
Carson	Maximum	13	12	33	26	30	25	37	55	54	58	52	47	47	66	57	61	58	74	85	64	68	58	40	50	48	55	52	46	52	39	....	48.7
	Minimum	6	4	-5	15	5	-5	-4	30	27	36	28	40	39	28	33	22	28	33	43	25	25	33	30	31	31	39	43	29	20	33	....	24.7
Drake §	Maximum	15	18	30	23	28	18	34	42	51	55	51	52	71	50	51	54	57	70	63	39	39	53	42	37	57	60	60	36	57	52	....	45.5
	Minimum	-1	0	0	1	-2	0	-4	2	25	29	32	31	36	33	32	29	26	33	37	27	14	20	24	28	30	29	37	32	20	28	....	20.9
Fessenden §	Maximum	17	20	30	27	28	20	35	50	52	58	52	60	76	52	52	55	55	54	64	38	39	56	56	41	58	61	60	35	57	51	....	47.0
	Minimum	-1	7	-1	8	0	16	-3	10	26	30	32	30	35	33	31	26	23	32	29	27	16	18	30	28	30	25	41	30	17	26	....	21.7
Foxholm (near)	Maximum	14	16	25	24	22	26	33	44	47	50	53	52	66	50	51	53	55	73	71	54	38	54	52	42	57	62	58	51	59	58	....	47.0
	Minimum	-4	1	-3	-5	-8	5	-7	28	25	36	32	31	38	33	32	27	28	37	37	25	15	20	30	31	33	30	42	24	19	31	....	22.1
Garrison §	Maximum	14	17	34	21	30	16	36	46	56	53	56	58	74	55	52	58	60	76	72	41	43	57	46	41	60	63	63	46	60	50	....	48.5
	Minimum	-3	-3	-5	1	-3	10	-4	8	26	30	32	12	32	31	32	25	28	35	40	27	14	22	22	32	33	25	41	38	18	27	....	20.8
Granville	Maximum	18	20	27	18	26	15	33	40	52	55	54	53	72	64	52	55	60	74	74	44	44	55	54	42	55	62	60	42	58	57	....	47.5
	Minimum	-5	4	-2	-5	-8	10	-6	20	23	35	33	28	37	34	30	24	22	35	33	28	12	20	30	32	28	22	42	29	18	27	....	21.0
Hansboro	Maximum	18	20	33	34	33	32	25	43	46	50	50	48	65	50	50	50	58	70	62	40	40	50	48	50	54	65	60	35	57	62	....	46.6
	Minimum	-6	-4	-4	-2	-10	-9	-11	22	24	34	34	32	35	33	34	28	25	24	32	24	11	11	25	25	32	25	32	24	16	24	....	18.7
Linton	Maximum	19	20	37	33	30	29	31	55	59	62	59	62	81	66	60	59	60	69	85	80	45	56	55	45	55	58	65	61	51	46	....	53.1
	Minimum	8	7	-4	20	4	5	-1	22	28	34	27	30	38	30	36	20	22	29	30	30	9	26	35	31	34	36	44	34	20	36	....	24.0
McClusky	Maximum	15	18	30	27	29	33	30	48	50	53	51	52	75	69	54	56	57	79	68	63	41	55	50	42	57	66	61	59	54	53	....	49.8
	Minimum	1	5	-5	4	-6	8	-9	25	19	34	29	32	40	29	30	24	23	33	47	25	12	21	31	29	27	29	39	27	16	31	....	21.7
Maddock	Maximum	18	19	18	29	28	27	27	46	51	56	51	54	75	67	52	53	54	68	68	57	37	50	50	44	57	64	59	55	54	54	....	48.1
	Minimum	2	4	2	7	1	12	-2	24	23	34	31	31	35	33	31	25	25	31	34	26	11	17	28	27	29	28	41	27	21	27	...	22.2
Minot §	Maximum	16	18	30	10	28	16	35	47	49	53	46	54	68	46	49	56	57	65	52	36	37	55	38	42	57	58	57	35	56	50	....	43.9
	Minimum	-3	-2	-2	-1	-9	8	-6	4	22	28	30	34	38	33	29	23	28	35	37	26	13	19	23	30	29	26	38	33	16	28	...	20.2
Mohall	Maximum	18	18	28	29	27	26	31	44	46	51	60	52	40	46	53	56	60	77	62	41	40	54	47	45	58	63	63	45	61	61	....	47.7
	Minimum	-8	1	-4	-3	-9	9	-7	20	22	32	31	31	36	32	32	28	26	32	37	25	15	19	29	31	36	25	40	24	18	26	...	20.9
Napoleon §	Maximum	18	20	35	30	27	26	34	52	56	62	57	61	81	65	56	57	60	69	80	43	43	56	47	39	56	62	66	49	55	41	....	50.1
	Minimum	5	6	-5	15	0	15	-6	23	25	34	28	32	37	28	32	21	20	28	36	27	10	22	31	29	25	31	43	30	15	36	....	22.4
New Salem	Maximum	15	14	34	32	30	17	32	50	56	59	57	57	77	62	57	57	60	72	83	71	54	52	59	39	52	51	66	52	52	50	....	50.6
	Minimum	4	5	-4	9	-1	7	-2	26	25	36	32	35	36	36	34	33	24	30	32	23	13	22	32	29	31	30	44	30	15	30	....	23.4
Steele	Maximum	14	14	30	28	28	28	29	50	52	56	50	57	78	53	46	53	52	66	70	66	44	40	35	34	40	50	66	48	60	43	....	46.0
	Minimum	8	8	-1	13	2	4	-2	29	23	23	29	30	34	27	30	24	23	28	38	27	14	22	32	30	28	27	41	30	14	40	....	22.5
Towner	Maximum	18	19	29	31	31	27	31	50	50	55	55	51	70	64	60	55	58	74	73	53	40	53	51	36	37	62	62	55	60	58	...	48.9
	Minimum	-7	-1	-5	-5	-5	-11	-9	20	20	33	33	39	34	30	31	21	20	33	34	28	14	23	25	30	30	32	36	24	17	27	....	19.7
Westhope	Maximum	13	18	26	20	21	23	29	40	49	44	47	49	65	44	49	53	55	73	64	39	37	50	50	46	55	60	41	49	58	62	....	44.3
	Minimum	-9	0	-7	4	-11	7	-8	22	32	40	31	29	36	33	31	25	26	32	36	25	26	20	26	28	33	26	24	25	18	18	...	20.9
Western Division																																	
Arnegard (near)	Maximum	13	12	32	21	28	24	40	47	50	52	45	48	67	57	57	49	71	82	60	45	55	47	45	54	62	60	45	64	56	58	...	48.2
	Minimum	2	4	-9	2	-8	0	-9	28	27	34	32	35	40	36	30	28	39	40	27	17	24	29	30	34	32	36	27	20	30	35	....	23.1
Beach	Maximum	14	16	38	28	32	32	45	52	55	56	64	62	72	67	65	59	65	74	85	48	50	62	46	50	48	64	62	53	63	52	....	52.6
	Minimum	3	2	-4	11	-2	8	5	32	29	35	29	37	33	29	32	26	30	34	39	28	25	27	37	32	37	27	37	32	22	26	....	24.6
Berthold Agency	Maximum	10	10	25	23	26	25	35	35	40	40	40	55	53	53	53	45	44	48	75	43	32	34	46	38	50	44	58	40	60	44	....	40.8
	Minimum	0	5	-8	6	-4	-2	-4	20	22	34	29	30	30	32	32	32	22	38	33	18	14	18	25	28	30	35	35	22	18	34	....	20.3
Bowman	Maximum	12	14	34	23	28	18	41	46	54	65	58	68	75	71	52	61	64	72	85	68	48	61	49	43	46	64	63	53	53	38	....	50.9
	Minimum	3	-3	-4	12	-3	12	5	26	31	35	41	31	40	32	33	23	31	32	39	27	25	31	31	32	36	36	40	34	22	34	...	25.5
Crosby §	Maximum	13	17	27	15	27	8	35	44	44	52	42	55	63	49	51	56	62	78	68	39	46	58	47	41	56	61	59	38	64	63	....	45.9
	Minimum	-5	-6	-6	-7	-8	-5	-9	5	25	27	30	32	29	32	31	29	30	31	32	28	24	22	30	30	31	31	39	24	22	23	...	19.7
Dickinson §	Maximum	14	16	35	22	32	21	49	50	55	58	56	56	74	69	53	58	62	77	83	42	47	60	49	41	51	64	63	40	59	40	....	49.9
	Minimum	3	4	-4	-3	0	5	3	10	24	29	30	30	40	27	31	20	28	32	31	27	19	23	29	32	31	28	35	25	16	26	...	21.0
Dunn Center §	Maximum	12	16	34	19	31	15	44	47	55	56	57	57	71	67	52	58	63	76	84	41	44	59	46	40	57	64	63	45	64	47	....	49.5
	Minimum	4	5	-3	4	0	15	1	11	25	30	29	35	37	27	32	23	27	31	32	28	15	23	31	33	30	29	32	34	15	29	....	22.1
Hettinger	Maximum	17	15	34	32	30	31	49	57	55	62	65	66	72	74	53	60	61	75	84	65	46	58	49	47	45	64	63	55	49	42	....	52.5
	Minimum	6	1	-6	6	-2	13	4	32	31	37	29	43	40	31	35	19	30	34	31	28	24	30	31	31	30	32	40	33	21	34	....	24.9
Howard (near)	Maximum	17	26	17	23	20	16	37	50	43	46	42	51	61	52	50	55	60	77	72	56	44	53	48	54	59	58	48	52	64	59	....	47.0
	Minimum	0	-8	-6	-10	-8	-5	-10	27	25	30	25	32	37	28	30	28	30	34	45	36	14	27	31	35	28	36	26	26	22	30	....	21.2
Kenmare	Maximum	17	18	25	24	25	27	35	44	49	52	51	60	65	46	53	58	59	76	61	56	39	55	54	44	59	61	60	55	62	62	....	48.4
	Minimum	-5	3	-2	-1	-3	7	-4	32	30	35	32	31	32	32	31	25	30	40	38	26	16	23	29	31	35	33	41	24	22	34	....	23.2
Marmarth	Maximum	16	16	34	31	33	30	50	46	54	60	69	70	78	73	68	63	65	79	87	75	50	64	58	48	48	67	67	59	57	52	....	55.6
	Minimum	5	0	-4	15	0	13	3	26	31	37	31	34	50	33	35	34	33	37	33	30	29	35	34	34	38	40	41	34	23	38	....	27.4
Mott	Maximum	18	19	35	33	32	32	45	55	56	63	59	62	79	74	68	61	62	78	87	84	46	59	57	43	51	65	66	60	54	47	....	55.0
	Minimum	7	5	-4	15	0	14	4	32	28	37	28	39	41	29	35	23	28	34	32	29	21	27	34	32	34	28	42	35	16	35	....	25.3
New England §	Maximum	25	37	24	33	24	48	52	56	60	61	67	68	74	53	61	63	74	83	43	52	62	47	48	52	64	66	43	58	42	44	....	52.8
	Minimum	2	-7	12	0	7	4	11	29	33	29	39	37	30	34	24	26	31	34	28	21	28	36	32	36	33	41	34	16	34	33	....	24.9
Williston	Maximum	15	17	30	15	32	29	41	42	53	54	50	56	67	58	52	56	63	78	82	40	46	58	46	41	56	61	59	48	65	58	....	48.9
	Minimum	2	3	-1	2	-2	1	2	29	29	36	33	37	38	31	34	30	37	40	36	27	22	30	35	32	39	33	41	27	27	35	...	25.5

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 5-29-36--1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

Vol. XLV BISMARCK, N. D., MAY 1936 No. 5

GENERAL SUMMARY

May 1936 was a warm and dry month. Only three stations, two in the southeast and one in the extreme northern section, reported precipitation above average. From the central to the extreme southwestern counties the precipitation was very light, but the southeastern and extreme northern counties reported nearly average amounts. The heaviest showers fell on the 5th and 22d and 23d. The State averaged only four rainy days. Temperatures averaged slightly above normal during the first two decades and considerably above normal during the last decade. No frost was reported after the 19th. By the end of the month all crops needed rain badly and pastures and ranges were short and drying rapidly. High winds, accompanied by light to moderate dust storms, were reported at most stations from the 16th to the 23d.

TEMPERATURE

The mean temperature for the State was 61.0°, or 7.6° above the 1892-1936 average for May. The mean for the eastern division was 61.7°; for the middle division, 61.0°; and for the western division, 60.3°. The highest mean temperature was 65.0° at Fort Yates, and the lowest, 56.6°, at Parshall, making a range in mean temperature of 8.4°. The absolute range in temperature was 80°, from 100° at New Salem on the 15th, to 20° at Howard on the 8th. The average daily deficiency in temperature for the State since January 1, 1936, is 6.6°.

PRECIPITATION

The average precipitation for the State was 0.80 inch, or 1.52 inches less than the 1892-1936 average for May. In the eastern division the average amount was 1.05 inches; in the middle division, 0.66 inch; and in the western division, 0.70 inch. The greatest monthly amount reported was 3.69 inches at Edgeley; there was none at Fort Yates. The greatest amount recorded in any 24 consecutive hours was 1.91 inches at Edgeley on the 23d. The accumulated deficiency in precipitation since January 1, 1936 is 2.13 inches. The average snowfall for the State was a trace.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	..	..	4	3	3	..	1	..	1	2	3	4	..	1	1	..	..	..	..	..	..	2	3	1
Fogs	..	1	..	5	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lunar halos	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Solar halos	..	..	4	..	..	..	..	2	3	1	1	..	1	..	..	..	..	..	..	..	..	3	..	..	..	5	..	..	..	2	..
Hail	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	2	..	23	14	1	..	..	1	5	4	..	1	9	5	4	..	..	6	9	3	4	..	5	..	..	..	..	..	2

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.92	30.39	13	29.20	6	10.5	31	sw.	21	66	35	32	72
Devils Lake	29.94	30.39	13	29.29	6	10.3	29	w.	16	73	38	36	80
Grand Forks	29.90	30.34	13	29.24	6	......	33	s.	5	67	....	37	....
Williston	29.89	30.34	13	29.36	6	10.6	35	w.	16	66	35	32	81
Moorhead, Minn	29.93	30.37	13	29.24	6	9.4	25	nw.	31	74	46	42	80
Averages & ext's	29.92	30.39	13	29.20	6	10.2	35	w.	16	69	38	36	78

† And other dates.

COMPARATIVE DATA FOR MAY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	46.6	96	13	3.43	1.84	1.33	2.20	3.9	12	6	8	17
1893	52.2	97	19	1.29	1.14	2.40	1.61	0.2	6	11	8	12
1894	54.6	98	23	1.40	1.24	1.88	1.51	0.0	5	16	9	6
1895	54.4	101	15	2.60	2.88	2.57	2.48	0.0	8	10	11	10
1896	56.9	103	22	5.44	3.70	5.81	4.95	0.0	13	6	14	11
1897	55.4	97	16	0.85	0.61	0.60	0.67	T.	4	16	10	5
1898	52.7	92	14	1.95	1.84	2.15	1.98	0.0	5	15	9	7
1899	50.6	91	16	3.40	4.80	2.27	3.49	0.4	8	9	9	13
1900	59.2	106	15	0.78	0.70	0.59	0.69	0.0	3	18	8	5
1901	60.0	99	19	0.35	0.24	0.33	0.31	T.	2	21	4	6
1902	55.9	94	24	4.31	3.33	3.06	3.57	0.4	10	13	6	12
1903	54.3	96	11	2.52	3.35	3.50	3.12	T.	4	14	8	9
1904	54.2	93	20	2.05	1.64	1.10	1.60	T.	6	14	9	8
1905	50.1	88	10	4.24	2.78	1.72	2.91	4.0	8	12	8	11
1906	50.8	99	11	4.41	4.74	5.59	4.91	0.4	12	9	8	14
1907	44.0	84	6	1.52	1.02	1.39	1.31	3.1	6	12	10	9
1908	50.8	88	9	3.54	2.58	2.57	2.90	0.9	8	13	7	11
1909	51.0	98	5	4.78	3.92	4.68	4.46	0.1	10	12	9	10
1910	50.7	94	10	0.86	0.95	1.28	1.03	0.1	6	12	11	8
1911	55.0	99	6	4.06	2.25	2.39	2.90	T.	8	14	9	8
1912	54.2	90	16	4.17	4.59	4.42	4.39	0.7	11	10	10	11
1913	51.2	100	11	1.75	1.63	1.74	1.71	0.2	9	10	10	11
1914	55.2	95	16	1.83	2.56	1.98	2.12	1.0	8	16	8	7
1915	51.1	98	15	3.37	3.21	2.81	3.13	0.4	9	10	10	11
1916	51.0	95	7	2.95	1.70	1.64	2.10	0.3	8	11	11	9
1917	51.2	98	15	0.21	0.29	0.53	0.34	0.1	2	20	7	4
1918	51.7	99	6	2.58	2.40	1.83	2.27	0.5	9	10	11	10
1919	55.5	101	16	4.29	3.14	1.91	3.11	0.4	9	16	8	7
1920	53.9	89	20	2.40	1.34	1.54	1.76	0.1	7	13	10	8
1921	53.8	90	21	2.75	2.22	2.36	2.44	T.	9	13	10	8
1922	56.3	93	24	4.29	2.81	3.08	3.39	0.1	12	10	11	10
1923	54.1	100	13	2.56	1.57	1.17	1.77	0.2	6	15	10	6
1924	46.9	84	15	1.05	0.57	0.81	0.81	0.0	5	12	10	9
1925	53.6	111	10	1.94	1.17	1.22	1.44	T.	4	17	9	5
1926	58.5	105	10	2.07	2.09	2.45	2.20	0.0	7	13	11	7
1927	48.0	87	13	5.21	6.06	5.77	5.68	3.2	14	6	8	17
1928	58.2	107	16	1.02	1.23	1.00	1.08	0.0	5	18	7	6
1929	49.1	92	8	2.00	2.69	4.28	2.99	0.4	7	16	9	6
1930	50.8	98	18	3.76	2.40	1.69	2.62	0.7	9	12	8	11
1931	53.1	100	10	2.17	1.09	0.98	1.41	0.3	6	16	7	8
1932	55.9	98	25	2.66	2.02	1.76	2.15	2.2	6	13	9	9
1933	54.8	98	19	2.78	3.18	3.50	3.15	T.	9	9	10	12
1934	63.6	111	18	0.46	0.32	0.29	0.36	0.0	3	17	10	4
1935	49.5	89	20	2.11	2.93	2.79	2.61	1.5	12	6	11	14
1936	61.0	100	20	1.05	0.66	0.70	0.80	T.	4	19	9	3
Period	53.4	111	5	2.55	2.21	2.21	2.32	0.5	7	13	9	9

Climatological Data for May 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	63.8	+9.8	93	31	31	9	45	2.88	+0.01	1.30	0	4	11	12	8	s.	I. Idso.
Cavalier	Pembina	894	26	59.4	......	95	27	28	2	53	0.43	−1.97	0.15	0	5	16	11	4	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	61.0	......	95	30	27	13	45	0.19	−2.41	0.08	0	4	23	7	1	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	39	60.3	+7.7	92	30	30	13	41	0.65	−1.38	0.29	T.	6	15	9	7	s.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	61.5	+7.8	89	31	26	13	52	3.69	+1.06	1.91	0	5	7	24	0	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. D. Warner.
Ellendale	Dickey	1,457	41	61.6	+5.9	91	30	33	13	44	1.10	−1.67	0.80	0	3	23	5	3	s.	J. E. Demmer.
Fullerton	Dickey	1,439	38	61.6	+7.6	92	30	30	13	44	1.67	−1.51	1.38	0	3	18	11	2	nw.	F. O. Alin.
Grafton	Walsh	827	44	61.8	+8.5	94	30	31	13	45	0.36	−1.81	0.20	0	4	13	14	4	se.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	45	60.9	+7.2	91	30	29	13	45	1.00	−1.59	0.60	0	5	5	24	2	n.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	61.8	......	95	31	35	3†	42	1.83	......	0.83	0	8	28	1	2	se.	Joseph Rindt.
Hannah	Cavalier	1,568	44	60.8	+10.2	94	29	28	4†	48	0.71	−1.41	0.47	0	3	10	17	4	sw.	James Muir.
Hillsboro	Traill	901	30	61.8	+7.9	94	31	33	2	45	1.58	−1.51	0.93	0	6	17	11	3	s.	H. F. Lund.
Jamestown	Stutsman	1,457	44	61.6	+8.1	95	29†	31	13	53	0.34	−2.66	0.33	0	2	17	11	3	se.	S. Calvelage.
Langdon	Cavalier	1,615	40	58.2	+7.3	97	28	24	13	50	0.10	−1.92	0.10	0	1	24	2	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	43	61.9	+9.3	95	30	28	2	46	0.12	−2.77	0.12	0	1	21	8	2	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	61.2	+7.3	91	30†	32	13	43	1.42	−1.50	1.18	0	6	13	13	5	nw.	J. O. Halverson.
McLeod	Ransom	1,075	25	64.3	+9.8	94	29	33	3	46	0.66	−2.61	0.45	0	3	25	4	2	nw.	J. G. Carlson.
Mayville	Traill	975	40	64.2	+9.5	95	31	32	13	47	1.38	−1.53	0.95	0	4	9	20	2	s.	H. B. Addicott.
Oakes	Dickey	1,318	7	62.6	......	93	31	30	13	44	1.21	......	0.94	0	5	11	16	4	sw.	Eugene Naylor.
Park River	Walsh	998	32	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. B. Wright.
Pembina	Nelson	1,520	6	60.9	+8.1	97	27	25	13	55	0.63	−1.73	0.40	0	4	22	5	4	s.	E. N. Russell.
Sharon	Steele	1,516	12	61.0	......	94	30	30	4	43	0.14	−2.73	0.10	0	3	11	18	2	ne.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	61.9	+8.4	93	30†	30	4	45	1.51	−1.29	0.88	0	2	23	6	2	w.	I. C. Robertson.
Wahpeton	Richland	962	44	63.3	+7.7	94	31	33	19	40	1.71	−0.95	0.92	0	7	21	5	5	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	62.2	+7.1	91	30	35	19	39	1.22	−1.67	0.65	0	6	10	13	8	s.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	61.7	+8.2	97	27†	24	13	55	1.05	−1.60	1.91	T.	4	17	11	3	s.	....
Middle Division																				
Ashley	McIntosh	2,001	40	61.5	+8.0	90	30	28	13	43	0.42	−2.12	0.30	0	3	24	4	3	se.	H. D. Piper.
Bismarck	Burleigh	1,670	62	62.6	+8.1	92	15	33	13	41	0.12	−2.20	0.06	0	3	15	12	4	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	63.0	+11.7	93	30	26	13	51	0.73	−1.34	0.49	0	5	29	0	2	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	38	59.0	+6.5	94	31	28	18	45	T.	−2.57	T.	0	0	17	8	6	nw.	L. A. Swanson.
Carson	Grant	2,500	24	59.8	+6.7	99	15	26	13	55	0.28	−2.17	0.24	0	2	18	10	3	se.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	61.4	+7.7	90	29†	27	2	46	0.96	−2.01	0.60	0	4	21	5	5	nw.	R. L. Williams.
Drake	McHenry	1,634	7	59.8	......	93	29†	28	4	55	0.42	......	0.21	0	4	14	10	7	sw.	Peter Anton.
Dunseith	Rolette	1,682	40	60.6	+8.5	92	30	25	4	44	0.81	−1.03	0.41	0	3	10	11	10	w.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	60.6	+9.2	95	30	27	13	47	0.78	−1.14	0.38	0	5	12	16	3	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	62.1	−6.7	94	15†	28	13	47	0.20	−1.96	0.15	0	2	19	12	0	w.	H. S. Solenberger.
Fessenden	Wells	1,610	24	59.8	+7.8	97	29	27	13	55	0.04	−2.27	0.04	0	1	19	8	4	se.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	65.0	+8.9	94	15	28	13	50	0.00	−2.30	0.00	0	0	21	7	3	e.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	61.2	......	93	15	29	19	49	1.29	−0.68	1.10	0	3	14	13	4	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	61.7	......	92	30	30	13	41	0.08	......	0.05	0	2	24	7	0	nw.	A. H. Haut.
Garrison	McLean	1,901	59	61.9	+9.2	97	30	29	2	58	0.62	−1.71	0.28	0	5	21	9	1	se.	W. F. Robinson.
Granville	McHenry	1,504	29	61.1	+9.5	94	30	27	2†	43	1.57	−0.37	1.11	0	3	20	5	6	se.	W. A. Christianson.
Hansboro	Towner	1,597	28	57.9	+7.2	94	30	26	2†	50	2.13	+0.04	1.75	0	3	21	8	2	se.	C. E. Blackorby.
Leeds	Benson	1,515	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Ole Semb.
Linton	Emmons	1,711	19	62.6	+8.4	92	16	25	13	49	0.03	−2.38	0.03	0	1	14	16	1	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	59.3	+6.5	92	30†	27	12†	46	0.25	−2.23	0.22	0	2	25	4	2	nw.	Edw. Tapley.
Maddock	Benson	1,604	21	61.1	+8.4	95	29	25	19	47	0.09	−2.02	0.05	0	2	12	16	3	nw.	A. T. Felland.
Mandan	Morton	1,750	22	62.0	+8.1	93	15	32	13	49	0.04	−2.40	0.03	0	2	18	2	11	se.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	58.4	......	90	15†	28	4†	56	1.19	......	0.63	0	5	18	8	5	nw.	A. W. Rice.
Minot	Ward	1,557	40	59.0	+6.8	93	30	26	2	50	1.23	−0.91	0.80	0	3	19	6	6	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	61.8	+9.5	94	15	28	4	48	1.64	−0.21	0.90	0	6	6	20	5	nw.	John Behan.
Napoleon	Logan	1,955	44	61.4	+9.0	96	30	24	13	47	0.50	−1.93	0.45	0	3	23	6	2	s.	C. J. Hoof.
New Salem	Morton	2,163	32	62.1	+9.7	100	15	31	8	53	0.64	−1.48	0.46	0	2	26	3	2	s.	J. Christianson.
Pettibone	Kidder	1,856	27	60.7	+8.9	95	31	26	13	46	0.08	−2.32	0.08	0	1	18	9	4	nw.	Sam Loeppke.
Steele	Kidder	1,857	42	60.6	+7.2	95	31	26	13	49	0.12	−2.55	0.12	0	1	21	5	5	sw.	R. S. Armstrong.
Towner	McHenry	1,482	34	60.7	+7.5	94	30	27	2†	48	0.65	−1.49	0.65	0	1	22	6	3	sw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	59.5	+6.7	93	31	29	13	47	0.30	−1.93	0.17	0	2	21	2	8	se.	M. A. Slettum.
Velva	McHenry	1,511	9	61.9	......	93	30	27	2	49	1.61	......	1.11	0	3	10	17	4	sw.	Oscar Anderson.
Washburn	McLean	1,731	35	61.9	+8.1	93	31	33	4†	56	0.43	−1.86	0.27	0	3	18	8	5	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	61.8	+10.0	94	27†	25	4	49	0.93	−0.90	0.41	0	4	22	5	4	se.	J. H. Munn.
Willow City	Bottineau	1,471	44	60.2	+8.7	93	29†	26	2†	45	1.44	−0.40	0.82	0	6	22	8	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	61.2^{c}	+10.5	94^{c}	29	23^{c}	13†	54^{c}	0.21	−2.63	0.21	0	1	16	6	9	nw.	E. W. Davis.
Average for Middle Division		......	.....	61.0	+8.3	100	15	23	13†	58	0.66	−1.59	1.75	0	3	19	8	4	se.	....
Western Division																				
Beach	Golden Valley	2,759	30	61.4	+10.0	96	15	25	1	43	0.56	−1.76	0.37	0	3	18	11	2	......	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	58.2	+4.1	95	15	25	7	45	0.92	−1.32	0.40	0	3	25	1	5	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	60.8	+8.6	97	15	30	2	47	0.20	−2.09	0.10	0	4	25	5	1	se.	George Larsen.
Crosby	Divide	1,954	28	59.2	+8.0	98	15	30	8	49	0.55	−1.39	0.18	0	5	18	6	7	s.	J. H. Phelps.
Dickinson	Stark	2,543	44	59.6	+7.4	98	15	29	8†	54	0.61	−1.72	0.29	0	4	16	12	3	se.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	60.6	+7.9	97	15	28	2†	53	0.37	−2.02	0.20	0	3	22	5	4	se.	W. F. Moede.
Hettinger	Adams	2,675	29	61.1	+7.5	98	15	28	13	47	0.44	−1.94	0.39	0	2	20	9	2	se.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	58.4	+8.6	95	15	20	8	45	1.78	−0.49	0.88	T	4	16	8	7	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	62.2	......	92	30	30	4	44	1.52	−0.44	1.10	0	5	15	13	3	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	27	63.4	+12.2	97	14	30	12	52	0.03	−2.29	0.02	0	2	20	6	5	nw.	S. P. Grane.
Mott	Hettinger	2,424	29	62.4	+8.9	96	15	31	13	48	0.27	−2.13	0.23	0	2	19	9	3	nw.	W. M. Hendricks.
New England	Hettinger	2,400	42	64.1	+12.1	99	15	32	7†	46	0.49	−1.49	0.32	0	2	12	12	7	se.	F. S. Sleight.
Parshall	Mountrail	1,929	21	56.6	......	94	16	25	13	45	0.55	−1.62	0.28	0	3	15	15	1	se.	C. E. Shubert.
Portal	Burke	1,954	31	59.0	+8.5	94	15	28	4†	53	1.78	−0.28	1.21	0	5	19	5	7	s.	R. G. Wegener.
Powers Lake	Burke	2,205	31	57.1	+4.4	92	28†	30	7†	36	1.81	−0.37	1.31	0	3	25	6	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	20	60.8	+8.2	92	15	30	8	39	0.46	−2.12	0.32	0	2	15	12	4	se.	Assumption Abbey.
Sanish	Mountrail	1,835	11	60.0	+5.7	96	15	27	2	53	0.68	......	0.50	0	5	21	10	0	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	23	62.3	+9.6	98	15	30	8	51	0.46	−1.51	0.22	0	4	17	7	7	w.	Chas. A. Benson.
Williston	Williams	1,878	57	62.1	+8.1	96	15	32	1	38	0.62	−1.44	0.37	0	6	22	6	3	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	60.3	+7.9	98	15†	20	8	54	0.70	−1.53	1.31	T.	4	20	8	3	se.	....
Average for the State		......	.....	61.0	+8.1	100	15	20	8	58	0.80	−1.58	1.91	T.	4	19	9	3	se.	....

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for May 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red	.10				.30																	T.	1.30								1.18	2.88
Cavalier	do			T.		T	.15	.15					.05						.05			.03											0.43
Cooperstown	Sheyenne	.08		.02		.05	T.						T.																			.04	0.19
Courtenay	James			.02														.02			T.		T.		T.	T.					T.		0.04
Devils Lake ***	Devils Lake	T		.01		T.	T.	T.	T.			T.	.06			.18	.10		.01			.29		T.								T.	0.65
Edgeley	James					.03												.07					1.64	1 91		.04							3.69
Edmore	Devils Lake																																3.69
Ellendale	James					.03					T.													.80		.27							1.10
Forman	Sheyenne	.04	T.			.13					.25							T.						.43		.11						.18	1.14
Fullerton	James	.07											T.					T.					1.38			.22							1.67
Grafton	Red												.07					.20	.03			.06											0.36
Grand Forks ***	do	.05				T.							T.				.01					T.	.12	.22		.60							1.00
Hankinson ‖ ‖	do	.12	.03			.83					.35	.16						T.						.05	.25	.04							1.83
Hannah	Pembina			T.		T	T						.16						.08			.47		T.									0.71
Hillsboro	Red	.14			.11	.16																	.23	.93								.01	1.58
Jamestown ‖ ‖	James					.33	.01																										0.34
Langdon ‖ ‖	Pembina											.10																					0.10
Larimore	Red																		T			.12											0.12
Lisbon	Sheyenne	.08	.02			.02	.10				T.							T.	T.					1.18		T.	.02						1.42
McLeod	do																	.06						.45		.15							0.66
Mayville	Red	.13		.23			.07															T.		.95									1.38
Oakes	James	.04				T.					.04							.02						.94		.17							1.21
Park River	Red																																
Pembina	do							.20					.01					.40	.02														0.63
Petersburg	do												.03									.08											0.11
Sharon	do	.01		.10		.03							T.				T					T		T.									0.14
Valley City	Sheyenne	T.				.63																		.88		T.							1.51
Wahpeton	Red	.01				.92				T.	.34	T.						.05	T				.01	.03		.35							1.71
Moorhead, Minn. ***	do	.03			T.	.19							T						T			T	.60	.05		.08						.27	1.22
Middle Division																																	
Ashley	Missouri																	.06						.30		.06							0.42
Bismarck ***	do	T		T.		.06			T.				T.									T.		T.	.01	T.						.05	0.12
Bottineau	Mouse			.02		.02	.19	.01														.49											0.73
Carrington ‖ ‖	James					T.																											T.
Carson	Heart	.04																				.24											0.28
Dogden Butte	Mouse	T		T.		T.	.11	T.					.17				.08					.60											0.96
Drake ‖ ‖	do	T		T	T	.06	.21						.12									.03											0.42
Dunseith	do					.06	.34					T							T.			.41		T.									0.81
Eckman	do			T.		.11	.16	.05				.08										.38											0.78
Energy	Missouri				T.		T.					T.	.05									.15											0.20
Fessenden ‖ ‖	James													T.			.04																0.04
Fort Yates	Missouri																																0.00
Foxholm (near)	Mouse			T.		.01	.18	T.				T.						T.				1.10											1.29
Gackle	James				.05													.03															0.08
Garrison ‖ ‖	Missouri					.02	.06						.18				.08					.28											0.62
Granville	Mouse			T.		T.	.27	T					T.			.19						1.11											1.57
Hansboro	Devils Lake						.33	.05														1.75											2.13
Leeds	do																																
Linton	Missouri	T				T.												T								.03							0.03
McClusky	do				T		.03										T.					.22											0.25
Maddock	Sheyenne			T.		.04							.05				T.																0.09
Maudan ‖ ‖	Missouri				.03											T.									.01							T.	0.04
Manfred	James												.02				T																0.02
Max ‖ ‖	Missouri					.02	.18						.18				.18	T.				.63											1.19
Minot ‖ ‖	Mouse			T.			.40						.03				T.					.80											1.23
Mohall	do			T.	T.	.05	.07	.09	T.				.11				.90	T.				.42											1.64
Napoleon ‖ ‖	Missouri	.45				.03													.02														0.50
New Salem	Heart												T.			.46						.18											0.64
Pettibone	James					.08	T.																										0.08
Rugby (near)	Mouse						.03	.03					.05			.08					.50												0.69
Ryder	Missouri	T.				.25	.27	.01				.01				.10	.01				.96												1.61
Steele	do					.12							T.																				0.12
Tagus	Mouse			T	T.	.02	.09	.02				.06	T.				.10				.90	.32											1.51
Towner	do							T.	T.													.65											0.65
Turtle Lake	Missouri						.13															.17											0.30
Tuttle	do	.02				.13	.32						.01																				0.48
Velva	Mouse						.22	T.					T.				.28					1.11											1.61
Washburn ‖ ‖	Missouri	.27					.10															.06											0.43
Westhope	Mouse			T.			.16	.05								.31	T.					.41	T.										0.93
Willow City	do			T.		.07	.25	.02				T.	.07			.21		T.				.82											1.44
Wishek ‖ ‖	Missouri	.21																	T														0.21
Zap	Knife					.09								.04		.02					.83												0.98
Western Division																																	
Alpha	Lit. Missouri					.31	.07	.03					.01																				0.42
Beach	do	.14					.37	.05																									0.56
Berthold Agency	Missouri						.40	T.					.22			T						.30											0.92
Bowman	Grand	.04					T	.02					T.			.10		T.				.04											0.20
Corinth	Missouri			.02		.04	.35	.12										T.															0.53
Crosby ‖ ‖	Mouse					T.		.12	.18				.02				.17	.06															0.55
Dickinson ‖ ‖	Heart	.29			T	T.	.23	T.	T				.01	T			T.					.08					T.						0.61
Dunn Center ‖ ‖	Knife	.09					.20															.08											0.37
Epping	Missouri						.53	.25				.03					.10				.01												0.92
Fairfield	Knife						.22																										0.22
Fryburg	Heart						.37	.01					.05									.15						T				T.	0.58
Hettinger	Grand	.05											T									T										.39	0.44
Howard (near)	Missouri					T	.88	.59					.07				.24	T.															1.78
Kenmare	Mouse			T.		.13	.18	.09	T.				.02									1.10											1.52
Marmarth	Lit. Missouri						.01	T				T.						T.														.02	0.03
Mary	do						.10	.11	T.			.05	.10									.11											0.47
Mott	Cannon Ball	.04																				.23											0.27
New England ‖ ‖	do					.32															.17												0.49
Parshall ‖ ‖	Missouri					.28	T.	T.				.06				T.					.21												0.55
Portal ‖ ‖	Mouse			.06			.20	.18									.13	T.				1.21											1.78
Powers Lake	Missouri					.37	.13													1.31													1.81
Richardton	Heart						.14									T.						.32											0.46
Sanish ‖ ‖	Missouri						.11	.02	.02				.03				T.					.50											0.68
Tioga ‖ *	do				.04	.20	.19	.04								.07					.19												0.73
Trotters	Lit. Missouri						.80	.04					.12																				0.96
Watford City	Missouri						.22						.12				.05					.07											0.46
Williston ***	do					.04	.34	.02				.02	.09			T	.11					T											0.62

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum	50	60	58	70	72	85	79	59	75	80	78	79	80	79	79	78	80	78	79	80	81	80	74	76	78	80	87	90	91	90	93	77.4
	Minimum	32	32	36	38	40	40	39	37	31	44	46	48	50	49	46	48	50	54	57	58	60	62	58	60	64	66	68	69	60	58	60	50.3
Devils Lake	Maximum	59	66	75	58	84	79	60	50	72	78	87	71	66	77	84	75	65	68	61	79	75	80	71	82	84	82	90	90	92	92	91	75.6
	Minimum	42	33	36	30	44	52	37	34	31	42	53	37	30	45	47	54	49	39	30	41	57	49	52	48	54	48	56	55	57	60	52	45.0
Edgeley	Maximum	55	61	65	63	86	85	76	78	66	75	71	80	78	80	86	86	76	71	76	81	79	80	76	71	84	80	79	79	88	84	89	77.1
	Minimum	48	41	35	34	39	50	42	35	30	64	56	42	26	36	45	61	48	42	28	62	49	47	50	42	57	53	52	46	50	52	62	45.9
Ellendale	Maximum	45	62	71	62	88	82	67	57	62	71	75	73	65	78	88	81	74	74	79	83	82	82	75	81	86	81	81	85	89	91	90	76.1
	Minimum	41	35	36	36	44	52	44	39	36	47	44	47	33	40	48	63	52	46	35	46	60	51	55	50	53	54	52	51	56	61	57	47.2
Fullerton	Maximum	45	64	73	69	89	82	69	57	63	72	79	72	70	81	88	81	74	73	68	84	83	85	74	82	86	81	86	86	91	92	91	77.1
	Minimum	40	34	35	35	45	51	44	38	35	47	44	48	30	38	48	60	51	45	32	46	62	50	53	45	58	52	49	48	52	56	58	46.1
Grafton	Maximum	64	65	71	69	78	82	82	65	72	79	88	82	69	80	81	81	78	69	66	79	80	85	83	83	84	82	92	91	91	94	91	79.2
	Minimum	43	40	37	33	37	50	45	32	34	41	48	48	31	35	44	60	54	46	36	37	59	45	53	45	50	52	48	54	55	54	65	44.3
Grand Forks	Maximum	58	63	67	58	76	85	71	51	67	76	81	64	67	81	84	82	72	70	62	80	81	87	76	84	84	80	89	88	88	91	88	75.8
	Minimum	40	30	37	34	42	51	47	35	32	39	47	43	29	36	47	58	53	47	33	41	60	50	58	45	53	52	52	56	59	55	65	46.0
Hillsboro	Maximum	48	61	63	64	74	85	83	66	67	75	79	77	67	79	84	83	78	72	70	79	79	87	74	84	87	79	86	88	90	92	94	77.2
	Minimum	41	33	36	35	41	53	47	39	34	43	43	51	34	36	48	58	50	50	34	34	59	54	58	45	53	55	50	56	59	60	49	46.4
Jamestown §	Maximum	60	76	60	75	79	65	54	65	75	85	66	68	84	88	81	73	74	64	83	81	86	78	87	90	84	87	90	94	95	95	72	77.9
	Minimum	36	35	38	33	33	51	46	34	34	39	42	53	31	40	49	55	51	44	32	39	53	49	54	43	55	53	53	57	56	57	63	45.4
Langdon §	Maximum	54	68	73	52	83	85	62	40	71	80	78	56	70	80	80	73	78	65	70	77	75	77	82	75	85	87	81	97	91	93	95	75.3
	Minimum	35	33	30	27	33	45	40	30	29	37	45	47	24	35	45	48	50	40	30	35	45	55	40	48	40	42	50	52	56	56	55	41.2
Larimore	Maximum	60	65	73	65	76	86	76	59	68	76	89	78	69	82	84	82	73	70	65	79	83	86	77	85	92	81	93	92	92	95	91	78.8
	Minimum	41	28	37	32	40	49	44	35	31	41	49	48	29	36	40	62	52	47	30	34	58	46	56	45	56	50	52	57	56	52	63	45.0
Lisbon §	Maximum	45	62	72	60	78	83	70	57	66	72	78	71	67	79	85	82	75	73	68	82	83	85	73	79	85	79	85	88	90	91	91	75.9
	Minimum	39	37	36	36	36	50	46	38	37	43	44	52	32	36	48	56	53	46	34	41	55	49	58	46	62	55	52	51	54	57	64	46.5
Oakes	Maximum	44	63	72	70	89	87	71	64	63	70	76	74	68	80	90	84	77	75	70	84	84	86	77	83	86	81	86	89	92	92	93	78.1
	Minimum	40	33	35	35	45	53	46	39	35	48	43	50	30	38	48	65	50	45	33	47	64	52	56	45	58	52	49	51	57	56	58	47.0
Sharon	Maximum	57	63	72	70	71	84	65	52	66	74	82	68	70	69	81	84	78	73	70	79	77	83	82	80	85	86	87	88	92	94	92	76.6
	Minimum	40	34	40	30	39	51	43	31	35	43	50	49	31	39	46	61	50	45	32	36	57	46	53	41	55	52	52	54	56	56	63	45.5
Valley City	Maximum	49	63	72	72	74	83	79	64	65	73	82	80	69	81	86	86	80	73	70	87	78	84	80	83	87	86	86	90	92	93	93	78.7
	Minimum	39	33	37	30	43	53	44	33	35	45	43	51	32	36	51	59	50	45	32	43	57	43	54	43	58	53	42	49	51	53	62	45.1
Wahpeton	Maximum	48	62	65	65	69	84	83	71	66	65	71	75	66	77	84	84	82	74	73	81	85	83	81	83	87	78	85	89	89	90	94	77.1
	Minimum	41	39	39	34	46	60	48	42	41	52	51	53	34	41	51	65	51	50	33	52	59	63	57	45	60	51	46	53	58	57	64	49.5
Moorhead, Minn.	Maximum	46	61	65	59	70	86	72	55	68	73	74	71	66	78	83	83	75	72	65	79	83	82	76	82	85	78	86	88	89	91	90	75.2
	Minimum	41	38	39	36	45	55	47	41	36	49	48	46	36	39	50	63	54	49	35	47	61	58	56	50	58	57	51	58	60	58	62	49.1
Middle Division																																	
Ashley	Maximum	47	64	79	74	88	86	67	58	61	74	82	80	65	82	86	85	77	72	71	82	83	83	75	80	89	81	82	85	89	90	88	77.7
	Minimum	38	30	38	35	47	52	44	35	34	47	48	45	28	40	47	61	50	42	33	45	63	47	51	43	57	50	53	42	49	55	60	45.3
Bismarck	Maximum	57	65	76	67	86	70	53	52	70	78	86	70	66	82	92	80	66	71	71	84	77	80	74	85	88	85	87	88	90	90	90	76.6
	Minimum	42	39	48	36	52	53	43	36	37	44	51	47	33	44	53	57	49	44	36	48	57	46	53	44	57	54	61	62	65	56	62	48.7
Bottineau	Maximum	63	71	76	62	81	81	61	53	73	83	84	87	77	78	86	86	73	67	64	78	73	77	76	87	84	82	83	92	91	93	91	77.8
	Minimum	36	39	42	28	44	60	40	31	36	51	61	63	26	51	50	55	50	38	32	51	52	54	43	53	54	47	56	46	67	74	64	48.1
Carson	Maximum	49	63	62	63	90	70	52	60	63	80	87	67	66	87	99	80	63	73	62	87	76	80	65	85	90	90	88	85	80	82	88	75.2
	Minimum	36	33	43	36	50	50	40	34	35	40	43	37	26	40	44	53	45	43	45	47	49	43	46	48	51	46	52	53	52	58	62	44.5
Drake §	Maximum	60	67	77	64	84	69	53	49	74	80	88	60	66	78	89	75	63	69	65	81	75	78	72	82	86	85	90	90	93	93	93	75.7
	Minimum	34	33	37	28	29	54	47	31	33	36	45	47	34	40	48	56	48	41	29	32	48	46	49	47	53	50	55	55	58	58	62	44.0
Fessenden §	Maximum	61	68	69	69	84	76	44	46	66	58	87	61	68	81	90	77	66	69	68	86	88	81	80	85	87	86	92	92	97	95	94	76 5
	Minimum	33	31	44	28	29	44	41	31	31	38	46	48	27	38	46	69	48	47	29	37	58	38	42	41	46	56	52	48	52	51	62	43.0
Foxholm (near)	Maximum	60	67	76	63	81	78	61	52	76	82	85	76	66	75	93	86	61	66	62	81	79	74	71	80	80	80	89	89	90	91	89	76.1
	Minimum	40	35	50	30	44	52	41	31	37	42	54	45	34	45	44	58	47	42	29	36	51	47	49	50	53	49	59	55	55	64	63	46.2
Garrison §	Maximum	58	70	80	64	89	68	49	54	83	85	91	60	69	85	95	83	63	75	69	88	77	80	76	87	89	89	91	92	91	97	95	78.8
	Minimum	40	29	47	32	31	55	45	31	33	39	52	49	31	39	50	56	48	42	34	38	55	44	48	44	46	48	56	57	59	59	59	45.0
Granville	Maximum	62	67	78	70	84	70	57	52	76	82	90	62	68	77	89	77	77	68	65	81	78	78	70	81	85	85	89	91	92	94	93	77.0
	Minimum	42	27	47	30	47	53	40	29	33	40	55	45	27	40	48	60	60	40	28	41	50	44	49	52	45	45	55	61	57	55	55	45.2
Hansboro	Maximum	65	68	74	58	83	78	60	50	75	81	82	80	76	78	83	77	70	70	68	75	76	70	72	79	82	83	85	86	91	94	82	75.8
	Minimum	28	26	27	27	42	51	39	28	30	35	35	33	26	40	50	44	51	35	31	34	33	47	47	47	50	44	48	50	52	55	54	40.0
Linton	Maximum	54	67	79	76	88	75	62	58	64	78	86	77	69	86	91	92	83	77	74	85	82	84	78	90	91	88	86	89	91	91	91	80.1
	Minimum	39	28	41	36	50	54	44	36	35	42	37	46	25	45	49	54	39	34	36	43	64	43	47	52	47	50	54	57	61	49	59	45.0
McClusky	Maximum	59	67	77	75	85	81	62	49	71	78	82	66	66	79	89	86	71	68	63	83	73	80	73	83	86	84	89	91	90	92	92	77.1
	Minimum	39	32	42	29	45	52	44	29	29	32	44	27	27	38	51	51	42	38	27	43	54	40	41	42	49	40	51	50	52	55	51	41.5
Maddock	Maximum	58	66	75	75	85	84	67	53	73	79	88	82	68	80	88	87	74	70	69	82	81	80	78	84	88	84	93	92	95	94	93	79.5
	Minimum	40	30	39	28	43	45	41	30	28	39	46	41	26	37	41	58	47	40	25	40	60	40	50	46	46	44	50	50	53	62	59	42.7
Minot §	Maximum	53	73	73	59	80	63	50	48	82	84	88	52	65	75	90	72	57	64	57	79	73	75	74	78	81	83	89	83	92	93	92	73.5
	Minimum	34	26	37	31	30	50	46	30	32	60	52	46	29	35	44	57	46	37	30	37	49	45	48	46	48	49	57	59	52	70	65	44.4
Mohall	Maximum	64	68	77	76	83	82	62	54	78	86	85	83	72	79	94	92	63	67	64	82	80	76	75	82	86	86	92	92	93	93	88	79.2
	Minimum	35	31	46	28	45	52	42	32	33	46	51	45	30	42	46	56	46	41	31	41	51	41	47	48	48	48	50	51	56	55	57	44.3
Napoleon §	Maximum	54	67	77	65	87	77	64	56	63	76	87	66	70	84	89	89	72	73	72	84	80	84	76	86	90	86	88	91	94	96	95	78.6
	Minimum	37	28	40	33	47	53	43	33	31	41	40	51	24	37	48	60	44	38	32	44	63	42	49	40	55	49	53	50	54	56	57	44.3
New Salem	Maximum	54	62	78	61	85	85	65	53	73	80	87	85	65	83	100	95	73	68	71	85	87	80	75	84	90	89	90	92	92	92	92	79.7
	Minimum	34	32	41	32	49	52	42	31	32	44	50	46	33	34	47	57	44	33	32	44	50	54	46	48	52	48	53	55	56	56	53	44.5
Steele	Maximum	48	60	72	65	84	70	60	45	64	72	88	62	67	81	90	82	74	70	69	84	80	74	70	82	88	83	85	90	92	91	95	75.4
	Minimum	40	29	42	29	47	54	43	33	32	46	40	40	26	40	41	60	49	40	30	44	64	45	49	39	57	63	54	57	68	57	58	45.7
Towner	Maximum	62	68	81	75	82	82	51	51	76	84	91	85	69	78	88	83	69	70	65	80	79	80	73	83	88	85	91	91	93	94	92	78.7
	Minimum	42	27	33	33	46	42	41	32	32	42	52	46	29	40	48	58	36	36	27	41	44	40	46	46	47	44	53	52	58	57	55	42.7
Westhope	Maximum	67	70	73	72	82	74	60	74	72	87	85	84	76	81	86	86	81	65	61	76	70	78	76	84	88	87	94	90	91	94	84	79.0
	Minimum	39	40	30	25	44	42	40	30	35	54	56	35	31	46	48	50	48	39	31	46	50	46	47	48	57	46	46	45	65	59	60	44.5
Western Division																																	
Beach	Maximum	52	68	73	74	82	78	53	64	72	78	87	58	68	85	96	88	69	72	76	78	75	74	73	78	85	89	91	92	86	88	88	77.1
	Minimum	25	28	47	40	56	48	37	30	45	45	53	45	30	42	55	50	43	40	41	50	48	40	46	43	45	48	61	58	63	57	60	45.8
Berthold Agency	Maximum	56	65	52	65	60	60	54	60	60	80	85	75	60	60	95	76	58	53	55	80	72	58	75	85	88	87	92	90	90	92	92	71.8
	Minimum	38	32	50	35	50	52	25	30	35	40	55	42	32	42	50	54	48	40	35	48	50	38	45	40	43	45	62	60	64	52	55	44.7
Bowman	Maximum	48	64	75	70	83	75	48	73	71	76	84	75	67	88	97	72	68	70	76	80	71	75	77	85	87	88	86	87	84	87	84	76.5
	Minimum	36	30	41	41	51	46	40	31	39	42	45	44	31	41	52	54	46	38	42	48	46	42	41	39	46	47	59	62	60	60	56	45.0
Crosby §	Maximum	64	69	67	70	81	63	42	67	79	84	84	60	70	83	98	67	55	64	70	80	72	74	73	83	83	95	89	93	93	94	93	76.1
	Minimum	33	32	34	34	40	48	41	30	31	44	50	42	32	36	41	49	51	41	33	41	40	41	44	37	49	42	65	42	51	57	57	42.2
Dickinson §	Maximum	51	65	76	68	82	58	46	64	74	78	88	60	68	82	98	73	62	70	74	84	73	75	73	84	87	88	89	91	89	91	90	75.8
	Minimum	36	37	43	37	37	50	40	29	34	39	49	50	29	39	44	54	43	39	37	42	48	36	47	39	43	42	52	60	60	55	58	43.5
Dunn Center §	Maximum	53	68	78	67	84	61	55	56	76	82	78	88	65	81	97	73	61	70	71	87	75	79	76	82	86	87	91	89	89	91	90	77.0
	Minimum	37	28	37	37	37	54	40	28	32	39	59	50	29	39	44	61	43	39	34	46	50	39	48	47	47	43	59	60	54	56	58	44.3
Hettinger	Maximum	49	64	72	70	84	78	51	63	72	78	83	68	65	87	98	81	67	72	75	88	77	78	74	84	90	87	85	89	86	88	81	76.9
	Minimum	35	33	44	39	53	50	43	32	34	40	49	41	28	41	53	55	47	39	42	50	49	40	45	51	43	50	52	60	59	55	62	45.3
Howard (near)	Maximum	59	69	70	66	78	55	40	64	75	82	83	65	68	79	95	80	55	65	65	68	72	73	72	90	80	84	88	90	90	90	91	74.2
	Minimum	29	32	35	34	45	40	32	40	40	46	40	40	32	43	52	35	45	37	40	34	46	45	41	56	43	45	50	57	55	57	56	42.6
Kenmare	Maximum	60	68	76	64	82	79	61	58	70	83	85	83	68	80	91	86	63	67	65	78	70	71	75	82	84	85	90	88	90	92	90	76.9
	Minimum	36	33	44	30	44	53	40	33	42	55	61	44	34	49	47	56	43	45	36	40	51	48	50	50	54	49	62	64	58	64	60	47.6
Marmarth	Maximum	50	67	79	74	82	77	50	77	80	88	76	78	92	97	85	72	65	75	78	82	75	78	75	86	89	89	87	89	86	88	88	79.2
	Minimum	33	39	46	45	54	45	40	35	39	44	45	30	40	50	55	54	50	38	46	52	54	38	48	48	46	45	65	64	65	60	67	47.7
Mott	Maximum	51	64	79	74	87	82	55	63	70	80	86	75	66	90	96	76	66	73	74	86	79	81	75	86	89	86	88	88	87	88	88	78.3
	Minimum	37	39	46	38	55	52	44	33	34	40	50	48	31	42	51	56	44	40	38	50	51	40	46	40	48	46	60	59	62	56	63	46.4
New England §	Maximum	53	64	77	73	84	59	52	66	78	82	91	64	68	96	99	78	76	76	77	81	88	82	80	86	87	94	91	93	88	93	89	79.2
	Minimum	38	44	38	40	51	35	32	37	40	41	46	32	41	50	62	56	58	65	48	50	59	48	58	46	49	55	57	61	55	59	67	49.0
Watford City	Maximum	57	68	79	69	88	68	58	64	88	86	85	87	61	71	98	71	59	69	76	83	74	79	74	84	85	89	93	92	89	93	92	78.4
	Minimum	43	32	37	39	46	53	37	30	37	45	53	43	32	42	48	53	48	40	39	49	51	41	46	43	47	46	66	63	63	59	60	46.2
Williston	Maximum	59	68	74	67	81	57	48	65	77	83	86	60	69	81	96	67	59	67	69	80	73	73	72	83	83	88	91	90	89	89	90	75.3
	Minimum	32	34	47	38	52	47	37	34	44	52	54	44	35	49	59	53	50	42	42	50	53	48	48	47	49	50	67	66	67	63	63	48.9

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 6-30-36—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

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NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLV — BISMARCK, N. D., JUNE 1936 — No. 6

GENERAL SUMMARY

The outstanding feature of the weather during June was the extreme dryness. It was the driest June since statewide records began in 1892. All sections of the State had deficient rainfall, and Hansboro and Maddock in the noth-central districts were the only stations reporting precipitation above average. Nearly half of the stations had less than an inch of rainfall. Temperatures averaged above normal, with the warmest period during 2d and 4th weeks. No severe storms were reported, but light dust was observed at scattered places on the 7th, 13, 15th, 16th, 18th, 19th, 28th, and 30th. By the end of the month all crops needed rain, many fields of small grain were being used for pasture and considerable livestock was being shipped due to lack of feed.

TEMPERATURE

The mean temperature for the State was 66.4°, or 3.4° above the 1892-1936 average for June. The mean for the eastern division was 66.0°; for the middle division, 66.4°; and for the western division, 66.9°. The highest mean temperature was 71.0° at Fort Yates and New England, and the lowest, 61.8°, at Hansboro, making a range in mean temperature of 9.2°. The absolute range in temperature was 82°, from 110° at Fort Yates and Berthold Agency on the 24th, to 28° at Cavalier on on the 2d. The average daily deficiency in temperature for the State since January 1, 1936, is 4.9°.

PRECIPITATION

The average precipitation for the State was 1.34 inches, or 2.05 inches less than the 1892-1936 average for June. In the eastern division the average amount was 1.41 inches; in the middle division, 1.40 inches; and in the western division, 1.20 inches. The greatest monthly amount reported was 4.73 inches at Maddock; the least was 0.12 inch at Valley City. The greatest amount recorded in any 24 consecutive hours was 2.90 inches at Petersburg on the 8th. The accumulated deficiency in precipitation since January 1, 1936 is 4.18 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	3	5	1	..	..	1	3	..	..	..	5	9	1	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	..	..	..	..	7	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	1	..	..	1	..	..	..	1	1	..	2	2	..	..	..	..	1	..	..	..	..	1	10	1	..	..	..	..
Hail	..	..	..	..	..	1	3	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	2	..	..	..	2	8	14	14	..	5	2	..	6	2	9	16	..	..	..	2	4	1	..	3	5	..	4	12	3	3	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative llumidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.87	30.36	22	29.36	15	10.2	34	se.	7	65	32	32	67
Devils Lake	29.91	30.38	22	29.48	16	9.3	28	nw.	13	75	44	48	64
Grand Forks	29.87	30.32	22	29.42	16	......	28	se.	18	73	....	49	....
Williston	29.86	30.31	22	29.48	15	9.3	32	nw.	16	66	38	34	69
Moorhead, Minn	29.90	30.34	22	29.32	16	9.3	29	s.	8	72	46	42	73
Averages & ext's	29.88	30.38	22	29.32	16	9.5	34	se.	7	70	40	41	68

† And other dates.

COMPARATIVE DATA FOR JUNE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	60.5	94	28	3.59	4.44	2.03	3.35	0	8	11	9	10
1893	67.4	103	33	3.25	4.28	2.60	3.38	0	9	13	10	7
1894	68.8	103	25	4.08	2.31	3.93	3.44	0	7	17	6	7
1895	59.7	97	29	5.37	4.54	4.11	4.67	0	12	8	13	9
1896	65.6	97	37	3.06	4.33	4.68	4.02	0	9	16	9	5
1897	61.7	109	20	4.40	4.40	2.45	3.75	0	9	11	10	9
1898	62.6	105	26	3.17	3.21	3.18	3.19	0	9	10	10	10
1899	62.2	105	30	3.20	4.25	3.98	3.81	0	10	12	11	7
1900	66.9	109	27	1.59	1.54	1.04	1.39	0	5	15	11	4
1901	61.6	95	22	7.20	5.31	5.90	6.14	0	15	10	11	9
1902	58.0	97	28	3.67	3.75	3.53	3.65	0	11	12	9	9
1903	62.4	96	27	1.02	1.52	1.78	1.44	0	4	17	8	5
1904	61.4	100	30	5.95	5.92	4.82	5.56	0	11	13	8	9
1905	59.7	97	32	4.49	4.64	3.87	4.33	0	12	10	7	13
1906	62.0	95	32	3.80	4.21	6.34	4.78	0	11	13	8	9
1907	61.9	95	25	3.47	2.53	2.80	2.93	0	10	12	10	8
1908	60.4	93	27	2.91	3.63	3.70	3.41	0	10	12	9	9
1909	62.9	98	28	3.94	2.49	3.92	3.45	0	10	12	11	7
1910	67.3	111	19	1.26	1.85	3.00	2.04	0	6	16	9	5
1911	66.9	108	25	3.13	3.42	2.61	3.05	0	9	13	10	7
1912	61.8	104	28	2.27	2.11	1.65	2.01	0	6	16	8	6
1913	65.8	101	27	2.85	1.98	2.52	2.45	0	8	16	9	5
1914	62.2	93	29	5.67	7.13	6.64	6.48	0	13	9	11	10
1915	56.7	94	20	5.59	5.11	3.73	4.81	0	12	9	12	9
1916	58.0	92	29	4.06	3.51	.4.05	3.87	0	11	10	11	9
1917	59.7	103	19	2.38	1.88	1.96	2.07	0	8	13	11	6
1918	63.3	102	27	2.23	1.53	0.97	1.58	0	7	14	11	5
1919	67.2	108	22	3.15	1.99	1.50	2.21	0	5	15	10	5
1920	62.2	98	26	3.64	3.74	3.20	3.53	0	11	12	12	6
1921	68.2	108	30	3.28	2.83	4.74	3.62	0	9	14	10	6
1922	63.5	108	30	3.38	3.55	4.44	3.79	0	9	15	8	7
1923	66.1	100	30	4.79	2.83	4.21	3.94	0	8	13	12	5
1924	58.6	89	26	3.45	4.51	4.17	4.04	0	11	10	12	8
1925	61.5	98	30	7.72	5.43	4.84	6.00	0	14	11	10	9
1926	60.7	104	22	2.66	2.47	2.71	2.61	0	9	13	9	8
1927	61.2	99	22	3.81	2.34	2.30	2.82	0	9	11	13	6
1928	58.2	92	24	4.83	5.30	4.53	4.89	0	12	10	10	10
1929	61.4	98	21	1.10	1.10	2.12	1.44	0	7	16	9	5
1930	63.3	96	30	2.31	3.42	3.53	3.09	0	10	13	11	6
1931	68.4	110	27	2.93	2.05	2.07	2.35	0	8	14	10	6
1932	67.0	98	34	3.33	3.61	4.83	3.92	0	10	14	10	6
1933	70.7	110	33	1.99	1.66	1.67	1.77	0	7	18	10	2
1934	64.3	100	29	3.74	2.85	2.54	3.04	0	11	12	10	8
1935	60.3	99	25	3.65	2.70	2.77	3.04	T.	10	11	12	7
1936	66.4	110	28	1.41	1.40	1.20	1.34	0	6	16	10	4
Period	63.0	111	19	3.53	3.32	3.31	3.39	T.	9	13	10	7

Climatological Data for June 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	64.2	+0.8	101	24	33	10	51	0.50	−3.21	0.30	0	4	10	9	11	s.	I. Idso.
Cavalier	Pembina	894	26	63.1	......	100	24	28	2	55	1.43	−1.77	1.03	0	4	9	17	4	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	65.8	......	106	24	32	2	46	1.52	−1.81	0.96	0	4	23	7	0	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	39	64.0	+2.1	101	24	36	2	42	2.13	−1.43	1.47	0	10	10	12	8	s.	U.S. Weather Bureau.
Edgeley	LaMoure	1,568	35	67.0	+4.1	104	24†	33	9	52	1.84	−1.82	0.60	0	7	7	22	1	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. D. Warner.
Ellendale	Dickey	1,457	41	67.6	+1.6	105	24	39	10	48	0.37	−2.91	0.14	0	5	20	5	5	s.	J. E. Demmer.
Fullerton	Dickey	1,439	38	68.0	+4.6	106	24	36	10	51	1.63	−2.14	0.87	0	5	16	11	3	nw.	F. O. Alin.
Grafton	Walsh	827	44	65.2	+2.4	97	24	39	2†	43	3.11	−0.29	1.96	0	7	12	12	6	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	45	64.2	+1.2	97	24	37	2†	42	2.26	−1.09	1.03	0	8	7	21	2	nw.	U.S. Weather Bureau.
Hankinson	Richland	1,068	7	66.2	......	99	24†	37	10	44	0.60	......	0.15	0	6	25	2	3	se.	Joseph Rindt.
Hannah	Cavalier	1,568	44	63.2	+3.3	100	24	37	4	48	2.32	−1.07	1.45	0	5	9	17	4	nw.	James Muir.
Hillsboro	Traill	901	30	66.2	+2.0	100	24	35	2	46	0.75	−2.62	0.28	0	4	14	11	5	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	67.9	+4.7	107	24	33	10	47	0.33	−3.28	0.16	0	4	15	13	2	nw.	S. Calvelage.
Langdon	Cavalier	1,615	40	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	R. T. Burke.
Larimore	Grand Forks	1,134	43	64.8	+2.4	100	24	36	2†	44	1.82	−2.04	1.43	0	6	17	6	7	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	67.0	+3.5	103	24	35	10	48	0.41	−3.43	0.24	0	6	13	11	6	sw.	J. O. Halverson.
McLeod	Ransom	1,075	25	68.0	+3.5	100	24†	36	10	48	0.74	−3.27	0.25	0	8	17	5	8	sw.	J. G. Carlson.
Mayville	Traill	975	40	69.2	+5.2	102	24	39	3†	45	1.02	−2.33	0.72	0	2	3	24	3	ne.	H. B. Addicott.
Oakes	Dickey	1,318	7	69.8	......	105	24	34	10	46	2.88	......	1.71	0	7	11	14	5	ne.	Eugene Naylor.
Park River	Walsh	998	32	62.6	−0.3	95	24	33	2	37	3.47	+0.08	1.66	0	7	16	4	10	nw.	C. B. Wright.
Pembina	Nelson	1,520	6	64.4	+1.7	98	24	36	2†	45	0.74	−2.59	0.40	0	4	16	10	4	s.	E. N. Russell.
Sharon	Steele	1,516	12	64.0	......	101	24	34	3	42	2.34	−1.39	1.55	0	3	14	11	5	ne.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	60.8	+4.7	105	24	30	10	52	0.12	−3.34	0.07	0	2	23	4	3	sw.	I. C. Robertson.
Wahpeton	Richland	962	44	67.8	+2.7	99	27	33	10	45	0.77	−2.94	0.26	0	10	15	11	4	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	65.6	+1.2	99	24	40	10	42	0.48	−3.57	0.26	0	8	8	12	10	s.	U.S. Weather Bureau.
Average for Eastern Division		......	......	66.0	+3.6	107	24	28	2	57	1.41	−1.93	2.70	0	5	14	11	5	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	40	68.8	+6.4	105	24	35	10	57	1.02	−2.22	0.40	0	6	19	6	5	se.	H. D. Piper.
Bismarck	Burleigh	1,670	62	69.2	+5.5	105	24	42	9	39	0.47	−2.88	0.27	0	6	15	10	5	se.	U.S. Weather Bureau.
Bottineau	Bottineau	1,638	44	64.2	+2.9	108	25	35	2	43	1.76	−1.56	1.23	0	10	24	3	3	nw.	N.D. School of Forestry.
Carrington	Foster	1,579	38	68.8	+5.8	103	24†	45	1	37	0.94	−2.58	0.35	0	6	10	16	4	nw.	L. A. Swanson.
Carson	Grant	2,500	24	68.6	+6.2	108	24	38	9	52	0.50	−3.00	0.50	0	1	15	15	0	se.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	66.1	+3.7	100	24	35	2	42	0.88	−2.37	0.63	0	5	16	11	3	nw.	R. L. Williams.
Drake	McHenry	1,634	7	65.7	......	105	24	37	2	43	0.87	......	0.48	0	6	12	13	5	nw.	Peter Anton.
Dunseith	Rolette	1,682	40	62.0	+1.1	99	24	32	2	42	2.53	−0.59	1.45	0	6	6	15	9	nw.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	63.0	+1.4	100	24	31	2	48	2.68	−0.32	1.07	0	7	6	20	4	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	68.4	+4.3	107	24	33	4	46	0.60	−2.80	0.35	0	3	17	13	0	se.	H. S. Solenberger.
Fessenden	Wells	1,610	24	65.8	+4.1	107	24	35	4	51	0.92	−2.77	0.42	0	6	8	18	4	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	71.0	+4.8	110	24	36	3	50	0.90	−2.56	0.53	0	3	19	6	5	e.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	64.5	......	100	24	32	2	41	2.38	−0.71	1.18	0	10	9	13	8	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	67.5	......	102	24	38	2†	39	0.76	......	0.43	0	4	22	7	1	ne.	A. H. Haut.
Garrison	McLean	1,901	59	67.8	+5.6	108	24	35	2†	52	0.96	−2.58	0.43	0	8	16	13	1	ne.	W. F. Robinson.
Granville	McHenry	1,504	29	63.4	+1.2	102	24	30	2	44	2.87	−0.35	0.83	0	12	10	13	7	se.	W. A. Christianson.
Hansboro	Towner	1,597	28	61.8	+1.4	100	24	36	1	48	4.00	+0.62	1.75	0	7	15	10	5	nw.	C. E. Blackorby.
Leeds	Benson	1,515	......	66.2	......	97	24	39	3†	43	2.55	......	0.65	0	7	19	4	7	w.	Ole Semb.
Linton	Emmons	1,711	19	70.7	+6.4	109	24	35	3	52	0.67	−2.49	0.33	0	6	12	15	3	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	66.0	+4.2	105	24	35	2†	45	1.58	−1.79	0.93	0	9	22	5	3	nw.	Edw. Tapley.
Maddock	Benson	1,604	21	64.8	+3.7	103	24	33	2†	49	4.73	+1.36	2.15	0	7	6	18	6	nw.	A. T. Felland.
Mandan	Morton	1,750	22	69.6	+6.3	106	24	41	9	41	0.43	−2.96	0.14	0	5	11	6	13	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	65.6	......	104	24	34	2†	47	1.34	......	0.70	0	8	11	11	8	ne.	A. W. Rice.
Minot	Ward	1,557	40	64.2	+1.9	102	24	35	2†	42	1.70	−1.50	0.44	0	8	11	14	5	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	65.2	+4.1	100	24	32	2	47	1.58	−1.31	0.55	0	8	6	17	7	se.	John Behan.
Napoleon	Logan	1,955	44	68.2	+5.8	107	24	33	10	52	0.91	−2.38	0.30	0	12	15	9	6	e.	C. J. Hoof.
New Salem	Morton	2,163	32	70.0	+7.1	108	24	35	9	46	0.42	−3.05	0.33	0	3	23	6	1	se.	J. Christianson.
Pettibone	Kidder	1,856	27	66.2	+4.7	106	24	33	4	48	0.51	−2.74	0.40	0	3	14	10	6	nw.	Sam Loeppke.
Steele	Kidder	1,857	42	67.4	+4.9	106	24	35	10	45	0.50	−3.01	0.27	0	5	15	11	4	ne.	R. S. Armstrong.
Towner	McHenry	1,482	34	64.2	+1.4	101	24	35	3†	43	3.09	−0.06	1.75	0	10	17	11	2	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	67.8	+6.0	108	24	35	4	48	0.54	−3.10	0.20	0	9	23	5	2	s.	M. A. Slettum.
Velva	McHenry	1,511	9	66.1	......	102	24	35	2	45	1.11	......	0.28	0	6	3	24	3	nw.	Oscar Anderson.
Washburn	McLean	1,731	35	68.8	+4.7	105	24	37	9	41	0.30	−3.09	0.10	0	4	19	7	4	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	63.2	+1.2	97	24	32	2	53	1.86	−1.17	0.71	0	7	12	11	7	ne.	D. W. Drake.
Willow City	Bottineau	1,471	44	62.4	+1.4	100	24	33	2	49	2.73	−0.42	1.66	0	6	16	13	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	68.4^{d}	+6.1	105	27	29	10	55	0.40	−2.60	0.20	0	2	13	5	12	se.	E. W. Davis.
Average for Middle Division		......	......	66.4	+3.2	110	24	29	10	57	1.40	−2.12	2.15	0	6	15	11	4	nw.	......
Western Division																				
Beach	Golden Valley	2,759	30	68.4	+6.7	103	24	36	4	44	1.27	−2.43	0.40	0	5	18	7	5	......	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	68.9	+6.1	110	24	32	4	48	1.60	−2.27	0.65	0	7	21	6	3	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	68.0	+5.5	104	24	37	4	44	1.05	−1.90	0.73	0	6	18	11	1	se.	George Larsen.
Crosby	Divide	1,954	28	63.0	+1.9	105	24	31	2†	48	1.53	−1.83	0.85	0	9	12	8	10	w.	J. H. Phelps.
Dickinson	Stark	2,543	44	67.4	+5.7	109	24	32	4	49	0.92	−2.45	0.47	0	8	16	10	4	se.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	66.8	+4.8	107	24	35	4†	49	1.50	−2.37	0.58	0	8	19	9	2	se.	W. F. Moede.
Hettinger	Adams	2,675	29	69.8	+6.9	107	24	40	10	50	0.21	−2.99	0.08	0	5	23	7	0	se.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	62.6	+2.4	103	24	32	2†	51	1.06	−2.00	0.71	0	4	10	15	5	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	65.9	......	102	24	33	2	42	1.53	−1.53	0.65	0	9	10	13	7	w.	Synthia M. Costello.
Marmarth	Slope	2,714	27	70.2	+8.2	104	24	40	4	45	1.11	−1.95	0.95	0	2	19	4	7	se.	S. P. Grane.
Mott	Hettinger	2,424	29	70.8	+6.4	108	24	41	3†	44	0.59	−2.63	0.48	0	4	14	10	6	se.	W. M. Hendricks.
New England	Hettinger	2,400	42	71.0	+8.4	107	26	40	10	55	0.61	−2.35	0.61	0	1	16	10	4	se.	F. S. Sleight.
Parshall	Mountrail	1,929	21	64.4	......	104	24	29	4	47	2.25	−1.31	0.73	0	9	9	20	1	se.	C. E. Shubert.
Portal	Burke	1,954	31	62.4	+3.2	101	24	32	2	42	1.30	−1.99	0.47	0	8	15	5	10	e.	R. G. Wegener.
Powers Lake	Burke	2,205	31	63.8	+2.8	102	25	34	8	47	1.58	−2.02	0.41	0	5	21	6	3	e.	Geo. B. Gee.
Richardton	Stark	2,467	20	68.2	+5.6	106	24	36	9	42	1.01	−2.40	0.32	0	5	17	10	3	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	11	65.5	+2.1	107	24	33	4	54	2.60	......	1.52	0	8	8	19	3	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	23	67.8	+6.1	105	24	37	2†	43	2.05	−1.15	0.72	0	7	10	16	4	w.	J. C. Zeller.
Williston	Williams	1,878	57	66.7	+4.0	104	24	36	9	41	1.47	−1.96	1.00	0	6	14	11	5	se.	U.S. Weather Bureau.
Average for Western Division		......	......	66.9	+4.9	110	24	29	4	55	1.20	−2.16	1.52	0	6	17	9	4	se.	......
Average for the State		......	......	66.4	+3.9	110	24	28	2	57	1.34	−2.07	2.70	0	6	16	10	4	nw.	......

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for June 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red				T.	.05			.05													T.					.30			.10			0.50
Cavalier	do							.07	1.03	T.		T.		T		T.	.22	.11									T.			T			1.43
Cooperstown	Sheyenne	.06						T.	.96			.11						T.				T	T.			T.	.39			T.			1.52
Courtenay	James							.08														.11					.14		.02				0.35
Devils Lake ***	Devils Lake					.01	.18	1.14	.33		.05			T.		.01	.01	.02			T	T.			T.	T	.36		.02				2.13
Edgeley	James	.13				.30	.08															.35	.10				.60		.28				1.84
Edmore	Devils Lake																																
Ellendale	James					.14			.07											T.		.04					.05		.07				0.37
Forman	Sheyenne					.16			.14											T		.20					T.		.43	T.			0.93
Fullerton	James	T.				.16			.06					T.			T.		T.		T.	.14				.40	T.		.87	T.			1.63
Grafton	Red			T.			.75	.20	1.96			.04		.04			T.	.03										T.	T.	.09			3.11
Grand Forks ***	do						.13	.50	1.03		.02			T.		T.	T.	.03									.05	T.	.48	.02	T.		2.26
Hankinson|| ||	do					.14			.15	T.													.11			T	.02		.15	.03			0.60
Hannah	Pembina							.60	1.45	T.	T.					.05	.17	.05													T.		2.32
Hillsboro	Red							.28						.15												T.	.28			.04			0.75
Jamestown || ||	James					.11		.16			.03						.03																0.33
Langdon|| ||	Pembina																																2.17
Larimore	Red								1.43			.07						.02		.02							.18			.10			1.82
Lisbon	Sheyenne						.24		.01									.11			.01		.03							T.	.01		0.41
McLeod	do					.25			.02								.10	.12			T	.04					.06	.10		.05			0.74
Mayville	Red								.72									T.		T.							.30	T.		T.			1.02
Oakes	James	1.71				.13			.08					T.								.18	.01						.75	.02			2.88
Park River	Red		T.			1.66	.01		1.39		.06					T.	.03										T.	.22		.10			3.47
Pembina	do							.18	.40								.04	.12															0.74
Petersburg	do					T			2.70			.14						.03									.23			.03			3.13
Sharon	do	T.		T.					1.55	T.	T	.10		T.			T.	T.			T.	T.					.69			T.	T.		2.34
Valley City	Sheyenne																					T	.07				T.		T.	.05			0.12
Wahpeton	Red					.04	.04		.26									.14		.02		T.	.03			.03	.04			.12	.05		0.77
Moorhead, Minn. ***	do			.01		.19	.07		.01	T.	T.	.01		T.			T	T.				T.				T.	.11		T	.07	.01		0.48
Middle Division																																	
Ashley	Missouri					.09	T		.40													.15	T.				.23		.13	.02			1.02
Bismarck ***	do		.01				.07				T.			T.		.10	T				.02	.26					.01		T	T.			0.47
Bottineau	Mouse						.02	.34	1.23	.02				.04		.01	.03	.01											.02	.04			1.76
Carrington || ||	James					.17	.35	.10			.10											.17				.05							0.94
Carson	Heart																					.50											0.50
Dogden Butte	Mouse										T.	.04					.63					.13	.06				T.		.02				0.88
Drake|| ||	do							.02	.02			.07					.48						.23				T.			.05			0.87
Dunseith	do		.66				T.		1.45					T.		.13	.15												.04	.10			2.53
Eckman	do						.09	.38	.86		T						.15						.05				1.07		.08		T.		2.68
Energy	Missouri										.35						.20					.05											0.60
Fessenden || ||	James							.42	.11	T.		.07				T.							.20			.07	.05						0.92
Fort Yates	Missouri						.26	.11						T.								.53											0.90
Foxholm (near)	Mouse		T.				.05	.32	1.18		.28		T	T.		.01	.09					.05	.06				.30		.04		T.		2.38
Gackle	James			.03				.15														.43					.15						0.76
Garrison || ||	Missouri		.06					T.	.03			.15					.43	.06				.07	.12					.04	T				0.96
Granville	Mouse						.09	.83	.46		.15			.04			.51					.02	.05			.02	.48		.10		.12		2.87
Hansboro	Devils Lake							1.50	1.75							.05	.40												.13	.12	.05		4.00
Leeds	do							.65	.10	.40			.04	.65				.30								.41							2.55
Linton	Missouri	.02				.15	.07		.09					T.			.01					.33							T				0.67
McClusky	do		.02					.05	.02		.05						.40	.05				.05	.01			.93							1.58
Maddock	Sheyenne					T.	T	1.75	.10		.12						.11	.03				T.				T	2.15		T.	.47			4.73
Mandan || ||	Missouri	T.					.10				T.					.05				T.	.10	.14				.04							0.43
Manfred	James						T.	.33	.06		.03	.03					.02					.03	.17			T.	.16			.03			0.86
Max || ||	Missouri		T.						.05					.02			.32	.70				.05	.11				.04			.05			1.34
Minot|| ||	Mouse							.29	.39	T.		T.					.16	T.				.03	.21				.44		.01	.17			1.70
Mohall	do			T.			.03	.55	.38	.10	T.	T.				.03	.20	T.			T	T.	.25						.04		T.		1.58
Napoleon || ||	Missouri	.05	.01				.01	.30	.04									.05			.01	.21	.14				.02	.05		.02			0.91
New Salem	Heart		.04			T.											T.				T.	.33							.05	T.			0.42
Pettibone	James						.40		.09			.02					T.	T.				T.				T.							0.51
Rugby (near)	Mouse							.55	.68	T	.14						.43				T.	T			T.		.46		T.	T.			2.26
Ryder	Missouri							.05					.02			.30	.50					.20			T.	.05		.02					1.14
Steele	do						.08	T.			T.										.08	.27	.02							.05			0.50
Tagus	Mouse		T.				T	.13	.17		.10						.07	.01				.30	.02				.09		.27		T.		1.16
Towner	do						.08	1.75	.40	.10		.04	T.	.04			.36						.14				.10		T.	.08			3.09
Turtle Lake	Missouri			.02				.02				.13		.02			.20	.03				.05	.02						.05				0.54
Tuttle	do		.01				.57	.02				.05					.04				.02	.08	.01			T.				T.			0.80
Velva	Mouse						T.	T	.28		T.			T.		T.	.23					.23	.06				.10		.21		T.		1.11
Washburn || ||	Missouri		T.					T.				.08					.10	.04					.08										0.30
Westhope	Mouse						.03	.66	.71							.13	.29	.01				T.					T.		T	.03	T		1.86
Willow City	do						T.	.56	1.66		T.		T.														.18		.12	.07	.14		2.73
Wishek || ||	Missouri						.20																.20										0.40
Zap	Knife	.05					.07				.05					.26	.13					.15					.04						0.75
Western Division																																	
Alpha	Lit. Missouri	T.	.03			T.	T.	T.									.03				.06							.02					0.14
Beach	do							.21	.08								.38					.40	.20						T.				1.27
Berthold Agency	Missouri		.02					.17					.05			.47		.65				.22					.02						1.60
Bowman	Grand		.02				.02										.73					.23				.03		.02					1.05
Corinth	Missouri						.01	.18	.65		T		T.		T.	.25	.06	.02				.14	.05			.08		.18					1.62
Crosby|| ||	Mouse							.05	.85							.17	.13	.07				.02	.13				.05		.06				1.53
Dickinson || ||	Heart		T.					.08				.01		T.		.01	.47	T.			.04	.07	.20				.04		T	T.			0.92
Dunn Center|| ||	Knife							.22				.01		.10			.58	.03				.04	.11				.41						1.50
Epping	Missouri							.25	.06								.40	.05				.25	.02				.03				.02		1.08
Fairfield	Knife							.10	.13								.09				.15	.20					.11						0.78
Fryburg	Heart		T				T.	.07			T						.11	T			.02	.13				.20	.02	T.	T.				0.55
Hettinger	Grand		.07				.04								.01		T.					.08					.01						0.21
Howard (near)	Missouri						T	T	.71		T.		T.			T.	.13		T.		T.	.12	.10				T.	T.	T.		T.		1.06
Kenmare	Mouse						.05	.65	.36		.05	T.				.01	.14				T.	.20	T.				.06		T.		.01		1.53
Marmarth	Lit. Missouri																.16					.95						T.					1.11
Mary	do							.33	.10		T.						.24					.69					.42						1.78
Mott	Cannon Ball					.05		.03									.03					.48											0.59
New England|| ||	do															.61																	0.61
Parshall || ||	Missouri	T.					.73	.27			.03		.01			.06	.18					.24							.71		.02		2.25
Portal || ||	Mouse							.07	.47							.07	.19	.03				.35					.05				.07		1.30
Powers Lake	Missouri						.41	.25									.30					.37							.25				1.58
Richardton	Heart							.29			.02						.31				T	.32			.07								1.01
Sanish || ||	Missouri		.02					.08	.16				.02				.09	.53					.18							1.52			2.60
Tioga || ||	do						.28	.23		T	T.					.10						.26				.21							1.08
Trotters	Lit. Missouri							.09	.09							.32						.26					.12						0.88
Watford City	Missouri						.72	.10			.10						.18	.10				.48						T.	.37				2.05
Williston ***	do						.38	.62			T.			T.		.17	.07					.17						.06					1.47

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || ||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum	81	70	74	80	81	82	80	74	72	70	84	81	80	84	82	83	81	79	80	82	80	84	90	101	98	88	90	92	87	90	....	82.7
	Minimum	44	37	40	42	44	48	50	44	40	33	40	40	42	39	38	40	41	40	41	43	42	47	49	50	78	60	57	56	54	50	....	45.6
Devils Lake	Maximum	68	54	66	75	79	74	80	72	61	73	82	89	85	69	74	66	69	86	77	69	70	75	86	101	94	83	86	80	82	84	....	77.0
	Minimum	41	36	41	40	52	53	50	46	42	44	48	63	54	45	50	53	50	49	49	45	53	52	56	59	68	63	60	54	56	54	....	50.9
Edgeley	Maximum	90	70	76	78	70	77	80	80	80	79	87	84	94	90	82	84	91	91	85	83	81	76	91	104	104	98	82	82	79	89	....	84.6
	Minimum	44	38	52	48	48	53	47	36	33	44	44	52	52	45	52	52	43	45	51	48	45	50	53	52	54	61	68	59	50	59	....	49.3
Ellendale	Maximum	72	60	68	72	64	75	84	85	65	73	83	87	90	80	89	88	69	91	89	79	63	77	88	105	101	87	99	85	87	95	...	81.9
	Minimum	49	41	40	53	48	56	49	65	44	39	48	51	62	52	49	60	53	43	56	50	54	53	56	57	69	68	63	59	63	53	....	53.4
Fullerton	Maximum	81	60	68	77	66	76	85	83	66	78	88	87	97	82	88	86	70	93	88	79	72	80	91	106	103	87	98	87	87	92	....	83.4
	Minimum	48	38	47	50	50	58	49	63	44	36	48	53	62	48	47	58	55	43	52	50	55	52	53	55	70	63	62	56	62	54	....	52.7
Grafton	Maximum	77	62	68	78	81	74	76	75	72	73	81	88	86	85	74	73	65	79	79	76	75	80	87	97	96	88	87	82	80	88	....	79.4
	Minimum	42	39	39	40	49	55	53	58	44	42	49	62	62	50	47	56	50	46	52	42	46	45	50	54	71	64	64	48	58	57	....	51.1
Grand Forks	Maximum	67	58	68	79	76	79	79	80	61	74	85	86	90	65	73	70	63	79	83	73	73	79	88	97	95	83	89	78	78	89	....	77.9
	Minimum	41	37	37	40	47	58	53	53	44	42	50	59	61	45	48	54	51	47	53	41	48	44	50	55	69	63	62	49	58	59	....	50.6
Hillsboro	Maximum	67	65	70	79	74	76	78	80	79	73	86	85	92	66	84	74	74	81	86	80	80	85	92	100	98	95	86	92	83	89	....	81.6
	Minimum	46	35	37	41	46	55	49	59	44	39	51	54	62	48	47	55	51	45	51	60	44	49	49	54	67	65	62	56	51	56	....	50.9
Jamestown §	Maximum	72	61	70	81	73	80	87	83	65	80	90	91	98	80	87	87	72	93	86	82	68	79	91	107	102	86	95	85	89	95	....	83.8
	Minimum	45	40	39	38	52	55	50	58	43	33	48	59	63	48	50	55	51	46	53	52	54	52	54	60	67	67	60	57	61	50	....	52.0
Langdon §	Maximum	77	54	66	75	90	76	64	74	63	77	84	85	96	71	65	72	68	80	78	80	75	80	80	91	90	85	85	75	80	90	....	77.5
	Minimum	54	36	39	35	40	48	47	46	40	36	45	50	65	42	45	36	48	48	42	40	45	45	50	42	65	60	60	60	54	42	....	46.8
Larimore	Maximum	75	62	68	78	83	77	83	73	68	74	85	87	91	73	74	70	66	80	81	74	72	81	90	100	94	85	88	77	84	92	....	79.5
	Minimum	40	36	36	40	51	57	51	59	42	39	49	60	60	47	47	53	49	47	51	40	46	46	51	56	67	61	61	49	57	53	....	50.0
Lisbon §	Maximum	70	60	68	74	68	75	83	86	63	74	84	85	95	77	82	87	65	90	88	77	63	78	88	103	100	86	96	80	88	96	....	81.0
	Minimum	48	41	38	43	53	58	50	64	46	35	40	58	62	50	48	59	54	43	52	51	55	54	56	63	72	68	60	57	62	48	....	52.9
Oakes	Maximum	87	66	72	76	70	75	84	87	82	76	86	86	96	88	87	90	77	90	90	84	77	77	90	105	101	96	100	91	86	95	...	85.6
	Minimum	66	40	37	50	51	56	49	63	45	34	53	53	65	49	50	63	54	45	53	49	56	53	56	59	70	68	59	58	62	50	....	53.9
Sharon	Maximum	68	54	66	76	79	76	81	73	59	74	84	86	91	68	76	72	62	85	79	72	70	79	87	101	96	82	88	81	84	90	....	78.0
	Minimum	43	36	34	35	48	55	48	57	41	37	49	59	60	43	46	52	49	46	49	45	53	51	54	61	66	61	61	52	58	48	....	49.9
Valley City	Maximum	72	63	72	79	70	78	85	85	81	76	88	88	93	90	81	81	75	90	87	83	78	78	90	105	103	97	94	92	87	95	....	84.5
	Minimum	44	38	34	33	50	56	47	64	43	30	47	57	62	47	49	54	51	45	53	51	51	51	55	69	70	64	59	56	54	43	....	51.1
Wahpeton	Maximum	82	67	69	77	75	73	77	80	80	72	82	84	93	94	80	85	80	80	90	85	76	75	86	98	98	96	99	91	83	87	....	83.1
	Minimum	44	38	37	45	56	58	53	58	43	33	53	53	62	49	49	62	53	46	55	46	53	54	53	56	70	61	62	55	63	53	....	52.4
Moorhead, Minn.	Maximum	67	58	67	77	65	72	77	86	59	72	83	84	91	68	77	78	64	80	86	74	73	78	85	99	96	82	89	82	81	85	....	77.8
	Minimum	46	39	41	44	53	58	53	55	45	40	52	53	63	52	50	60	52	44	60	51	53	56	55	57	71	64	62	55	63	57	....	53.5
Middle Division																																	
Ashley	Maximum	90	72	67	74	71	78	83	79	72	74	88	88	95	87	90	84	76	103	89	85	79	78	90	105	104	100	100	93	88	94	....	85.9
	Minimum	46	41	39	51	43	48	49	61	41	35	49	49	60	49	48	62	53	46	47	48	52	52	55	59	71	67	61	62	62	47	....	51.8
Bismarck	Maximum	72	58	67	75	75	80	87	75	66	77	87	91	89	82	92	81	76	92	82	84	65	76	89	105	100	91	97	92	86	88	....	82.6
	Minimum	49	44	45	44	58	50	55	49	42	45	52	64	64	51	60	60	55	53	51	56	55	55	58	68	70	69	70	64	61	53	....	55.7
Bottineau	Maximum	99	74	59	70	82	83	73	63	66	64	79	80	93	84	68	73	63	76	70	73	72	64	75	86	108	92	86	86	73	83	....	77.2
	Minimum	64	35	42	36	39	50	63	52	36	42	46	61	63	64	48	50	51	50	40	48	46	48	58	68	70	64	56	50	46	50	....	51.2
Carson	Maximum	75	60	60	77	76	80	93	79	66	81	84	80	90	85	95	84	78	94	85	86	67	80	94	108	105	99	105	98	80	86	....	84.3
	Minimum	47	43	39	49	52	54	57	50	38	42	49	54	66	50	52	58	51	52	46	44	54	54	53	56	66	67	61	70	63	53	....	53.0
Drake §	Maximum	69	59	67	76	83	71	86	71	63	76	87	93	87	77	84	75	72	82	79	78	66	76	89	105	97	86	89	88	83	82	....	79.9
	Minimum	42	37	41	41	49	52	49	50	38	38	47	59	67	48	51	50	52	51	52	49	54	54	53	62	66	64	66	55	56	53	....	51.5
Fessenden §	Maximum	70	57	67	77	82	76	86	76	61	77	88	93	90	75	86	77	74	90	88	83	69	73	91	107	101	88	91	87	86	87	....	81.8
	Minimum	40	37	37	35	48	48	47	61	40	36	43	60	64	43	50	53	50	49	45	48	45	53	52	56	65	64	65	56	57	51	....	49.9
Foxholm (near)	Maximum	74	62	68	74	83	79	67	64	62	76	82	89	84	70	81	73	70	77	75	71	67	75	88	100	94	85	88	84	81	79	....	77.4
	Minimum	41	32	45	40	44	49	49	49	37	44	49	63	66	46	52	55	49	54	52	49	54	54	57	59	66	65	65	55	58	51	....	51.6
Garrison §	Maximum	70	63	69	80	84	75	92	75	65	80	90	98	95	79	90	80	74	81	80	81	64	79	91	108	104	93	93	98	86	85	....	83.4
	Minimum	45	35	42	36	49	52	51	57	35	41	44	57	65	43	59	58	50	53	52	52	55	54	52	56	68	65	64	59	62	53	....	52.1
Granville	Maximum	70	60	70	77	78	75	70	68	62	77	78	85	82	72	82	72	70	79	77	73	68	77	89	102	100	87	82	87	82	79	....	77.7
	Minimum	37	30	37	35	46	49	48	45	37	41	48	45	60	40	54	55	52	52	54	44	54	54	48	58	65	65	62	55	55	45	....	49.0
Hansboro	Maximum	70	68	66	76	85	74	65	68	73	74	80	89	80	68	70	61	68	80	72	73	65	78	87	100	86	80	80	77	82	79	....	76.0
	Minimum	36	37	41	38	55	47	46	40	39	42	46	60	55	44	45	45	48	46	45	44	46	46	51	52	66	61	58	50	52	44	....	47.5
Linton	Maximum	87	70	69	77	74	86	86	80	71	79	90	91	96	86	93	88	80	101	89	88	75	80	93	109	106	100	103	95	90	93	....	87.5
	Minimum	48	43	35	49	54	51	53	59	43	40	52	57	65	51	57	60	53	49	49	56	53	52	54	60	64	70	65	66	63	46	....	53.9
McClusky	Maximum	75	68	67	76	77	92	87	75	65	77	82	92	83	78	88	81	75	88	88	82	74	75	90	105	101	88	91	88	83	85	....	82.5
	Minimum	39	35	38	35	49	55	49	55	37	38	45	60	63	40	52	52	49	48	45	51	50	51	49	60	61	63	61	50	52	50	...	49.4
Maddock	Maximum	81	70	69	76	81	79	85	80	68	75	81	91	90	75	78	73	72	86	81	75	75	75	88	103	97	91	83	82	78	79	....	80.6
	Minimum	36	33	37	33	43	45	49	57	39	38	44	61	62	42	49	52	48	48	48	42	60	52	49	54	65	61	63	53	55	49	....	48.9
Minot §	Maximum	67	52	69	75	84	67	66	58	65	79	85	94	80	73	83	70	73	78	78	67	60	68	90	102	97	87	85	87	79	79	....	76.6
	Minimum	42	35	40	35	42	51	50	54	37	44	44	59	67	42	55	57	51	55	51	47	56	55	57	63	67	66	61	57	56	59	....	51.8
Mohall	Maximum	71	69	67	77	84	82	66	63	64	76	84	95	92	73	80	76	74	88	77	75	77	77	89	100	95	91	88	86	83	84	....	80.1
	Minimum	40	32	46	39	44	49	48	54	36	44	48	59	65	40	50	54	49	54	49	48	54	54	54	53	63	63	60	54	55	51	....	50.3
Napoleon §	Maximum	72	60	68	78	72	87	85	81	67	77	91	90	96	84	92	85	75	100	87	88	59	80	93	107	103	93	100	92	90	93	....	84.8
	Minimum	43	38	40	44	50	49	50	60	40	33	53	59	64	47	51	53	51	48	50	50	51	50	53	62	69	67	60	61	60	46	....	51.7
New Salem	Maximum	76	69	65	75	81	82	94	88	67	78	91	94	92	84	91	90	82	91	85	91	80	90	92	108	104	98	100	96	89	91	....	87.2
	Minimum	44	38	39	43	46	52	54	56	35	39	47	67	66	44	58	57	55	51	49	52	51	53	53	62	67	68	67	60	56	51	....	52.7
Steele	Maximum	79	62	63	68	75	70	83	75	55	72	89	100	100	80	93	85	81	95	88	83	76	75	92	106	103	90	94	80	86	86	....	82.8
	Minimum	45	40	43	37	53	50	50	50	40	35	48	60	66	47	53	54	53	50	48	57	52	52	54	63	65	66	61	65	58	46	....	52.0
Towner	Maximum	69	66	69	78	83	84	71	69	63	77	81	92	89	72	76	71	70	81	81	75	69	76	88	101	96	93	86	70	85	82	....	78.8
	Minimum	38	38	35	35	44	50	50	56	38	40	46	63	61	42	45	47	50	51	49	44	53	54	49	60	68	64	60	54	54	46	....	49.5
Westhope	Maximum	72	74	68	80	88	71	63	71	63	73	80	93	81	70	74	70	70	76	73	66	66	78	86	97	87	86	84	79	82	77	....	76.6
	Minimum	44	32	46	35	35	47	48	48	36	41	45	60	65	42	50	54	49	51	45	42	53	56	61	53	64	63	60	53	64	51	....	49.9
Western Division																																	
Beach	Maximum	82	75	64	75	81	78	85	54	67	78	89	97	80	90	94	76	81	80	81	88	67	82	94	103	99	92	102	98	83	82	....	83.2
	Minimum	51	43	38	36	48	52	54	50	40	45	45	70	59	49	62	56	51	60	48	53	55	48	53	62	67	64	65	74	56	51	....	53.5
Berthold Agency	Maximum	75	60	70	77	84	77	92	75	68	86	92	101	87	85	94	85	77	84	82	87	68	82	95	110	104	94	101	104	96	94	....	86.2
	Minimum	43	38	38	32	45	50	51	47	35	43	38	66	59	41	60	57	58	54	43	50	54	54	51	62	64	65	63	70	65	52	....	51.6
Bowman	Maximum	73	58	58	75	77	84	90	70	66	79	86	94	86	87	92	79	82	90	81	89	81	82	94	104	97	90	101	102	85	84	....	83.9
	Minimum	58	42	41	37	50	45	52	46	40	42	52	58	62	52	57	52	50	52	55	46	57	46	57	60	66	62	59	73	51	46	....	52.2
Crosby §	Maximum	70	59	65	76	87	70	58	59	67	74	84	97	71	82	87	74	76	77	75	72	63	80	91	105	97	95	95	89	82	75	....	78.4
	Minimum	41	31	31	39	33	50	47	47	35	36	45	52	59	52	50	54	48	46	45	40	47	50	51	57	59	63	61	56	51	49	....	47.5
Dickinson §	Maximum	73	59	64	75	82	80	90	69	65	80	89	96	84	89	89	79	78	81	81	88	66	79	94	109	99	93	103	106	84	85	....	83.6
	Minimum	46	42	40	32	44	50	53	54	39	42	42	52	58	48	52	58	51	51	45	54	53	49	49	60	68	65	63	71	59	45	....	51.2
Dunn Center §	Maximum	75	58	67	72	82	76	88	68	64	79	88	96	82	85	81	77	75	80	79	84	63	79	92	107	98	90	94	100	85	83	....	81.6
	Minimum	48	42	41	35	44	49	53	56	35	40	39	57	60	44	64	59	52	52	46	57	53	54	49	61	69	65	62	66	60	49	....	51.9
Hettinger	Maximum	75	63	59	63	75	82	92	79	81	79	87	93	87	86	95	89	80	84	85	89	82	86	95	107	101	95	102	104	97	86	....	85.9
	Minimum	49	42	41	49	50	46	50	55	42	40	48	56	66	53	63	60	51	58	43	54	48	49	57	57	71	66	59	73	66	47	....	53.6
Howard (near)	Maximum	78	65	65	70	83	70	65	53	63	73	85	95	76	82	85	78	74	76	76	77	66	80	90	103	98	94	94	88	88	73	....	78.8
	Minimum	46	32	40	38	43	47	45	38	32	45	44	55	45	38	56	55	59	40	44	40	53	48	49	60	58	64	51	52	37	35	....	46.3
Kenmare	Maximum	79	66	66	72	84	83	68	58	63	74	84	95	95	74	84	72	73	77	75	76	78	72	90	102	99	92	93	87	89	80	....	80.0
	Minimum	41	33	46	43	52	50	49	49	35	47	50	63	64	52	42	55	49	52	48	50	54	54	54	68	63	61	62	57	60	50	....	51.8
Marmarth	Maximum	77	67	56	74	77	90	90	70	78	81	87	95	92	89	92	88	84	81	82	90	87	82	94	104	100	96	98	102	85	84	....	85.7
	Minimum	62	47	47	40	50	45	52	50	45	47	47	60	64	46	57	58	54	65	45	62	55	55	54	64	66	62	65	75	57	47	....	54.8
Mott	Maximum	83	65	66	75	79	81	92	80	66	81	88	94	87	86	94	93	80	89	86	89	83	79	92	108	101	93	103	105	90	88	....	86.5
	Minimum	49	45	41	51	49	49	54	59	41	44	46	62	66	49	63	61	53	57	46	51	55	52	53	64	69	70	64	75	67	46	....	55.0
New England §	Maximum	75	69	66	72	80	80	82	86	92	95	93	95	92	93	92	80	85	92	84	87	78	80	89	106	103	107	104	90	90	92	....	87.6
	Minimum	55	41	45	49	52	45	50	56	52	40	61	65	48	62	63	53	57	48	52	54	48	53	62	70	70	62	60	56	51	54	....	54.5
Watford City	Maximum	76	62	66	79	83	78	76	68	64	68	89	98	80	87	91	78	77	79	81	91	66	81	96	105	97	94	102	101	81	78	...	82.4
	Minimum	46	37	47	37	46	48	51	46	39	47	46	63	65	46	67	58	50	59	46	54	54	53	54	62	64	62	71	69	58	49	....	53.1
Williston	Maximum	71	56	65	75	83	71	70	58	64	75	88	98	75	83	92	76	75	77	77	82	64	79	93	104	96	93	94	93	81	77	....	79.5
	Minimum	51	38	47	36	47	53	52	44	36	49	50	68	58	46	64	56	51	62	51	58	56	55	52	63	66	69	63	65	56	54	....	53.9

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 7-28-36—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLV BISMARCK, N. D., JULY 1936 No. 7

GENERAL SUMMARY

The outstanding feature of the weather during July was the extreme high temperatures. It was the warmest July since state-wide records began and coupled with the extreme dryness was disastrous. Temperatures averaged far above normal, with the highest temperatures ever recorded at most stations being registered on the 6th. There were more consecutive days above 90° than have evere been recorded before; from the 5th through the 18th most stations recorded 100° or higher nearly every day. There was but one station, Howard, reporting above normal precipitation, while Mandan had none, and four-fifths of the stations had less than an inch of rainfall. Severe wind and damaging hail was reported from near Edmore with destruction of an elevator and some farm buildings; while the night of the 18–19th damaging hail was reported from Cooperstown, Kenmare, and Valley City. Dust storms were reported from many places on the 19th and 31st, with others at scattered points on the 8th, 18th, 23d, and 24th. By the end of the month, threshing was accomplished in limited areas with poor yields, most fields being used for pastures; and livestock was still being shipped due to lack of feed and water.

TEMPERATURE

The mean temperature for the State was 79.9°, or 11.1° above the 1892–1936 average for July. The mean for the eastern division was 79.6°; for the middle division, 80.2° and for the western division, 80.0°. The highest mean temperature was 84.8° at Linton, and the lowest, 74.6°, at Park River, making a range in mean temperature of 10.2°. The absolute range in temperature was 83°, from 121° at Steele on the 6th, to 38° at Hansboro on the 1st and 29th and Leeds on the 29th. The average daily deficiency in temperature for the State since January 1, 1936, is 2.6°.

PRECIPITATION

The average precipitation for the State was 0.70 inch, or 1.71 inches less than the 1892–1936 average for July. In the eastern division the average amount was 0.71 inch; in the middle division, 0.48 inch; and in the western division, 0.92 inch. The greatest monthly amount reported was 2.47 inches at Howard; there was none at Mandan. The greatest amount recorded in any 24 consecutive hours was 1.48 inches Devils Lake on the 8th. The accumulated deficiency in precipitation since January 1, 1936, is 5.89 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	1	1	..	1	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	2	..	2	3	..
Fogs	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..
Hail	..	..	..	..	..	1	..	1	1	1	..	..	..	..	..	..	..	2	5	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	2	2	2	..	..	1	15	8	11	6	6	12	3	..	3	5	8	17	3	1	10	1	..	7	10	4	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.81	30.28	29	29.44	8	10.1	34	n.	8	58	27	24	81
Devils Lake	29.86	30.35	29	29.42	7	9.0	44	nw.	8	71	34	31	87
Grand Forks	29.83	30.32	29	29.48	7	......	31	se.	9	67	....	33	....
Williston	29.82	30.23	29	29.45	11	8.4	30	se.	23	62	31	27	85
Moorhead, Minn	29.86	30.33	30	29.53	8	8.7	24	s.	7	63	35	32	86
Averages & ext's	29.84	30.35	29	29.42	7	9.0	44	nw.	8	64	32	29	85

† And other dates.

COMPARATIVE DATA FOR JULY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	68.7	108	31	3.44	2.98	3.28	3.23	0	8	19	8	4
1893	69.5	112	35	2.54	1.94	1.64	2.04	0	7	17	10	4
1894	71.7	107	38	0.92	0.73	0.25	0.63	0	3	20	8	3
1895	66.1	102	29	3.12	2.44	3.13	2.90	0	8	14	11	6
1896	67.5	107	31	1.67	1.48	1.37	1.51	0	6	15	10	6
1897	68.9	109	38	6.46	4.43	2.40	4.43	0	9	13	11	7
1898	67.6	106	28	3.07	2.40	2.00	2.49	0	7	15	11	5
1899	68.3	109	32	2.37	2.30	2.35	2.34	0	6	18	9	4
1900	67.9	107	33	2.89	2.26	1.60	2.25	0	6	16	10	5
1901	70.8	110	40	5.10	4.08	3.66	4.28	0	6	18	7	6
1902	67.6	106	34	2.34	2.00	2.10	2.15	0	5	20	7	4
1903	66.7	109	26	2.59	1.77	2.32	2.23	0	7	17	8	6
1904	64.4	102	34	2.96	2.83	0.60	2.13	0	6	17	8	6
1905	65.6	100	32	4.27	3.90	3.17	3.78	0	8	17	9	5
1906	66.9	102	34	2.90	1.32	0.45	1.56	0	11	13	8	10
1907	65.8	103	31	2.69	3.90	2.60	3.06	0	9	16	11	4
1908	68.6	103	31	1.89	2.37	1.46	1.91	0	6	19	9	3
1909	67.1	99	34	3.45	2.94	1.80	2.73	0	8	15	9	7
1910	70.0	114	33	1.30	2.10	1.40	1.60	0	5	18	9	4
1911	65.1	107	23	2.25	1.76	1.10	1.70	0	6	18	10	3
1912	66.0	106	30	4.52	3.07	3.38	3.66	0	10	12	13	6
1913	65.6	103	35	2.64	2.38	1.65	2.22	0	8	17	8	6
1914	72.1	109	36	2.62	1.85	2.03	2.17	0	6	19	9	3
1915	62.3	97	30	2.42	2.66	4.30	3.13	0	11	12	11	8
1916	73.1	105	33	4.71	2.76	1.41	2.96	0	7	19	9	3
1917	70.9	114	27	1.96	1.80	0.87	1.54	0	7	17	11	3
1918	65.5	102	34	2.84	2.90	2.46	2.73	0	7	14	10	7
1919	71.2	105	37	3.15	1.11	1.32	1.86	0	5	18	10	3
1920	68.3	103	31	2.27	2.33	1.73	2.11	0	7	18	11	2
1921	71.4	110	35	4.47	2.87	1.88	3.07	0	7	17	10	4
1922	65.6	100	30	2.28	2.44	2.72	2.48	0	8	16	11	4
1923	71.2	103	35	2.90	3.34	2.91	3.05	0	8	16	11	4
1924	65.5	99	32	1.93	2.04	1.83	1.93	0	6	18	9	4
1925	66.7	106	29	1.43	1.33	1.30	1.35	0	6	18	9	4
1926	70.3	108	32	2.35	1.78	1.99	2.04	0	7	18	8	5
1927	65.4	97	28	2.33	3.11	3.09	2.84	0	9	15	10	6
1928	67.4	96	38	4.65	5.32	4.49	4.82	0	10	16	10	5
1929	70.6	109	34	1.93	1.09	0.78	1.27	0	5	21	8	2
1930	72.3	107	34	1.83	0.80	0.49	1.04	0	5	21	8	2
1931	70.6	111	37	2.89	3.20	3.01	3.03	0	8	17	8	6
1932	70.0	108	36	1.95	2.22	1.68	1.95	0	7	19	8	4
1933	71.9	109	36	2.04	2.13	1.83	2.00	0	7	19	9	3
1934	71.8	112	29	1.58	1.30	0.77	1.18	0	6	18	10	3
1935	73.8	110	45	3.90	5.44	3.90	4.41	0	10	17	11	3
1936	79.9	121	38	0.71	0.48	0.92	0.70	0	4	22	8	1
Period	68.8	121	23	2.77	2.44	2.03	2.41	0	7	17	9	5

Climatological Data for July 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	82.6	+13.9	115	10	45	29	45	0.20	−2.59	0.20	0	1	16	10	5	s.	I. Idso.
Cavalier	Pembina	894	26	76.0	......	110	11	39	3†	56	0.85	−1.82	0.30	0	5	14	12	5	ne.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	79.2	......	118	6	44	28†	53	0.49	−1.97	0.38	0	3	29	2	0	ne.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	39	79.0	+11.6	112	6	47	29	45	1.55	−1.02	1.48	0	4	21	10	0	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	80.4	+11.6	116	6	45	2	56	0.14	−2.63	0.12	0	2	14	17	0	se.	O. A. Thompson.
Edmore	Ramsey	1,521	12	76.4	+10.0	107	10	41	29	42	1.79	−1.08	1.14	0	6	14	12	5	se.	A. G. Braund.
Ellendale	Dickey	1,457	41	82.1	+11.4	112	6	50	2	47	0.68	−2.06	0.68	0	1	25	6	0	s.	J. E. Demmer.
Fullerton	Dickey	1,439	38	81.4	+12.4	113	6	48	2	51	0.66	−2.46	0.66	0	1	28	3	0	s.	F. O. Alin.
Grafton	Walsh	827	44	79.2	+11.5	108	11	47	29	46	2.13	−0.42	0.75	0	6	18	11	2	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	45	79.2	+11.7	109	12	44	29	43	0.66	−2.09	0.61	0	4	12	17	2	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	80.0	......	112	6	48	30	53	0.28	......	0.22	0	4	29	2	0	se.	Joseph Rindt.
Hannah	Cavalier	1,568	44	78.2	+13.5	108	11	42	29	44	1.19	−1.16	0.33	0	8	13	17	1	nw.	James Muir.
Hillsboro	Traill	901	30	80.1	+10.5	115	6	45	29	65	0.06	−2.62	0.03	0	2	25	5	1	s.	H. F. Lund.
Jamestown	Stutsman	1,457	44	82.4	+13.9	118	6	51	2	51	0.81	−1.97	0.65	0	2	20	11	0	e.	S. Calvelage.
Langdon	Cavalier	1,615	40	77.2	+12.6	112	7	42	1†	51	1.15	−1.22	0.40	0	6	28	3	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	43	79.4	+12.4	111	10†	46	29	43	0.68	−2.54	0.32	0	4	25	6	0	se.	Mabel Walsh.
Lisbon	Ransom	1,091	32	80.3	+11.0	113	6	50	2†	44	0.61	−2.58	0.28	0	5	16	14	1	se.	J. O. Halverson.
McLeod	Ransom	1,075	25	79.6	+ 9.4	114	6	46	2	54	1.35	−1.62	0.89	0	5	26	3	2	sw.	J. G. Carlson.
Mayville	Traill	975	40	83.4	+14.4	114	6†	48	29	49	0.03	−2.73	0.03	0	1	7	23	1	se.	H. B. Addicott.
Oakes	Dickey	1,318	7	82.1	......	115	6	49	2	48	0.23	......	0.16	0	3	15	14	2	se.	Eugene Naylor.
Park River	Walsh	998	32	74.6	+ 6.7	108	11	42	29	50	0.95	−1.55	0.26	0	7	25	6	0	nw.	C. B. Wright.
Pembina	Pembina	1,520	6	75.2	+ 7.7	109	7†	44	3	43	0.74	−1.61	0.24	0	8	26	4	1	s.	E. N. Russell.
Sharon	Steele	1,516	12	79.4	......	114	6	48	29	52	0.32	−1.77	0.17	0	5	22	9	0	se.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	82.0	+13.3	116	6	48	2	53	1.13	−1.68	1.10	0	2	31	0	0	s.	I. C. Robertson.
Wahpeton	Richland	962	44	81.2	+11.4	111	6†	46	29	44	0.67	−2.55	0.37	0	2	18	12	1	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	80.2	+12.1	114	6	49	29	46	0.42	−3.01	0.20	0	4	17	12	2	s.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	79.6	+11.5	118	6	39	3†	65	0.71	−2.05	1.48	0	4	21	9	1	se.	....
Middle Division																				
Ashley	McIntosh	2,001	40	82.0	+13.3	114	6	48	2	54	0.27	−2.56	0.15	0	3	26	5	0	se.	H. D. Piper.
Bismarck	Burleigh	1,670	62	83.4	+13.6	114	6	55	28	42	0.10	−2.14	0.08	0	2	23	8	0	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	80.0	+13.4	111	12	49	1†	43	0.75	−1.62	0.49	0	5	26	4	1	se.	N. D. School of Forestry.
Carrington	Foster	1,579	38	77.5	+ 8.8	116	6	45	4	43	0.60	−1.98	0.23	0	3	14	17	0	se.	L. A. Swanson.
Carson	Grant	2,500	24	83.4	+14.6	116	6	46	1	45	0.05	−1.98	0.05	0	1	26	5	0	se.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	78.6	+ 9.5	109	6†	46	28	45	0.29	−2.85	0.13	0	4	24	7	0	se.	R. L. Williams.
Drake	McHenry	1,634	7	78.8	......	113	6	44	4	54	1.18	......	0.91	0	4	18	13	0	se.	Peter Anton.
Dunseith	Rolette	1,682	40	78.3	+12.4	110	11	49	1†	47	0.25	−2.30	0.20	0	4	16	14	1	e.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	77.4	+10.6	111	11	42	28	51	0.16	−2.07	0.12	0	3	17	14	0	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	82.2	+11.2	114	6†	51	3	49	0.20	−2.15	0.20	0	1	25	6	0	s.	H. S. Solenberger.
Fessenden	Wells	1,610	24	81.0	+13.0	116	6	49	2	50	0.95	−1.38	0.41	0	5	20	11	0	se.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	83.8	+12.1	119	6	45	1	59	T	−2.19	T	0	0	23	8	0	e.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	78.4	......	110	11	47	29	42	0.34	−1.89	0.19	0	4	16	13	2	se.	E. C. Bierbaum.
Gaekle	Logan	1,951	6	81.0	......	112	6	53	1	47	0.08	......	0.08	0	1	28	3	0	se.	A. H. Haut.
Garrison	McLean	1,901	59	81.6	+13.4	116	6	50	1	53	0.03	−2.43	0.03	0	1	26	5	0	ne.	E. L. Vorachek.
Granville	McHenry	1,504	29	79.2	+11.7	114	11	45	29	47	0.90	−1.27	0.48	0	6	19	11	1	se.	W. A. Christianson.
Hansboro	Towner	1,597	28	75.8	+10.6	109	10	38	1†	51	0.84	−1.62	0.42	0	5	22	8	1	se.	C. E. Blackorby.
Leeds	Benson	1,515	.....	78.4	......	108	7†	38	29	52	0.49	......	0.41	0	2	28	2	1	w.	Ole Semb.
Linton	Emmons	1,711	19	84.8	+13.5	116	6	52	21	50	0.17	−1.96	0.17	0	1	22	9	0	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	80.2	+11.4	115	6	48	1	46	0.47	−2.06	0.37	0	3	31	0	0	se.	Edw. Tapley.
Maddock	Benson	1,604	21	77.9	+10.3	110	7	44	29	45	0.86	−1.73	0.49	0	4	14	14	3	se.	A. T. Felland.
Mandan	Morton	1,750	22	83.2	+12.6	115	6	53	1	47	0.00	−2.38	0.00	0	0	19	9	3	e.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	79.4	......	110	6	47	1	46	0.34	......	0.28	0	3	19	11	1	se.	A. W. Rice.
Minot	Ward	1,557	40	79.0	+11.1	109	11	46	29	45	0.42	−1.48	0.19	0	5	19	12	0	ne.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	78.2	+11.9	112	11	41	29	43	0.76	−1.58	0.42	0	5	9	22	0	ne.	John Behan.
Napoleon	Logan	1,955	44	83.0	+14.4	118	6	49	1	53	0.40	−2.10	0.37	0	3	31	0	0	se.	C. J. Hoof.
New Salem	Morton	2,163	32	82.0	+12.1	119	6	50	2	54	0.04	−2.14	0.04	0	1	30	1	0	ne.	J. Christianson.
Pettibone	Kidder	1,856	27	80.6	+12.6	118	6	48	29	53	0.35	−2.49	0.35	0	1	19	11	1	se.	Sam Loeppke.
Steele	Kidder	1,857	42	81.7	+12.3	121	6	49	29	53	1.43	−1.56	0.96	0	5	25	6	0	sw.	R. S. Armstrong.
Towner	McHenry	1,482	34	79.2	+11.2	111	6	45	29	53	0.44	−1.97	0.38	0	2	24	7	0	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	81.0	+12.7	115	10	50	1†	42	0.31	−2.24	0.27	0	3	30	1	0	se.	M. A. Slettum.
Velva	McHenry	1,511	9	79.0	......	110	6	45	29	47	0.53	......	0.20	0	3	16	15	0	se.	Oscar Anderson.
Washburn	McLean	1,731	35	83.0	+13.5	115	6	52	1	41	0.28	−2.20	0.18	0	2	27	4	0	e.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	77.5	+10.7	110	11	41	1	47	0.78	−1.39	0.28	0	4	16	14	1	nw.	D. W. Drake.
Willow City	Bottineau	1,471	44	77.2	+11.5	110	11	41	29	47	0.84	−1.30	0.38	0	5	25	6	0	se.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	80.8^{d}	+12.2	120^{d}	6	46^{d}	28	53^{d}	0.18	−2.35	0.12	0	2	23	4	4	se.	E. W. Davis.
Average for Middle Division		......	.....	80.2	+11.9	121	6	38	1†	59	0.48	−1.93	1.05	0	3	23	8	0	se.	....
Western Division																				
Beach	Golden Valley	2,759	30	81.4	+12.9	109	6	46	1	41	0.30	−1.51	0.18	0	2	19	8	4	......	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	78.4	+ 9.2	112	11	44	14†	62	1.02	−1.34	0.77	0	3	25	5	1	se.	C. L. Hall.
Bowman	Bowman	2,872	22	......	......	....	....	....	....	......	.....	......	......	......	......	....	......	....	.....	George Larsen.
Crosby	Divide	1,954	28	75.8	+ 9.0	110	5	47	2	46	2.02	−0.09	1.03	0	10	18	12	1	w.	J. H. Phelps.
Dickinson	Stark	2,543	44	81.4	+13.2	114	6	49	1	49	0.29	−1.88	0.10	0	5	19	12	0	s.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	79.6	+11.6	111	6	45	28	51	0.70	−1.53	0.38	0	4	23	8	0	se.	W. F. Moede.
Hettinger	Adams	2,675	29	82.2	+12.1	113	6	46	1	48	T.	−2.36	T.	0	0	31	0	0	se.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	76.8	+10.8	108	5	40	1	42	2.47	+0.64	1.10	0	4	20	9	2	ne.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	78.7	......	108	11	49	1	44	1.13	−1.16	0.87	0	3	17	14	0	w.	Synthia M. Costello.
Marmarth	Slope	2,714	27	82.0	+12.6	108	6	50	1	41	0.84	−1.04	0.58	0	3	23	6	2	......	S. P. Grane.
Mott	Hettinger	2,424	29	82.6	+12.3	114	6	48	1	49	0.25	−1.89	0.23	0	3	18	13	0	se.	W. M. Hendricks.
New England	Hettinger	2,400	42	84.4	+15.6	114	6†	57	27	44	0.15	−1.92	0.12	0	2	24	7	0	se.	F. S. Sleight.
Parshall	Mountrail	1,929	21	77.8	......	112	11	47	1†	47	1.66	−0.34	0.84	0	5	15	16	0	se.	C. E. Shubert.
Portal	Burke	1,954	31	75.6	+ 9.4	109	11	43	29	45	1.35	−0.76	0.63	0	6	24	6	1	e.	R. G. Wegener.
Powers Lake	Burke	2,205	31	77.4	+ 7.7	105	10†	42	4	47	1.16	−1.43	0.81	0	3	22	9	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	20	81.0	+10.9	113	6	51	1	43	0.06	−2.19	0.03	0	2	15	16	0	se.	Assumption Abbey.
Sanish	Mountrail	1,835	11	80.5	+11.0	110	6†	50	1	47	1.53	......	0.85	0	4	21	10	0	se.	H. J. Bugge.
Watford City	McKenzie	2,084	23	81.5	+12.2	112	6	48	1	38	1.06	−0.77	0.62	0	6	20	11	0	e.	J. C. Zeller.
Williston	Williams	1,878	57	80.8	+11.9	110	5	51	1	41	0.87	−1.02	0.32	0	7	23	8	0	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	80.0	+12.2	114	6†	40	1	62	0.92	−1.16	1.10	0	4	22	8	1	se.	....
Average for the State		......	.....	79.9	+11.8	121	6	38	1†	65	0.70	−1.72	1.48	0	4	22	8	1	se.	....

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for July 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red														T.												.20						0.20
Cavalier	do									.30			.03		.20						.25	T.		T.			.07						0.85
Cooperstown	Sheyenne	T.	T.										T.	T.	.02					.38			.09					T.					0.49
Courtenay	James													T		T.			.09					T.									0.09
Devils Lake ***	Devils Lake		T						1.48		T.			T.			T.	T.				.01	T			.05	.01	T.					1.55
Edgeley	James													.02						.12													0.14
Edmore	Devils Lake		.04							1.14	T.		T.		.07		T	T.		.25			.02				.27						1.79
Ellendale	James													.68													T.						0.68
Forman	Sheyenne												T.							.46			.05				T						0.51
Fullerton	James												T.	.66					T	T.							T.	T.					0.66
Grafton	Red	.26	T.							.75	.03			.73						.19							.17						2.13
Grand Forks ***	do	.02								T.			T.	.01			T.	T.	T.	.61	T.	T	.02				T.						0.66
Hankinson ‖	do													.22	.02					.02			.02		T.		T.						0.28
Hannah	Pembina		.07							.03	.06		.33	.20	.02		T.		T.	.24		T					.24						1.19
Hillsboro	Red										T.				.03					T								.03					0.06
Jamestown ‖	James													.16					.65														0.81
Langdon ‖	Pembina		.05							.40	.05	T.		.05	.40												.20						1.15
Larimore	Red		T							.22			T.		.10					.32			.04										0.68
Lisbon	Sheyenne			T.											.01					.28	.25		.04		T		.03	T.					0.61
McLeod	do												T.	.89						.10	.06		.03				.27						1.35
Mayville	Red	T.	T.											T.	T.					T.								.03					0.03
Oakes	James													.16	.06					.01			T.					T.					0.23
Park River	Red		.02						.26					.19				.06	.23			.03				.16							0.95
Pembina	do	.04								.12	.24			.20	.02			.01	.01		.10												0.74
Petersburg	do									.12				.07													.05						0.24
Sharon	do	T.	T.											.06						.17			.02				.02	.05					0.32
Valley City	Sheyenne								.03											1.10													1.13
Wahpeton	Red												T.		.37			T.		.30			T		T								0.67
Moorhead, Minn. ***	do		T.										T.	.02			T.	T.		.19			.01	T.			.20						0.42
Middle Division																																	
Ashley	Missouri												.15	.08					T.	T.							.04						0.27
Bismarck ***	do								.08					T.			T.			.02				T.	T.	T.	T						0.10
Bottineau	Mouse									.49	T	.02		.01	.22												.01						0.75
Carrington ‖	James								.23										.22									.15					0.60
Carson	Heart													T.													.05						0.05
Dogden Butte	Mouse								T	.02	.02									T.	.13		T.			T.		.12					0.29
Drake ‖	do									.18				T.						.91			T.				.08	.01					1.18
Dunseith	do	.01								.20					.01				T.								.03						0.25
Eckman	do								.12		.02			.02												T.							0.16
Energy	Missouri										T.																	.20					0.20
Fessenden ‖	James									.17										.41	.20						.09	.08					0.95
Fort Yates	Missouri																										T						T.
Foxholm (near)	Mouse		T.						.19		T.	T.		.12					.02	T.			.01	T.		T.							0.34
Gackle	James												.08							T													0.08
Garrison ‖	Missouri									.03																T.		T.					0.03
Granville	Mouse		T.	T.	.10				.48		.09				T		T.			.05			T.			.12	.06						0.90
Hansboro	Devils Lake		.16				T		.08		T		T.	T.						.42			.10			.08							0.84
Leeds	do									.41			.08																				0.49
Linton	Missouri									T.				T.						T.							T.	.17					0.17
McClusky	do										T.									.37			.02					.08					0.47
Maddock	Sheyenne		T.							.49	.26		T.		.03		T.			T.							.08						0.86
Mandan ‖	Missouri																																0.00
Manfred	James									.33	T.		.01							1.05						T.		.20					1.59
Max ‖	Missouri									.28										.02						T.	T.	.04					0.34
Minot ‖	Mouse	T.	T.							.19	.01				T.			.06		.15						T.		.01					0.42
Mohall	do				T				T.	.42	.10	T.	T.		.18		T.		.01	.05	T.	T.				T.	T.						0.76
Napoleon ‖	Missouri													T.	.02						.01							.37					0.40
New Salem	Heart																										.04						0.04
Pettibone	James								T.											.35													0.35
Rugby (near)	Mouse								.18		.04		T	T.						.14		T.				T.							0.36
Ryder	Missouri								.90			.07		.01					.26								.08						1.32
Steele	do								.17	.02										.20			.08					.96					1.43
Tagus	Mouse								.05	.01		T.							.06				.03				.02						0.17
Towner	do				T.			.38							T.					T.							.06						0.44
Turtle Lake	Missouri									.03										.01							T.	.27					0.31
Tuttle	do								.28																			.16					0.44
Velva	Mouse				T.				.20		.16				T.					.17			T.				T.						0.53
Washburn ‖	Missouri									.10		.18														T.							0.28
Westhope	Mouse		T.							.20	.24				.28				.06							T.							0.78
Willow City	do								.18	T	T			.18			T.			.38			.01			.09							0.84
Wishek ‖	Missouri													.06														.12					0.18
Zap	Knife								.05																								0.05
Western Division																																	
Alpha	Lit. Missouri											.08	.22	.02																			0.32
Beach	do												.18	.12																			0.30
Berthold Agency	Missouri				.18				.07	T.				.77					T.					T									1.02
Bowman	Grand																																.....
Corinth	Missouri				.02				.20			.65	.39	.26					.04	T.							T.					T	1.56
Crosby ‖	Mouse				.02		.01	.03	.07	1.03		.05	.35	.25	.15				T.	.06													2.02
Dickinson ‖	Heart							T					.07	.09	.10					.02	T.					T.	T.	.01					0.29
Dunn Center ‖	Knife								.16	.04		.38		.12																			0.70
Epping	Missouri								.21				.50	.02	.50									.03			.03						1.29
Fairfield	Knife												.33																				0.33
Fryburg	Heart			T.									.29	T.			T.		T.	.16			T.	T		T.	T						0.45
Hettinger	Grand												T.																				T.
Howard (near)	Missouri								1.10		.04	1.00	T.	T	.33									T.			T	T.					2.47
Kenmare	Mouse								.87										.22	.04												T.	1.13
Marmarth	Lit. Missouri											.07	.58	.19													T.						0.84
Mary	do																																.....
Mott	Cannon Ball													.23						.01							.01						0.25
New England ‖	do											.12														.03							0.15
Parshall ‖	Missouri								.09	.84		.15		.50												T.	.08						1.66
Portal ‖	Mouse				.18		.03			.39			.11		.63					.10													1.35
Powers Lake	Missouri			.32					.03				.81																				1.16
Richardton	Heart									T.			T.	T					.03								.03						0.06
Sanish ‖	Missouri									.85	.10				.46													.12					1.53
Tioga ‖	do								.10		.01	.25		.50																		T	0.86
Trotters	Lit. Missouri												.16	.35																		.15	0.66
Watford City	Missouri								.05			.17	.13	.62												.06	.03						1.06
Williston ***	do								.32		.01	.18	.12	.16	.07											T	.01						0.87

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. •Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum...	80	84	82	80	98	114	111	112	114	115	100	102	108	108	98	110	100	98	99	98	97	95	90	90	92	88	90	84	80	94	98	97.1
	Minimum ...	60	59	57	60	69	74	81	82	80	84	80	82	79	70	78	65	68	61	65	68	70	72	70	66	67	60	54	50	45	60	70	68.0
Devils Lake	Maximum...	71	81	83	93	99	112	108	104	94	111	107	105	103	91	99	106	102	98	88	86	94	92	86	91	97	88	87	77	84	95	98	94.5
	Minimum ...	52	52	52	61	66	67	76	64	68	73	76	74	76	65	65	69	72	63	64	58	62	63	54	61	60	67	64	52	47	59	68	63.5
Edgeley	Maximum...	90	88	88	97	100	116	110	106	110	110	107	105	102	96	96	109	98	101	99	98	96	96	89	94	97	97	94	87	84	94	96	98.4
	Minimum ...	50	45	52	50	56	60	71	69	72	73	83	68	67	60	60	67	74	61	64	60	54	72	62	70	57	70	60	51	63	63	50	62.4
Ellendale	Maximum...	81	93	90	96	103	112	105	104	111	110	107	105	102	98	103	107	104	103	97	89	96	98	93	100	100	98	93	89	86	91	95	98.7
	Minimum ...	55	50	58	62	61	65	75	80	72	74	80	72	70	65	67	68	75	66	67	63	61	65	57	72	62	76	65	58	53	54	64	65.5
Fullerton	Maximum...	79	90	88	98	101	113	106	107	112	111	108	108	106	98	103	106	104	102	96	88	99	98	92	98	102	96	92	87	86	94	96	98.8
	Minimum ...	55	48	57	61	60	62	72	76	72	71	78	73	70	67	61	66	74	64	65	62	57	67	57	69	62	72	63	55	52	52	63	64.1
Grafton	Maximum...	85	80	82	88	97	104	107	105	102	105	108	107	106	95	98	102	102	101	94	88	90	94	91	87	92	92	89	87	82	96	99	95.3
	Minimum ...	53	51	49	55	58	68	70	70	66	74	74	76	71	68	68	66	75	66	67	62	60	64	63	58	61	68	63	54	47	50	64	63.2
Grand Forks	Maximum...	75	77	82	88	95	104	105	105	101	108	108	109	106	100	99	104	100	94	85	87	95	94	84	90	93	89	90	79	82	93	97	94.1
	Minimum ...	54	51	53	61	60	67	73	74	73	77	77	76	72	70	72	66	76	67	65	59	60	66	54	61	64	70	68	53	44	50	65	64.4
Hillsboro	Maximum...	80	83	83	80	98	115	113	105	105	112	110	109	106	104	98	107	102	98	92	88	96	93	91	93	95	94	94	90	82	93	97	97.0
	Minimum ...	55	50	50	55	50	50	70	77	73	78	74	75	74	68	67	66	74	66	68	59	59	70	58	61	62	65	67	55	45	50	67	63.2
Jamestown §	Maximum...	77	93	89	94	101	118	108	107	109	113	109	108	106	98	104	108	103	106	95	89	97	94	89	94	99	97	91	84	85	95	97	98.6
	Minimum ...	57	51	55	64	63	67	75	74	75	77	80	72	75	65	64	67	79	68	63	61	57	68	66	69	64	77	67	56	52	58	65	66.2
Langdon §	Maximum...	70	80	80	91	101	107	112	95	96	106	110	112	106	100	104	102	100	93	85	93	94	80	85	90	95	86	88	74	84	97	103	94.2
	Minimum ...	42	50	50	55	60	68	70	64	65	70	78	73	66	64	60	68	73	63	63	56	58	59	60	58	54	65	56	48	42	46	63	60.2
Larimore	Maximum...	80	82	83	90	98	105	108	106	98	111	110	111	111	102	101	106	101	98	92	89	96	94	92	91	95	94	92	86	84	94	100	96.8
	Minimum ...	53	47	48	56	59	65	76	70	66	69	75	70	72	66	67	65	74	68	63	60	56	64	55	56	56	66	65	55	46	51	66	62.1
Lisbon §	Maximum...	79	88	88	94	98	113	104	103	108	111	107	105	103	98	102	105	99	101	88	83	94	96	85	82	97	90	93	84	83	92	93	95.7
	Minimum ...	56	50	56	63	60	69	73	82	72	80	77	76	74	69	67	65	75	67	66	64	58	65	59	59	59	67	64	56	51	50	63	64.9
Oakes	Maximum...	89	90	89	98	101	115	106	106	111	112	108	107	105	101	104	108	103	102	97	90	98	98	93	98	100	95	95	89	86	92	93	99.3
	Minimum ...	55	49	58	63	60	67	75	77	72	76	79	72	70	67	68	68	75	65	62	61	56	67	57	69	64	75	64	53	51	53	65	64.9
Sharon	Maximum...	75	82	84	91	97	114	105	107	101	111	108	107	104	97	102	105	100	99	89	86	95	95	84	93	95	92	88	80	84	93	94	95.4
	Minimum ...	52	51	51	53	62	62	75	70	70	74	75	75	73	64	65	73	75	70	63	60	56	68	55	57	56	66	64	53	48	58	68	63.3
Valley City	Maximum...	88	86	88	94	100	116	114	106	110	112	111	109	108	105	103	107	105	100	99	87	95	94	92	95	97	93	93	89	86	93	93	99.0
	Minimum ...	53	48	53	59	58	63	83	74	72	75	78	74	74	69	65	65	75	65	68	60	56	69	59	67	62	75	67	53	49	56	67	64.9
Wahpeton	Maximum...	82	83	88	90	94	111	110	104	106	111	108	108	106	103	102	105	101	103	98	90	95	99	94	86	96	95	96	93	84	91	97	97.7
	Minimum ...	52	48	56	63	61	67	76	80	71	76	79	75	73	71	65	66	78	61	66	59	57	68	56	68	64	71	64	54	46	51	64	64.7
Moorhead, Minn.	Maximum...	76	81	83	90	95	114	103	103	104	110	106	106	105	99	99	104	95	97	84	85	93	92	84	93	93	84	90	78	81	91	96	94.0
	Minimum ...	57	53	54	63	62	68	73	78	75	82	80	76	73	70	72	69	76	68	67	63	61	72	59	66	66	66	68	58	49	52	63	66.4
Middle Division																																	
Ashley	Maximum...	87	98	90	100	106	114	106	107	112	111	107	104	101	97	105	108	107	104	102	89	98	99	95	101	101	101	93	91	87	92	96	100.3
	Minimum ...	53	48	53	62	52	69	76	77	70	76	77	70	67	62	59	69	76	65	69	58	53	70	55	70	63	69	63	52	49	57	64	63.6
Bismarck	Maximum...	79	95	91	98	106	114	106	106	104	110	107	102	97	93	104	110	103	103	96	87	97	94	96	96	99	94	88	87	87	94	97	98.1
	Minimum ...	55	57	60	68	69	74	79	74	70	78	83	74	74	68	62	80	77	69	70	65	59	71	62	73	67	73	66	55	57	67	71	68.6
Bottineau	Maximum...	84	70	79	96	97	102	105	104	108	96	110	111	99	99	87	99	102	98	99	86	85	96	91	88	91	99	92	89	78	84	99	94.3
	Minimum ...	49	50	55	70	65	72	70	65	65	76	85	70	75	60	61	73	78	68	78	68	58	67	58	63	65	72	67	58	49	56	67	65.6
Carson	Maximum...	86	102	95	105	108	116	98	107	103	112	108	98	88	89	107	109	106	109	103	93	102	100	106	101	102	100	94	93	78	90	92	100.0
	Minimum ...	46	58	58	63	73	71	87	72	64	72	80	77	64	60	67	67	80	68	70	60	61	74	64	71	63	68	63	63	58	60	65	66.7
Drake §	Maximum...	74	84	87	98	104	113	107	101	95	112	109	104	100	91	103	110	106	101	91	85	95	92	88	94	100	90	87	81	85	96	99	96.2
	Minimum ...	51	52	51	44	55	71	73	65	62	68	76	73	72	63	64	71	60	66	67	60	62	63	54	57	59	63	61	56	48	56	61	61.4
Fessenden §	Maximum...	74	87	98	102	107	116	109	107	88	115	111	108	105	96	105	111	105	103	92	87	98	94	91	97	102	91	90	81	87	98	102	98.6
	Minimum ..	50	49	56	65	68	66	75	67	65	70	75	73	76	63	59	68	70	65	64	57	57	65	54	64	58	68	62	52	54	58	69	63.3
Foxholm (near)	Maximum...	75	82	86	94	104	102	97	97	94	103	110	103	96	88	102	101	101	103	95	88	96	92	84	94	99	89	84	82	85	100	98	94.3
	Minimum ...	49	53	51	62	65	75	67	62	61	70	72	72	69	62	60	72	69	70	61	58	64	62	54	60	62	60	57	55	47	63	70	62.4
Garrison §	Maximum...	80	93	91	102	110	116	107	107	99	114	115	108	103	94	112	98	103	105	91	88	102	93	96	97	104	97	89	83	87	98	103	99.5
	Minimum ...	50	54	54	53	57	63	58	68	64	70	78	75	74	61	64	75	70	70	65	62	59	68	59	64	66	67	70	56	54	59	70	63.8
Granville	Maximum...	75	82	82	98	106	111	103	100	97	108	114	102	101	91	105	108	103	105	95	90	99	92	92	95	102	90	88	82	86	100	102	96.9
	Minimum ...	50	51	52	62	60	73	64	62	61	72	71	73	72	63	58	63	75	65	60	55	71	62	50	62	60	57	54	48	45	60	72	61.4
Hansboro	Maximum...	68	78	82	91	100	106	106	101	96	109	108	101	103	93	103	99	100	97	85	88	95	91	85	87	98	91	88	76	86	98	102	93.7
	Minimum ...	38	49	44	55	55	55	67	61	60	67	74	66	65	66	61	57	71	63	61	57	59	55	52	55	56	58	58	49	38	50	69	57.8
Linton	Maximum...	84	100	97	101	108	116	111	108	115	113	107	104	102	97	107	113	106	108	102	91	100	99	98	101	102	101	94	94	89	95	100	102.1
	Minimum ...	53	55	61	67	68	73	76	75	72	78	80	71	73	65	57	76	78	67	72	63	52	74	61	73	68	74	64	58	56	64	69	67.4
McClusky	Maximum...	88	92	89	97	104	115	107	108	100	112	109	106	100	92	104	110	103	106	99	88	97	95	92	97	100	97	85	85	86	95	100	98.6
	Minimum ...	48	49	51	62	62	69	73	69	65	66	76	71	68	62	57	75	70	62	62	51	55	69	54	64	65	67	49	49	49	61	69	61.9
Maddock	Maximum...	75	79	81	92	99	105	110	101	95	108	104	104	101	99	102	105	100	107	95	88	95	94	88	92	97	98	87	87	84	95	101	95.7
	Minimum ...	50	50	51	57	57	65	65	64	63	70	69	70	69	63	57	65	72	62	64	54	53	64	50	62	58	66	60	46	44	56	68	60.1
Minot §	Maximum...	77	76	87	94	105	108	102	96	95	105	109	99	99	91	106	105	101	106	88	90	96	94	94	95	103	91	87	79	88	100	101	95.7
	Minimum ...	49	55	55	63	60	76	67	65	61	67	75	73	75	64	57	66	72	70	61	59	59	64	57	63	62	60	54	49	46	60	65	62.2
Mohall	Maximum...	77	83	87	96	111	106	99	95	95	104	112	109	98	96	103	100	101	100	99	90	98	94	89	94	102	101	89	85	86	102	102	96.9
	Minimum ...	47	52	50	60	59	69	68	62	60	69	70	71	69	59	60	67	61	61	64	54	60	62	53	59	63	58	53	52	41	51	62	59.5
Napoleon §	Maximum...	82	100	96	99	108	118	110	109	114	114	109	106	104	97	109	112	109	107	101	89	101	97	100	98	103	102	90	88	90	95	100	101.8
	Minimum ...	49	50	57	61	63	71	77	70	70	81	78	68	70	61	56	73	77	63	69	57	54	72	53	70	63	74	58	51	50	58	66	64.2
New Salem	Maximum...	85	97	95	100	110	119	107	110	103	115	114	110	97	93	107	111	102	110	100	89	100	95	102	99	102	96	95	90	89	100	101	101.6
	Minimum ...	59	50	57	65	61	65	69	65	60	69	79	68	64	58	59	76	72	61	61	58	57	66	53	64	61	61	60	51	64	60	65	62.5
Steele	Maximum...	75	94	89	98	106	121	110	108	106	112	117	109	107	100	103	111	105	101	95	85	96	92	90	95	105	95	89	85	85	95	98	99.3
	Minimum ...	50	57	55	66	61	68	75	68	65	72	79	79	80	61	76	74	75	62	63	56	54	64	57	65	61	52	65	51	49	60	66	64.1
Towner	Maximum...	77	85	85	94	103	111	108	101	96	107	110	106	101	98	103	106	106	102	100	88	100	95	90	91	101	88	89	87	85	100	101	97.0
	Minimum ...	48	49	49	60	69	70	63	62	63	73	75	73	73	62	60	66	76	65	65	58	58	63	51	61	61	60	55	56	45	47	70	61.5
Westhope	Maximum...	69	78	78	96	103	101	99	94	97	103	110	98	100	90	102	100	102	100	95	89	99	98	88	90	96	89	88	96	81	101	103	94.6
	Minimum ...	41	50	56	50	56	69	68	61	60	69	75	70	73	61	59	68	69	65	63	55	58	57	53	63	59	56	52	54	46	69	68	60.4
Western Division																																	
Beach	Maximum...	81	96	98	96	108	109	101	97	101	104	103	88	89	93	104	101	103	107	99	90	101	93	104	103	100	94	89	92	89	97	101	97.8
	Minimum ...	46	63	61	64	69	73	69	73	60	65	70	64	58	57	66	71	77	69	72	60	64	67	63	69	73	64	53	61	61	62	68	64.9
Berthold Agency	Maximum...	94	96	94	98	110	111	100	100	100	110	112	111	94	106	104	102	100	104	94	90	101	96	101	100	103	98	94	87	90	100	103	100.1
	Minimum ...	50	52	48	67	60	66	59	57	51	61	71	59	47	44	59	60	53	56	59	56	51	55	56	61	62	58	53	44	53	61	65	56.6
Bowman	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Crosby §	Maximum...	79	89	93	94	110	100	97	75	94	99	101	82	85	87	98	99	101	103	86	86	101	88	97	98	97	90	90	89	88	101	105	93.6
	Minimum ...	49	47	58	55	63	68	67	60	60	59	61	61	64	60	60	63	64	60	62	50	54	55	58	56	58	53	53	50	50	53	65	57.9
Dickinson §	Maximum...	84	97	97	99	109	114	100	108	104	109	110	98	89	92	105	103	103	105	96	90	100	94	108	100	101	93	88	90	90	97	101	99.2
	Minimum ...	49	56	60	64	68	73	67	68	60	64	73	64	61	58	59	68	73	65	65	64	61	68	59	67	69	68	59	53	58	60	67	63.5
Dunn Center §	Maximum...	81	92	94	96	107	111	98	97	99	107	110	95	89	89	103	101	100	102	88	88	101	93	106	98	101	91	89	86	89	99	102	96.8
	Minimum ...	49	54	56	62	62	60	68	65	59	65	76	63	66	76	58	73	71	67	72	70	57	60	60	61	64	73	53	45	50	60	62	62.5
Hettinger	Maximum...	88	99	98	100	109	113	100	104	106	109	107	96	89	94	107	105	105	104	100	92	99	96	108	101	100	96	91	88	85	93	100	99.4
	Minimum ...	46	59	60	64	68	70	71	72	64	65	71	65	63	59	66	75	74	67	70	58	64	71	60	71	66	67	61	59	60	65	67	65.1
Howard (near)	Maximum...	82	89	95	98	108	101	93	83	90	96	97	89	81	86	96	97	99	101	93	88	100	91	98	98	95	90	86	83	89	101	103	93.4
	Minimum ...	40	53	58	68	68	69	72	60	58	65	66	65	59	57	63	68	60	66	63	55	60	60	60	60	58	57	48	50	53	62	67	60.3
Kenmare	Maximum...	78	84	88	91	106	103	103	93	94	102	108	105	94	90	100	102	100	103	101	89	93	92	92	94	102	94	87	86	87	97	102	95.5
	Minimum ...	49	54	57	57	62	64	69	61	60	69	70	70	68	66	61	68	64	71	67	56	65	60	59	60	64	61	55	50	51	61	70	61.9
Marmarth	Maximum...	86	96	100	98	106	108	98	96	102	103	104	85	80	90	101	98	98	102	97	92	99	101	106	101	99	94	89	94	94	95	100	97.2
	Minimum ...	50	62	65	64	75	75	70	70	61	70	70	65	64	58	65	65	72	71	67	67	68	67	65	67	74	65	62	65	70	68	70	66.7
Mott	Maximum...	86	100	96	101	108	114	104	108	106	112	107	99	92	96	108	108	102	105	97	91	101	95	107	98	102	94	90	92	88	95	100	100.1
	Minimum ...	48	62	59	65	64	73	73	69	64	67	69	68	64	58	59	78	78	69	68	63	63	68	58	72	66	65	63	58	58	65	68	65.2
New England §	Maximum...	96	99	105	105	111	114	101	108	106	114	110	103	97	94	106	104	103	105	97	91	101	95	108	99	103	95	89	92	90	98	102	101.3
	Minimum ...	59	64	66	70	71	81	68	64	67	73	71	74	59	61	71	75	87	70	64	60	70	58	72	67	69	62	57	71	63	62	71	67.6
Watford City	Maximum...	82	93	90	96	110	112	98	94	97	105	108	91	89	89	106	103	104	106	90	93	104	91	102	98	101	96	89	90	90	101	106	97.5
	Minimum ...	48	55	66	73	81	85	70	68	58	71	74	66	63	62	64	74	67	70	67	61	62	68	63	67	64	63	52	56	61	64	68	65.5
Williston	Maximum...	81	90	94	94	110	109	99	84	97	104	101	86	82	91	102	101	100	105	88	89	101	91	102	98	95	89	86	85	89	99	103	95.0
	Minimum ...	51	58	64	74	69	78	72	66	59	69	71	66	65	63	67	77	67	74	68	60	67	68	65	70	75	61	54	61	60	70	72	66.5

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 8-28-36--1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLV BISMARCK, N. D., AUGUST 1936 No. 8

GENERAL SUMMARY

Hot, dry weather prevailed at the beginning of the month, but lower temperatures and beneficial showers occurred in most sections after the 12th. Almost all stations reported readings considerably above normal and the average temperature was exceeded only two times in the past 44 Augusts. However, freezing weather occurred at a few places in the northeastern part of the State on the 26th. Precipitation averaged below normal, except at a few widely scattered stations, mostly in the northeastern part of the State, but many stations had showers on the 13th, 20th, 21st, and 28th. Crops were mostly poor, but by the end of the month pastures, late sown feed crops, and late potatoes had improved in most sections due to cooler weather and beneficial showers. No severe dust storms or wind storms were reported.

TEMPERATURE

The mean temperature for the State was 69.8°, or 3.6° above the 1892–1936 average for August. The mean for the eastern division was 70.1°; for the middle division, 69.6°; and for the western division, 69.6°. The highest mean temperature was 74.2° at Linton, and the lowest, 63.0°, at Cavalier, making a range in mean temperature of 11.2°. The absolute range in temperature was 81°, from 110° at Linton and Napoleon on the 1st, to 29° at Cavalier on the 26th. The average daily deficiency in temperature for the State since January 1, 1936, is 1.9°.

PRECIPITATION

The average precipitation for the State was 1.40 inches, or 0.62 inch less than the 1892–1936 average for August. In the eastern division the average amount was 1.67 inches; in the middle division, 1.37 inches; and in the western division, 1.16 inches. The greatest monthly amount reported was 4.44 inches at Pembina; the least was 0.24 inch at Fullerton. The greatest amount recorded in any 24 consecutive hours was 3.62 inches at Sharon on the 22d. The accumulated deficiency in precipitation since January 1, 1936, is 6.51 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1	3	..	..	1	..	..	..	1	2	..
Fogs	..	..	..	..	1	..	..	..	..	..	..	..	..	4	1	..	..	..	..	1	7	10	..	..	3	1	3	..	..	1	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Solar halos	1	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Hail	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	..	2	..	..	..
Thund'rst'ms	2	..	..	1	..	1	7	..	..	1	..	..	4	4	3	2	3	12	3	12	22	7	2	2	..	..	5	4	1	..	2

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.93	30.29	4	29.62	17	8.8	34	w.	17	68	36	33	56
Devils Lake	29.97	30.33	4	29.63	17	8.0	22	ue.	11	78	42	44	74
Grand Forks	29.93	30.29	4	29.63	14†	......	27	sw.	7	73	....	43	....
Williston	29.94	30.32	4	29.56	17	7.2	23	ne.	2	70	40	35	66
Moorhead, Minn	29.94	30.33	4	29.63	18	8.2	21	sw.	7	72	46	44	62
Averages & ext's	29.94	30.33	4	29.56	17	8.0	34	w.	17	72	41	40	64

† And other dates.

COMPARATIVE DATA FOR AUGUST

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	67.3	105	24	2.86	2.80	1.50	2.39	0	8	15	10	6
1893	66.7	109	29	2.10	1.25	0.58	1.31	0	3	20	7	4
1894	68.8	102	30	1.37	0.86	1.20	1.14	0	4	17	10	4
1895	64.5	104	24	1.87	1.36	1.48	1.57	0	5	17	11	3
1896	64.7	107	21	2.07	0.86	0.42	1.12	0	5	17	10	4
1897	64.1	106	29	1.28	1.13	1.13	1.18	0	5	15	10	6
1898	65.4	104	24	2.92	1.40	0.75	1.69	0	5	15	11	5
1899	65.2	97	32	2.90	2.90	2.69	2.83	0	6	15	11	5
1900	70.4	114	33	6.05	4.53	4.60	5.06	0	10	14	11	6
1901	66.9	100	32	2.55	1.90	0.86	1.77	0	6	18	8	5
1902	64.3	96	26	2.65	2.36	1.88	2.30	0	8	16	9	6
1903	63.7	103	35	4.72	4.65	4.67	4.68	0	10	13	7	11
1904	63.3	102	31	1.56	1.92	1.34	1.61	0	6	17	7	7
1905	67.5	107	34	3.51	2.44	1.34	2.43	0	7	17	8	6
1906	66.3	105	31	1.53	1.74	2.25	1.84	0	7	17	6	8
1907	64.5	104	26	2.17	1.23	1.79	1.73	0	6	18	9	4
1908	63.2	104	25	2.48	2.46	1.55	2.16	0	7	17	8	6
1909	69.8	109	27	2.98	1.94	1.78	2.23	0	6	18	9	4
1910	63.1	109	24	1.58	1.30	1.51	1.46	0	5	14	8	9
1911	62.2	98	23	3.61	3.87	2.15	3.21	0	8	12	11	8
1912	63.4	118	32	3.41	2.60	2.62	2.88	0	10	11	10	10
1913	68.9	106	30	3.15	2.32	2.42	2.63	0	6	16	10	5
1914	64.2	101	26	2.00	2.26	2.61	2.29	0	7	13	11	7
1915	64.4	100	19	1.16	1.49	0.89	1.18	0	4	19	8	4
1916	66.0	100	26	3.17	2.79	2.05	2.67	0	8	16	10	5
1917	65.2	105	25	0.96	0.74	0.76	0.82	0	4	17	10	4
1918	66.5	102	34	3.51	3.39	3.25	3.38	0	8	15	11	5
1919	67.9	101	30	2.58	1.57	0.63	1.59	0	5	18	10	3
1920	68.8	108	28	1.03	2.01	1.55	1.53	0	5	22	6	3
1921	67.2	108	31	3.08	1.86	0.99	1.98	0	6	18	10	3
1922	69.8	115	33	1.29	1.63	1.02	1.31	0	6	18	9	4
1923	63.0	97	28	2.38	1.70	1.45	1.84	0	8	14	12	5
1924	63.8	102	28	2.27	1.36	1.09	1.57	0	6	17	9	5
1925	67.9	110	29	1.39	1.06	0.66	1.04	0	5	20	8	3
1926	65.6	105	36	3.01	2.41	1.68	2.37	0	7	14	8	9
1927	63.4	96	28	3.17	3.63	2.58	3.13	0	8	18	8	5
1928	64.8	105	25	3.84	3.15	2.28	3.09	0	8	17	9	5
1929	68.5	106	26	0.87	0.83	0.60	0.77	0	4	20	9	2
1930	70.4	104	32	1.40	1.45	1.49	1.45	0	6	15	9	7
1931	67.0	105	30	2.43	2.33	1.51	2.09	0	6	16	9	6
1932	68.3	100	28	2.40	1.37	1.89	1.89	0	7	16	10	5
1933	68.5	104	31	0.81	0.64	0.79	0.75	0	5	17	9	5
1934	67.4	108	25	1.70	1.15	0.60	1.15	0	5	16	11	4
1935	66.2	109	26	3.83	1.90	1.32	2.35	0	8	16	9	6
1936	69.8	110	29	1.67	1.37	1.16	1.40	0	6	14	11	6
Period	66.2	118	19	2.43	2.00	1.63	2.02	0	6	16	9	6

Climatological Data for August 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	68.8	+2.3	105	1	42	21†	48	0.52	−2.07	0.50	0	2	8	14	9	s.	I. Idso.
Cavalier	Pembina	894	26	63.0	......	100	7	29	26	58	3.89	+1.53	1.73	0	7	4	18	9	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	69.2	......	103	1	40	26	43	2.36	−0.27	1.81	0	8	25	4	2	ne.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	39	68.6	+3.8	99	7	39	26	39	1.48	−1.00	1.05	0	7	8	9	14	ne.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	72.0	+5.1	102	1	40	26	44	0.69	−1.78	0.30	0	5	10	21	0	se.	O. A. Thompson.
Edmore	Ramsey	1,524	12	66.3	+2.6	97	10	38	26	42	2.47	+0.33	1.60	0	6	8	7	16	ne.	A. G. Braund.
Ellendale	Dickey	1,457	41	72.8	+4.0	104	8	45	25†	40	0.53	−2.19	0.21	0	8	16	10	5	e.	J. E. Demmer.
Fullerton	Dickey	1,439	38	73.0	+5.9	105	1	43	26	40	0.24	−2.29	0.15	0	4	13	16	2	ne.	F. O. Alin.
Grafton	Walsh	827	44	69.8	+4.6	97	1†	44	26	47	1.73	−0.85	1.13	0	5	14	9	8	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	45	70.0	+4.6	100	7	41	30	42	0.49	−2.15	0.22	0	9	7	19	5	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	71.2	......	104	8	44	30	43	1.03	......	0.52	0	8	15	5	11	se.	Joseph Rindt.
Hannah	Cavalier	1,568	44	69.8	+6.9	99	10†	41	26†	47	2.37	+0.25	1.16	0	4	7	21	3	nw.	James Muir.
Hillsboro	Traill	901	30	72.3	+4.8	101	1	41	26	43	0.91	−1.79	0.71	0	4	14	12	5	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	71.2	+4.8	101	6†	44	30	50	1.30	−0.89	1.47	0	3	11	15	5	e.	S. Calvelage.
Langdon	Cavalier	1,615	40	67.0	+4.5	102	10	40	26	48	1.81	−0.65	0.80	0	5	......	......	......	......	R. T. Burke.
Larimore	Grand Forks	1,134	43	70.2	+5.2	103	7	40	26	47	1.40	−1.38	0.45	0	7	16	10	5	ne.	Mabel Walsh.
Lisbon	Ransom	1,091	32	71.5	+4.5	100	1	44	30	41	0.73	−1.95	0.41	0	5	10	11	10	ne.	J. O. Halverson.
McLeod	Ransom	1,075	25	70.8	+2.9	102	9	43	23	45	2.02	−0.40	0.85	0	4	16	7	8	sw.	J. G. Carlson.
Mayville	Traill	975	40	73.8	+6.8	....	....	....	....	......	0.56	−2.07	......	......	......	......	......	......	....	H. B. Addicott.
Oakes	Dickey	1,318	7	73.9	......	104	7	42	30	49	0.46	......	0.12	0	9	7	17	7	ne.	Eugene Naylor.
Park River	Walsh	998	32	64.9	−1.3	96	10	36	26	47	1.99	−0.43	1.52	0	5	17	4	10	nw.	C. B. Wright.
Pembina	Pembina	1,520	6	67.4	+3.1	103	7	42	3†	44	4.44	+2.25	1.60	0	8	19	7	5	nw.	E. N. Russell.
Sharon	Steele	1,516	12	69.6	......	101	7	43	26	42	3.85	+1.75	3.62	0	7	7	15	9	ne.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	73.4	+6.6	105	7	44	30	50	1.82	−0.39	1.21	0	5	11	15	5	ne.	I. C. Robertson.
Wahpeton	Richland	962	44	73.7	+5.8	101	8	46	4†	42	2.21	−0.47	1.06	0	5	10	15	6	ne.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	71.6	+5.5	98	1	49	26	37	0.96	−1.93	0.59	0	6	3	12	16	n.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	70.1	+4.1	105	1†	29	26	58	1.67	−0.85	3.62	0	6	12	12	7	ne.	......
Middle Division																				
Ashley	McIntosh	2,001	40	72.1	+5.6	104	1†	42	30	42	0.70	−1.85	0.28	0	5	17	10	4	se.	H. D. Piper.
Bismarck	Burleigh	1,670	62	72.6	+5.3	99	8	48	25	37	0.62	−1.20	0.35	0	7	15	10	6	ne.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	68.6	+4.5	100	11	44	24	47	0.98	−1.43	0.51	0	3	20	4	7	se.	N. D. School of Forestry.
Carrington	Foster	1,579	38	67.8	+1.0	98	1†	41	25	43	2.22	+0.06	1.75	0	5	6	22	3	se.	L. A. Swanson.
Carson	Grant	2,500	24	69.8	+1.9	106	1	46	24†	44	0.88	−0.92	0.65	0	6	12	13	6	se.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	68.4	+2.0	98	10†	42	25	46	0.96	−0.96	0.56	0	7	15	8	8	ne.	R. L. Williams.
Drake	McHenry	1,634	7	68.1	......	98	10	43	26	41	1.58	......	1.09	0	7	9	12	10	se.	Peter Anton.
Dunseith	Rolette	1,682	40	68.3	+4.4	100	10	40	24	49	1.84	−0.62	0.70	0	6	5	12	14	e.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	67.0	+2.8	101	10	39	3	50	0.87	−1.10	0.38	0	8	8	18	5	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	70.6	+3.0	105	10	45	25†	44	2.28	+0.35	1.93	0	3	12	17	2	n.	H. S. Solenberger.
Fessenden	Wells	1,610	24	69.2	+3.3	103	7	42	26	49	2.62	+0.31	1.98	0	8	12	11	8	se.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	73.3	+4.0	108	1	45	30	46	0.77	−1.40	0.28	0	5	13	11	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	67.8	+2.2	100	10	42	26	43	1.15	−0.59	0.31	0	8	9	11	11	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	70.4	......	103	1	44	26	34	2.68	......	1.75	0	4	15	14	2	ne.	A. H. Haut.
Garrison	McLean	1,901	59	69.2	+3.1	104	10	45	25	43	1.77	−0.24	1.12	0	6	14	14	3	ne.	E. L. Vorachek.
Granville	McHenry	1,504	29	68.8	+3.9	102	10	30	26	45	0.41	−1.49	0.16	0	4	16	7	8	se.	W. A. Christianson.
Hansboro	Towner	1,597	28	66.6	+4.2	105	10	34	30	49	1.36	−0.94	0.45	0	8	16	13	2	nw.	C. E. Blackorby.
Leeds	Benson	1,515	.....	68.2	......	100	1	39	3	49	1.15	......	0.49	0	6	13	15	3	w.	Ole Semb.
Linton	Emmons	1,711	19	74.2	+5.0	110	1	45	29	45	1.63	−0.74	0.64	0	9	10	16	5	e.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	69.6	+3.5	98	7	42	3†	41	1.70	−0.24	1.05	0	8	17	6	8	ne.	Edw. Tapley.
Maddock	Benson	1,604	21	68.0	+2.3	98	7	40	26	46	1.85	−0.62	0.95	0	7	10	8	13	ne.	A. T. Felland.
Mandan	Morton	1,750	22	72.2	+4.1	100	1†	47	25†	41	0.55	−1.17	0.28	0	6	13	9	9	se.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	68.0	......	100	9	42	3†	48	1.10	......	0.50	0	6	10	12	9	ne.	A. W. Rice.
Minot	Ward	1,557	40	67.4	+2.4	104	10	43	27	46	0.78	−1.29	0.29	0	7	17	6	8	ne.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	67.8	+3.9	102	10	37	18	60	2.40	+0.47	1.00	0	6	4	18	9	nw.	John Behan.
Napoleon	Logan	1,955	44	71.6	+5.2	110	1	40	26	46	1.78	−0.62	1.00	0	7	19	6	6	s.	C. J. Hoof.
New Salem	Morton	2,163	32	70.2	+3.0	103	7	42	24†	50	1.18	−0.64	0.40	0	7	20	9	2	se.	J. Christianson.
Pettibone	Kidder	1,856	27	69.8	+1.5	101	1	43	26†	39	2.36	+0.08	2.11	0	3	10	12	9	ne.	Sam Loeppke.
Steele	Kidder	1,857	42	71.7	+5.0	101	6†	44	25	42	0.92	−1.47	0.51	0	4	18	10	3	ne.	R. S. Armstrong.
Towner	McHenry	1,482	34	70.7	+5.3	100	10	39	26	52	1.17	−0.86	0.53	0	5	11	12	8	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	70.8	+4.4	102	7	34	26	56	0.54	−1.58	0.23	0	4	21	2	8	n.	M. A. Slettum.
Velva	McHenry	1,511	9	68.1	......	101	10	41	30	45	0.39	......	0.13	0	5	10	12	9	nw.	Oscar Anderson.
Washburn	McLean	1,731	35	70.8	+3.2	100	10	46	25	38	1.06	−0.61	0.59	0	5	15	12	4	e.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	68.1	+3.4	102	10	40	24	45	1.09	−0.91	0.29	0	11	11	15	5	ne.	D. W. Drake.
Willow City	Bottineau	1,471	44	66.8	+3.2	98	7†	37	26	48	0.62	−1.50	0.32	0	6	16	11	4	ne.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	70.8^{c}	+5.0	107^{c}	2	38^{c}	31	53^{c}	1.10	−0.81	0.46	0	7	....	......	......	se.	E. W. Davis.
Average for Middle Division		......	.....	69.6	+3.5	110	1	30	26	60	1.37	−0.73	2.11	0	6	14	11	6	ne.	......
Western Division																				
Beach	Golden Valley	2,759	30	70.8	+4.4	101	10	44	28	45	0.83	−0.86	0.15	0	9	8	16	7	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	68.0	+0.3	106	10	39	22	59	0.81	−1.11	0.28	0	7	18	8	5	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	70.6	+2.9	100	10	44	5	50	1.87	+0.07	1.08	0	7	26	3	2	se.	George Larsen.
Crosby	Divide	1,954	28	65.9	+1.3	105	10	43	3†	48	0.60	−1.39	0.25	0	6	12	13	6	s.	J. H. Phelps.
Dickinson	Stark	2,543	44	69.4	+3.1	104	10	42	6	53	1.23	−0.76	0.42	0	9	12	13	6	e.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	69.8	+3.6	104	10	44	6	52	1.11	−0.60	0.31	0	7	17	9	5	e.	W. F. Moede.
Epping	Williams	2,224	26	70.0	......	105	10	45	29	41	1.31	−0.39	0.54	0	7	18	8	5	e.	T. Beachler.
Fryburg	Billings	2,790	18	70.3	......	103	11	43	5	42	1.23	−0.73	0.32	0	7	15	10	6	e.	Verne King.
Hettinger	Adams	2,675	29	73.9	+5.1	105	1	43	5	51	0.79	−0.84	0.55	0	7	24	5	2	ne.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	66.4	+1.5	102	10	43	28	47	1.59	−0.05	0.56	0	5	10	16	5	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	68.9	......	101	10	41	16†	42	1.62	−0.32	0.70	0	7	14	10	7	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	27	72.4	+5.1	100	10	45	5†	50	1.33	−0.41	0.35	0	7	11	12	8	se.	S. P. Grane.
Mott	Hettinger	2,424	29	72.4	+5.3	105	10	43	6	53	0.83	−1.10	0.34	0	10	14	7	10	ne.	W. M. Hendricks.
New England	Hettinger	2,400	42	72.0	+5.1	104	10	45	5	44	1.41	−0.29	0.46	0	10	13	7	11	se.	F. S. Sleight.
Parshall	Mountrail	1,920	21	66.8	......	103	10	42	27†	49	1.95	−0.01	1.24	0	8	7	22	2	se.	C. E. Shubert.
Portal	Burke	1,954	31	65.0	+0.8	103	10	40	3	47	1.78	−0.11	0.60	0	9	16	6	9	e.	R. G. Wegener.
Powers Lake	Burke	2,205	31	68.4	+4.4	102	10	43	26	42	1.43	−0.34	0.70	0	3	20	9	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	20	70.4	+2.3	102	10	45	21†	39	1.08	−0.87	0.30	0	8	9	15	7	ne.	Assumption Abbey.
Sanish	Mountrail	1,835	11	68.8	+2.0	107	10	41	25†	56	0.70	......	0.27	0	6	17	10	4	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	23	70.5	+3.2	106	10	45	29	48	0.46	−1.25	0.18	0	4	7	22	2	e.	J. C. Zeller.
Williston	Williams	1,878	57	69.9	+3.8	103	10	48	29	38	1.01	−0.46	0.37	0	8	15	10	6	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	69.6	+3.1	107	10	39	22	59	1.16	−0.63	1.24	0	7	15	10	6	e.	......
Average for the State		......	.....	69.8	+3.6	110	1	29	26	60	1.40	−0.74	3.62	0	6	14	11	6	ne.	....

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for August 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red													T.	.50												T.	.02					0.52
Cavalier	do							T.							.62	.12		1.00				1.73	.22	.05				T.	.15				3.89
Cooperstown	Sheyenne					.05							T.	.06	.14						.03	.13	1.81					T.	.12	.02			2.36
Courtenay	James			.09										.15		T.						.47	1.86						.12	.11			2.80
Devils Lake ***	Devils Lake	T			.03			.03				T	T.	.01					.18		.01	1.05					T.		.17				1.48
Edgeley	James														.09					.09	.30		.15						.06				0.69
Edmore	Devils Lake	T.			T			.22	T				T	.01	.02				.22		T.	.40	1.60	T			T.		T.	T.			2.47
Ellendale	James				T.										.03		.09	T.		.04	.24		.03		.01			.06	.03				0.53
Forman	Sheyenne				T.										.16		.07			T.	.06							T.	.16				0.45
Fullerton	James				T.	.02			T		T.	T	T.	T.	T.	T.	.04	T		T.	.03	.15		T	T.	T.	T.	T.	T.	T.			0.24
Grafton	Red							.15	T.					.13				.18				1.13	.14						T.				1.73
Grand Forks ***	do	T.						.05	T.					.07	.02				.03	T	T.	.22	.04	.02				.01	.03				0.49
Hankinson ||||	do		.05			.01									.08		.03		.02		.30							.52				.02	1.03
Hannah	Pembina							T.					T.	T.	.24				.80		.17	1.16					T.	T	T				2.37
Hillsboro	Red		.07												.71						.03								.10				0.91
Jamestown ||||	James												T.	.18								1.47						T	.15				1.80
Langdon ||||	Pembina													T	.80				.70		.08		.18	.05									1.81
Larimore	Red				T.			.23						.03	.35				.07			.17	.45						.10				1.40
Lisbon	Sheyenne		T.			T.							T.	T.	.17					.03	T.	.41	.10						.02				0.73
McLeod	do														.33					T.	.85							T.	.80	.04			2.02
Mayville	Red																																
Oakes	James				T.	.04									.12		.08	.02		.01	.04		.07					.04	.04				0.46
Park River	Red							.14						.12				.18				1.52							.03				1.99
Pembina	do							.01							1.10				.64		.11	1.60	.37	.15					.46				4.44
Petersburg	do				.01			.25						.02	.03				.03		T.	.73	.22						T.				1.29
Sharon	do					.02			T.			T.		.03	.02				.02		.03	.11	3.62	T.									3.85
Valley City	Sheyenne														.49						.01		1.21					.01				.10	1.82
Wahpeton	Red		.06											T.	.30	T.					1.06	.13	T.					T.	.66				2.21
Moorhead, Minn. ***	do	T.			T.	T.			T.			T.	T.	T	.59	.01				.01	.25	T.	T.		T.		T.	.08	.02			T.	0.96
Middle Division																																	
Ashley	Missouri				T.												.09	.08			.05	.20						T	.28				0.70
Bismarck ***	do				.01			T.	T.			T.	.03	.01		T.	T.	.01		T.	.17	.35					T.	.04					0.62
Bottineau	Mouse													T.	.15				.51		.32			T.									0.98
Carrington ||||	James				.05									.05							.26	1.75						T	.11				2.22
Carson	Heart													.04		.03	.07				.05	.65		.04									0.88
Dogden Butte	Mouse				.14	.01								.13	T.				T.		.03	.01	.56						.08				0.96
Drake ||||	do				.13	.04								.01	.02				.06			T.	1.09						.23				1.58
Dunseith	do													.26					.49		.35	.02	.02	T.					.70				1.84
Eckman	do	T.			.02								.01	.17					.15		.38	.02	.01	T.		T.	T.	.11					0.87
Energy	Missouri				.10									T.							.25	1.93						T					2.28
Fessenden ||||	James				.11	.12			.02					.05	.04							.28	1.98						.02				2.62
Fort Yates	Missouri				T.			T			T			.11			.03	T		.20	T.	.28						.15					0.77
Foxholm (near)	Mouse				.21								T.	.26					.13	.05	.31	.06					T	.03	.10				1.15
Gackle	James			*										1.75						.04			.73						.16				2.68
Garrison ||||	Missouri				.31	.05								.22	.03						.04	T.	1.12						T.				1.77
Granville	Mouse				.16								T.	.10					.07	T.	.08						T.		T.				0.41
Hansboro	Devils Lake													.15	.03			.15	.45		.15	.35	.03						.05				1.36
Leeds	do				.03				.07				T	T.	.05				.49		T.	.45							.06				1.15
Linton	Missouri							.03						.13		T	.08	T		.15	.47	.64	.02				T.	.01	.10				1.63
McClusky	do				.03			.05						.07					.01	.01	.38	1.05	.10										1.70
Maddock	Sheyenne				.08			.21					T	.06					.28		T.	.95	.06					T.	.21				1.85
Mandan ||||	Missouri			T.								.04		T.				.02		.16	T	.28						.04				.01	0.55
Manfred	James				.15	.08		.10						.22							.25	1.15	.73						.04				2.72
Max ||||	Missouri				.17	.03							.15	.02								.50					T.	.23					1.10
Minot ||||	Mouse				.24	.02									.05				.29		.07		.05						.06				0.78
Mohall	do	T.		T	.10			T.				T.	T	.50					1.00	T	.50	.10				T.	T.		.20				2.40
Napoleon ||||	Missouri				.01									.01	1.00			.01		.02		.28	.45										1.78
New Salem	Heart				.01								.03	T.					.18	.04	.40	.40					T.	.12					1.18
Pettibone	James			.03											T						.22	2.11											2.36
Rugby (near)	Mouse				.08			.02						.08					.48		.01	.66							.08				1.41
Ryder	Missouri			.20	.01							T.	.15	.03						T	.08	.49					.03	.42					1.41
Steele	do														.03						.03	.51	.35										0.92
Tagus	Mouse	T.			.44								.02	.03					.02	.09	.43	.05					.03	.29		.02			1.42
Towner	do				.10								T.	T.	.01				.45			.08					T.		.53				1.17
Turtle Lake	Missouri				.08									.02							.23	.21											0.54
Tuttle	do				.07			T													.33	2.05	.18					T.					2.63
Velva	Mouse				.13	.01		T.					T.	.11						T.		.04					T.		.10				0.39
Washburn ||||	Missouri				.05									.03					.11		.28		.59						T.				1.06
Westhope	Mouse	.01			.01								.01	.28			T.	.17	.07	.29	.05	.02				.02	.16						1.09
Willow City	do	T.											T	.17					.32		.02	.02	.07				T.	.02	T.				0.62
Wishek ||||	Missouri				.05									.03	.02					.20	.26		.46						.08				1.10
Zap	Knife				.08													.04	.12	.13	.05	.08						.05					0.55
Western Division																																	
Alpha	Lit. Missouri				.04									.49				.08	.21	.08	.65	.05						.09					1.69
Beach	do	.08			T.												.10	.05	.13	.15	.13	.11	T				.03	.05					0.83
Berthold Agency	Missouri				.23								.02	.20					.02		T.	.28	.02				T.	T.	.04				0.81
Bowman	Grand				.18									.18			.10	.08	.17			1.08	.08					T.					1.87
Corinth	Missouri	T.			.36								.04	.04				.13		.19	.26						.63	.02					1.67
Crosby ||||	Mouse				.12										.02				.03		.25			.04				.14	T	T.			0.60
Dickinson ||||	Heart				.05	T.			T				T.	.11	T.	T.	.05		.09	.22	.42	.27	.01					T.	.01	T			1.23
Dunn Center ||||	Knife				.05									.30					.16	.07	.02	.20							.31				1.11
Epping	Missouri				.54									.03						.30	.15						.07	.09	.13				1.31
Fairfield	Knife																.45		.10		.10	.05						.18					0.88
Fryburg	Heart	T.	T	T	T.								T.	.08		.13	T.		.20	.32	.11	.28					T.	.11					1.23
Hettinger	Grand				.01									T.			.11	.01		.04		.55		.03				.04					0.79
Howard (near)	Missouri				.37							T.	T	T.						.56				.02	T.	T.	.44		.20				1.59
Kenmare	Mouse				.12								T.	.34					.08	.20	.70						T	.03	.15				1.62
Marmarth	Lit. Missouri	T.			.15									.08					.02	.32	.35	.27	.14					T.					1.33
Mary	do	.02		.01												T.		.03				.17					.06						0.29
Mott	Cannon Ball				.02								T	.04		.09	.05	T	.02	.02	.22	.34					T.	.01	.02				0.83
New England ||||	do			.01									.10			.10		.08	.14	.31	.46	.08					.05	.08					1.41
Parshall ||||	Missouri				.32	.10						T		T.				.05		.04	.06	1.24					.08	.06					1.95
Portal ||||	Mouse				.05										.51			.07		.40				.02		.02		.60	.03	.08			1.78
Powers Lake	Missouri													.41						.70				.32									1.43
Richardton	Heart				.03			T.					T.	.07			.03		.04	.04	.50	.14	T					.23					1.68
Sanish ||||	Missouri				.25	.03						.02		.03							.10		.27										0.70
Tioga ||||	do			.51	.02									.06						.60							.13						1.32
Trotters	Lit. Missouri	.12		T.	.08									.05			T.					.15					T.	.06					0.46
Watford City	Missouri	.07											.04					T.		.17							T.	.18					0.46
Williston ***	do	T.		.05	.32			T.				.06	T.	.07			T.			.35		.01					.11	.04	T				1.01

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. |||| Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum...	105	102	96	94	90	89	92	86	84	82	80	84	86	90	80	82	80	78	80	81	79	78	80	82	84	86	88	90	92	94	94	86.7
	Minimum...	74	70	60	62	58	55	56	54	52	50	54	53	50	52	49	50	48	47	46	44	42	44	46	47	42	44	46	42	46	48	47	50.9
Devils Lake	Maximum...	94	84	75	70	80	90	99	94	89	97	88	87	77	93	87	78	93	80	76	81	80	85	71	68	68	70	74	71	76	78	83	81.8
	Minimum...	69	63	48	54	53	56	60	64	54	62	69	63	63	61	57	46	56	62	51	54	59	61	56	44	44	39	49	54	49	43	56	55.3
Edgeley	Maximum...	102	95	92	80	79	94	94	98	95	94	88	85	85	94	94	94	93	90	88	78	85	87	87	85	76	74	72	74	79	82	85	87.0
	Minimum...	69	70	56	56	55	50	59	65	60	59	69	62	65	60	56	70	60	58	54	54	60	56	56	48	51	40	51	50	49	44	56	57.0
Ellendale	Maximum...	102	95	80	75	81	95	97	104	93	91	94	89	89	98	102	72	90	94	81	80	78	89	89	85	65	77	70	69	80	83	93	86.5
	Minimum...	74	76	61	57	59	55	66	67	61	63	62	67	62	63	67	57	53	64	59	58	59	60	56	50	45	45	58	54	52	47	56	59.1
Fullerton	Maximum...	105	94	82	74	82	95	98	102	93	92	95	89	92	95	99	77	90	94	87	78	81	90	87	85	68	76	73	74	80	83	92	87.2
	Minimum...	72	72	60	55	58	55	66	68	58	63	66	66	62	62	70	55	53	62	60	56	58	59	58	50	54	43	56	53	50	44	56	58.7
Grafton	Maximum...	97	95	83	74	85	90	94	95	94	97	97	87	84	86	92	81	91	90	79	84	83	85	85	67	65	73	72	73	76	76	84	84.3
	Minimum...	70	68	54	52	47	50	56	60	54	50	73	63	64	61	56	54	51	51	50	56	56	62	58	45	46	44	54	56	51	48	50	55.2
Grand Forks	Maximum...	96	94	79	74	84	90	100	97	91	97	92	84	77	87	95	77	87	85	75	84	85	86	71	71	70	72	72	73	79	72	89	83.4
	Minimum...	73	72	55	48	54	52	58	66	55	58	73	60	64	61	61	55	54	61	53	56	61	63	56	46	46	43	55	55	47	41	54	56.6
Hillsboro	Maximum...	101	98	90	75	83	92	99	98	96	96	95	87	86	90	92	89	86	89	83	79	84	87	80	76	70	75	72	72	80	80	88	86.1
	Minimum...	74	72	55	51	59	51	56	71	70	54	72	62	62	72	65	55	55	62	55	55	61	60	50	49	48	41	54	55	51	45	53	57.9
Jamestown §	Maximum...	95	80	75	80	95	101	101	92	94	90	87	87	98	95	80	91	90	80	76	81	88	77	75	72	74	75	74	78	80	85	86	84.9
	Minimum...	71	68	56	56	55	51	56	67	58	62	71	69	60	62	65	53	51	61	59	58	58	61	61	48	48	45	48	56	51	44	51	57.4
Langdon §	Maximum...	88	87	76	80	89	97	100	96	94	102	87	87	76	89	90	80	97	80	70	88	76	90	60	62	60	64	70	73	76	80	81	82.1
	Minimum...	67	60	44	50	45	49	56	59	50	60	68	59	60	58	55	44	52	58	47	49	52	58	51	41	41	40	43	52	45	42	51	51.8
Larimore	Maximum...	99	95	81	75	85	92	103	98	93	97	93	86	82	89	94	83	91	88	80	84	88	82	73	69	67	71	75	72	77	77	86	84.7
	Minimum...	69	65	53	53	53	51	56	63	58	52	70	62	60	60	63	52	54	61	52	53	63	62	57	44	44	40	56	49	51	45	52	55.6
Lisbon §	Maximum...	100	89	80	74	80	93	96	93	86	90	96	88	88	94	93	76	85	92	79	74	82	84	78	82	65	74	76	73	79	77	85	83.9
	Minimum...	73	73	61	54	57	52	63	73	61	55	65	66	62	63	64	56	62	60	60	56	60	62	58	51	54	50	52	58	50	44	56	59.1
Oakes	Maximum...	98	87	77	82	96	98	104	97	92	95	89	89	98	102	90	90	96	87	78	85	91	88	86	73	77	73	75	82	83	91	87	88.3
	Minimum...	75	77	61	54	59	54	65	70	58	65	67	67	60	64	64	55	55	64	60	58	58	62	59	51	55	45	58	55	49	42	57	59.5
Sharon	Maximum...	100	95	78	74	84	90	101	100	93	96	90	86	74	95	94	75	90	86	76	78	83	85	68	69	67	67	75	72	77	77	86	83.3
	Minimum...	69	67	52	54	56	52	59	65	59	60	71	64	61	59	65	51	51	59	53	51	58	58	58	45	44	43	50	54	48	45	48	55.8
Valley City	Maximum...	104	102	90	83	85	95	105	103	98	97	96	88	85	97	98	92	92	94	87	77	85	86	84	79	75	78	74	75	79	82	89	88.8
	Minimum...	67	68	58	54	60	50	55	71	60	58	68	65	64	61	63	54	55	62	59	57	58	64	59	49	50	45	53	57	50	44	56	57.9
Wahpeton	Maximum...	97	94	90	79	82	92	96	101	98	93	100	93	87	93	97	96	84	97	92	81	79	85	91	89	72	75	74	72	79	79	85	87.8
	Minimum...	73	64	61	46	58	56	69	70	59	65	66	67	61	64	63	54	54	63	60	58	61	65	61	54	54	56	55	57	48	46	59	59.6
Moorhead, Minn.	Maximum...	98	91	77	74	80	90	96	98	91	93	96	85	83	91	92	75	82	89	77	74	79	87	84	78	66	76	68	70	77	79	85	83.3
	Minimum...	74	72	61	52	61	53	64	70	62	59	69	64	62	61	63	56	57	64	59	57	60	66	59	53	54	49	59	55	52	50	57	59.8
Middle Division																																	
Ashley	Maximum...	104	100	81	75	81	94	96	104	94	92	93	89	90	98	99	88	89	94	85	76	86	87	90	82	74	78	70	74	79	84	91	87.6
	Minimum...	66	69	56	54	55	52	54	63	58	61	66	62	64	64	66	55	54	60	58	56	61	54	55	48	50	42	56	49	50	42	54	56.6
Bismarck	Maximum...	99	87	78	68	83	94	99	99	91	99	87	87	90	98	90	80	91	88	78	78	83	88	80	77	76	77	74	76	79	86	91	85.5
	Minimum...	68	67	58	58	60	59	72	64	57	71	71	64	67	61	66	58	64	65	60	55	60	56	57	50	48	50	56	51	52	51	59	59.8
Bottineau	Maximum...	98	83	85	72	74	72	90	91	91	93	100	88	88	70	93	78	78	99	78	73	80	78	87	91	69	73	71	78	79	68	87	82.4
	Minimum...	64	62	46	54	54	57	67	56	54	64	64	64	60	58	46	45	58	60	48	52	68	58	45	44	46	45	52	56	48	51	57	54.9
Carson	Maximum...	106	88	77	69	70	97	80	100	97	95	80	80	75	100	93	75	80	80	78	80	86	85	85	77	80	70	70	68	70	79	80	82.3
	Minimum...	64	64	51	50	54	53	68	67	57	68	64	60	67	60	67	55	64	64	58	52	56	56	56	46	46	52	52	56	48	47	54	57.3
Drake §	Maximum...	93	83	74	70	80	91	95	93	94	98	87	86	71	97	83	78	94	82	76	83	79	87	70	70	72	71	73	74	76	82	80	82.0
	Minimum...	67	61	47	53	53	53	61	66	54	60	59	64	59	56	63	50	55	59	54	45	54	56	54	44	41	43	46	51	48	48	54	54.2
Fessenden §	Maximum...	97	87	78	71	82	92	103	97	91	97	90	89	70	96	89	80	97	85	80	82	80	87	80	71	71	72	72	74	74	83	87	81.0
	Minimum..	62	67	48	52	54	48	54	59	57	54	66	63	58	60	60	48	68	60	54	52	52	55	54	45	44	42	48	52	48	44	54	54.3
Foxholm (near)	Maximum...	96	86	77	70	78	90	93	90	88	100	92	77	73	93	80	76	97	88	72	75	80	90	79	71	72	69	74	74	76	85	84	82.1
	Minimum...	65	60	46	53	53	55	66	67	55	57	59	61	59	52	60	49	55	59	48	48	58	54	53	43	45	42	49	49	51	44	48	53.6
Garrison §	Maximum...	88	86	76	66	82	92	99	96	92	104	85	83	75	97	84	79	96	85	75	79	82	89	73	72	76	75	73	75	78	85	85	83.3
	Minimum...	69	63	48	48	54	52	58	58	55	63	66	65	60	54	56	54	56	60	58	52	53	53	55	47	45	48	50	48	50	49	59	55.1
Granville	Maximum...	84	87	75	73	83	92	99	93	90	102	93	88	80	98	82	78	98	85	76	84	84	93	77	71	77	74	79	76	78	85	82	84.4
	Minimum...	63	67	43	55	59	51	62	60	49	63	64	62	60	54	56	45	58	56	48	54	62	49	56	43	45	30	45	47	47	40	52	53.1
Hansboro	Maximum..	86	85	76	78	84	93	95	92	92	105	90	91	79	91	84	79	98	87	75	82	81	89	75	61	70	71	77	72	77	80	88	83.3
	Minimum...	58	56	41	50	47	51	56	60	51	53	60	47	60	59	50	42	49	57	45	52	53	61	50	39	41	36	42	51	48	34	48	50.0
Linton	Maximum...	110	98	81	78	85	97	100	107	96	97	91	90	91	101	100	93	91	95	85	79	87	95	86	80	76	80	75	78	81	86	95	89.9
	Minimum...	65	69	55	55	59	58	68	66	58	72	69	67	61	64	73	56	55	58	58	53	59	55	60	48	50	48	56	49	45	47	61	58.6
McClusky	Maximum...	97	85	77	70	86	90	98	97	91	97	91	87	80	97	88	90	92	89	78	80	82	86	78	70	73	76	72	73	76	82	85	84.3
	Minimum..	65	63	42	52	56	59	63	61	50	63	63	63	59	62	62	60	51	58	52	51	59	54	54	44	44	43	48	49	42	47	59	54.8
Maddock	Maximum...	90	85	82	71	80	92	98	92	89	95	94	86	81	94	93	82	94	93	78	81	79	84	83	68	70	68	72	70	77	80	84	83.4
	Minimum...	61	61	41	56	54	46	54	59	50	55	66	62	58	60	58	44	56	60	52	54	51	54	54	43	42	40	46	51	43	45	51	52.6
Minot §	Maximum...	83	87	77	69	82	93	94	91	93	104	81	85	65	97	78	82	99	78	74	77	73	93	73	69	71	63	73	74	78	85	83	81.5
	Minimum...	65	57	47	53	51	54	65	59	49	59	62	62	64	51	57	49	60	58	52	52	55	51	53	46	46	44	43	47	48	44	48	53.3
Mohall	Maximum...	79	86	84	71	82	92	94	94	92	102	100	87	78	93	88	78	98	97	79	79	81	91	88	73	73	72	77	76	79	88	84	85.0
	Minimum...	65	58	41	54	45	48	48	65	51	52	53	60	58	53	59	47	55	37	47	50	55	52	52	40	42	43	49	46	48	44	50	50.5
Napoleon §	Maximum...	110	89	81	71	85	96	101	104	95	96	90	91	91	97	96	79	93	92	82	76	89	89	80	77	73	78	73	77	79	87	94	87.5
	Minimum...	64	65	52	52	55	52	63	64	55	64	67	63	64	63	62	54	58	59	57	55	60	52	57	47	49	40	51	45	45	41	53	55.7
New Salem	Maximum...	101	93	84	74	82	95	103	102	94	99	102	88	91	101	90	85	95	84	80	79	86	89	79	77	77	80	75	75	79	89	92	87.7
	Minimum...	65	61	47	50	48	45	65	62	51	65	65	57	60	57	60	52	56	57	50	50	56	50	43	42	49	42	49	45	45	42	49	52.7
Steele	Maximum...	100	85	80	84	85	101	100	101	94	96	90	89	89	100	92	85	96	94	89	80	79	89	80	84	75	75	80	80	78	85	87	87.8
	Minimum...	63	63	49	52	53	60	58	60	56	62	62	65	60	60	59	49	56	62	60	54	60	56	59	46	46	44	51	48	47	48	55	55.6
Towner	Maximum...	85	85	80	72	83	92	94	92	97	100	97	88	82	96	96	89	98	95	77	84	85	92	90	76	74	72	77	75	89	84	83	86.4
	Minimum...	62	60	45	54	49	65	52	52	52	48	62	60	59	64	69	58	46	59	50	54	57	55	70	45	45	39	44	49	71	65	45	55.0
Westhope	Maximum...	89	83	78	74	84	92	92	90	92	102	93	88	79	71	94	87	99	90	73	79	82	94	83	71	73	70	72	76	78	82	84	83.7
	Minimum...	70	57	44	52	42	48	58	61	47	59	60	58	60	59	58	48	61	57	48	52	54	52	51	40	44	42	44	60	43	49	50	52.5
Western Division																																	
Beach	Maximum...	87	86	75	67	82	95	96	92	98	101	89	91	89	95	84	81	99	85	73	77	77	90	83	78	78	76	75	74	80	91	93	85.1
	Minimum...	73	63	57	53	48	50	59	62	65	71	67	61	60	58	64	55	65	55	55	53	57	55	59	49	48	50	45	44	45	53	55	56.6
Berthold Agency	Maximum...	90	88	79	69	82	95	98	98	93	106	89	86	81	99	86	85	97	87	77	81	84	98	79	75	77	79	79	80	83	91	85	86.3
	Minimum..	64	50	45	48	44	44	54	52	43	58	60	58	54	47	52	42	51	51	49	47	55	39	58	44	54	46	41	41	51	46	52	49.7
Bowman	Maximum...	96	87	77	69	79	95	97	98	96	100	90	86	92	94	85	81	95	86	75	78	76	88	82	77	77	78	74	72	80	91	93	85.3
	Minimum...	74	69	57	49	44	45	62	59	58	70	65	56	58	60	58	56	59	58	55	59	56	52	55	47	47	54	52	45	49	52	53	55.9
Crosby §	Maximum...	80	80	85	70	70	90	98	86	95	105	81	84	69	93	78	82	101	81	64	79	88	91	78	71	75	61	65	69	78	92	82	81.3
	Minimum...	67	63	43	48	45	45	51	60	48	60	59	54	60	45	49	43	56	54	46	46	48	52	52	44	45	45	44	46	45	46	57	50.5
Dickinson §	Maximum...	93	86	76	66	82	95	98	97	95	104	84	90	85	97	87	79	96	85	73	75	79	92	83	78	79	77	76	75	80	90	95	85.4
	Minimum...	69	63	51	52	48	42	51	57	52	62	69	61	57	57	59	56	55	55	54	51	53	51	54	47	46	45	51	47	45	47	53	53.5
Dunn Center §	Maximum...	89	89	76	62	81	96	98	95	92	104	84	88	86	97	84	79	96	84	75	78	83	94	79	75	78	75	74	74	78	88	85	84.4
	Minimum...	68	74	51	54	46	44	53	61	50	65	68	65	58	55	60	57	60	57	66	53	54	49	56	48	48	39	50	49	45	47	52	55.2
Hettinger	Maximum...	105	87	80	71	81	95	99	98	96	101	92	91	89	98	92	90	94	92	90	79	82	92	90	88	79	78	76	74	81	91	95	88.6
	Minimum...	65	70	56	54	43	44	67	58	54	71	72	66	64	62	60	58	62	62	68	67	65	80	62	56	48	56	54	44	45	54	48	59.2
Howard (near)	Maximum...	90	82	72	65	79	92	96	90	90	102	80	79	72	92	77	89	92	86	77	71	82	88	78	73	76	67	69	76	77	88	90	81.8
	Minimum...	62	63	44	50	45	53	50	55	50	60	55	60	57	48	57	45	45	57	49	45	45	57	53	44	45	43	45	43	46	49	55	51.0
Kenmare	Maximum...	81	86	82	71	81	90	91	94	92	101	92	85	75	92	98	79	95	95	78	79	80	90	87	72	73	72	74	76	82	83	83	84.2
	Minimum...	66	62	44	53	48	56	66	65	52	65	55	61	57	51	61	41	59	53	49	53	57	59	53	43	41	46	47	48	49	52	51	53.6
Marmarth	Maximum...	93	86	80	72	79	95	95	97	96	100	92	91	87	97	88	86	96	92	80	77	78	90	86	81	79	79	84	75	80	91	92	86.9
	Minimum...	73	68	62	52	45	45	60	60	60	70	72	67	64	55	64	60	68	56	57	55	60	53	64	50	50	56	53	45	47	52	50	57.8
Mott	Maximum...	109	86	83	75	84	96	103	102	96	105	91	90	90	102	94	85	93	96	81	77	83	90	84	79	79	79	74	75	82	89	94	88.1
	Minimum...	63	67	55	56	46	43	67	59	55	73	71	65	61	59	66	57	64	58	59	54	54	50	57	48	47	52	55	46	47	51	53	56.7
New England §	Maximum...	98	90	79	72	86	96	99	98	100	104	83	93	98	101	100	84	97	92	77	76	80	98	76	80	82	77	77	84	89	93	91	88.8
	Minimum...	62	55	54	47	45	61	61	58	66	68	61	57	56	59	56	59	57	58	55	57	53	56	48	48	50	53	47	47	48	51	57	55.2
Watford City	Maximum...	88	84	78	66	84	98	97	91	94	105	90	85	88	95	82	82	96	88	71	78	83	94	82	75	78	69	72	77	72	92	92	84.7
	Minimum...	73	60	48	51	51	50	64	66	58	68	60	61	60	52	64	57	66	61	55	53	53	51	55	49	52	51	53	48	45	51	58	56.3
Williston	Maximum...	88	83	71	66	81	92	96	87	92	103	82	82	84	92	79	82	96	81	68	77	82	87	79	74	77	63	71	75	81	91	90	82.3
	Minimum...	74	60	54	52	49	56	64	66	55	74	58	64	61	54	60	56	67	60	56	54	58	56	57	49	51	51	49	59	48	58	62	57.5

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 10-2-36—1050]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

28

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLV   BISMARCK, N. D., SEPTEMBER 1936   No. 9

GENERAL SUMMARY

The unusual warmth which persisted throughout the summer, continued during the greater part of September. All stations reported temperatures above normal and many places had readings of 100° or higher on the 22d. However, killing frost occurred at all stations near the middle or at the close of the month. At most stations considerable precipitation occurred between the 4th and 15th, with heavy showers in the extreme northeast portion. After the 15th it was dry in all sections. No damaging storms were reported but dust storms occurred at many stations in the western and central parts of the State on the 3d, 12th, 13th, 22d, and 29th and in the southeastern section on the 17th and 19th. Except for late potato digging and fall plowing, farm work was practically completed by the end of the month. Winter rye seeding and fall plowing were below normal due to dry soil and though pastures and ranges afforded considerable feed in a few sections, many shipments of livestock were made from the west portion.

TEMPERATURE

The mean temperature for the State was 60.3°, or 3.7° above the 1892–1936 average for September. The mean for the eastern division was 60.7°; for the middle division, 60.1°; and for the western division, 60.2°. The highest mean temperature was 65.7° at Mott, and the lowest, 53.6° at Cavalier, making a range in mean temperature of 12.1°. The absolute range in temperature was 100°, from 112° at Berthold Agency on the 5th, to 12° at Howard and Max on the 30th. The average daily deficiency in temperature for the State since January 1, 1936, is 1.4°.

PRECIPITATION

The average precipitation for the State was 1.15 inches, or 0.40 inch less than the 1892-1936 average for September. In the eastern division the average amount was 1.47 inches; in the middle division, 1.29 inches; and in the western division, 0.68 inch. The greatest monthly amount reported was 4.12 inches at Cavalier; there was none at Amenia. The greatest amount recorded in any 24 consecutive hours was 2.25 inches at Hankinson on the 5th. The accumulated deficiency in precipitation since January 1, 1936, is 6.91 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	..	3	2	4	1	..	..	..	..	..	2	1	2	..	1	5	1	3	2	..	..	..	..	..
Fogs	..	2	..	.	5	11	5	1	2	..	..	..	1	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	1		..	..	..	..	..	..	..	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..
Hail	..	..	..	..	2	..	..	..	1	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Thund'rst'ms	1	2	2	4	17	8	3	1	9	6	4	6	12	12	..	..	..	..	5	..	..	..	..	..	1	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.93	30.45	16	29.44	13	9.3	34	se.	13	78	47	41	65
Devils Lake	29.94	30.42	16	29.49	22	9.3	26	nw.	23	85	50	55	69
Grand Forks	29.91	30.33	16	29.43	22	......	29	se.	13	79	....	52	....
Williston	29.92	30.47	16	29.37	13	8.3	34	w.	5	75	38	36	70
Moorhead, Minn	29.94	30.42	16	29.44	22	8.9	24	sw.	17	79	44	50	62
Averages & ext's	29.93	30.47	16	29.37	13	9.0	34	se.	13†	79	45	47	66

† And other dates.

COMPARATIVE DATA FOR SEPTEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	59.2	101	24	1.08	1.05	0.40	0.84	0	4	16	7	7
1893	57.1	102	8	0.75	0.75	0.94	0.81	0.1	4	18	7	5
1894	58.2	104	18	1.06	1.67	1.42	1.38	0	5	15	7	8
1895	56.6	100	12	1.29	0.61	0.42	0.77	0	4	12	12	6
1896	53.0	98	11	2.25	2.00	0.57	1.61	0	6	12	8	10
1897	64.1	109	18	0.24	0.25	0.35	0.28	0	2	20	7	3
1898	56.8	98	10	1.85	1.00	0.90	1.25	0	4	14	9	7
1899	55.0	101	11	0.60	0.57	0.57	0.58	T.	3	17	9	4
1900	54.6	98	17	5.15	5.26	4.44	4.95	T.	8	12	7	11
1901	53.6	100	12	2.41	1.80	1.82	2.01	T.	7	10	8	12
1902	53.6	95	15	1.24	0.54	0.44	0.74	0	4	16	8	6
1903	51.6	90	18	3.36	2.85	2.77	2.99	0.7	7	12	6	12
1904	54.7	96	18	2.12	1.18	1.00	1.43	0	5	14	7	9
1905	59.8	104	23	1.62	1.65	1.74	1.67	0	5	16	8	6
1906	62.8	109	20	1.54	0.73	1.07	1.11	0	4	19	6	5
1907	52.1	96	9	2.39	1.11	0.68	1.39	T.	6	14	8	8
1908	60.7	104	16	0.87	0.89	1.97	1.24	0.2	4	17	7	6
1909	59.0	93	24	1.03	0.77	1.04	0.95	0	4	16	8	6
1910	55.3	99	18	2.38	1.88	1.10	1.79	0.1	4	14	7	9
1911	54.9	95	21	2.32	2.41	2.38	2.37	T.	8	12	8	10
1912	51.5	124	18	3.54	2.50	1.82	2.62	0	10	11	6	13
1913	57.2	108	8	2.39	1.47	1.37	1.74	0.4	6	16	8	6
1914	59.3	98	25	1.24	1.00	0.84	1.03	0	5	16	8	6
1915	54.6	104	23	2.42	2.60	1.94	2.32	0	9	10	8	12
1916	55.1	99	15	2.12	1.07	1.10	1.43	T.	6	14	9	7
1917	56.4	97	16	1.53	0.93	0.65	1.04	0	5	12	9	9
1918	51.9	93	11	0.46	0.40	0.33	0.40	T.	3	15	9	6
1919	58.6	100	20	0.92	1.05	0.86	0.94	0.3	5	12	10	8
1920	59.0	99	19	3.94	1.19	1.49	2.21	T	8	15	9	6
1921	57.0	101	25	3.91	3.37	2.34	3.21	T.	12	12	10	8
1922	59.8	104	23	2.42	2.00	1.89	2.10	0	6	16	8	6
1923	60.1	99	15	2.04	2.25	3.25	2.51	0	6	14	8	8
1924	55.0	98	20	3.68	1.91	0.68	2.09	T.	7	15	7	8
1925	58.1	103	20	4.18	2.23	1.61	2.67	T.	8	12	8	10
1926	52.3	95	9	2.80	2.44	1.66	2.30	0.5	9	11	9	10
1927	56.8	101	10	1.06	0.47	1.48	1.00	T.	3	16	9	5
1928	53.9	95	12	1.50	0.75	0.74	1.00	T.	5	17	7	6
1929	52.7	105	12	1.65	1.82	1.47	1.65	0	5	11	9	10
1930	56.2	98	10	1.02	0.88	1.17	1.02	0	4	16	9	5
1931	61.4	107	27	1.97	2.38	2.06	2.14	T.	6	18	7	5
1932	56.8	102	22	1.10	0.56	0.23	0.63	0	3	18	8	4
1933	60.9	101	22	1.03	0.71	0.70	0.81	0	4	16	8	6
1934	52.4	95	9	1.28	0.86	0.74	0.96	2.0	7	11	9	10
1935	57.2	105	16	0.73	0.44	0.12	0.43	0	3	15	9	6
1936	60.3	112	12	1.47	1.29	0.68	1.15	T.	5	15	10	5
Period	56.6	124	8	1.91	1.46	1.27	1.55	0.1	6	14	8	8

Climatological Data for September 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	61.2	+3.9	105	22	29	30	55	0.00	−2.12	0.00	0	0	4	12	14	s.	I. Idso.
Cavalier	Pembina	894	26	53.6	......	87	2	27	29	43	4.12	+1.86	2.00	0	5	8	10	12	e.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	58.6	......	98	22	23	24	48	1.59	−0.23	1.01	0	5	19	5	6	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	39	58.4	+2.5	92	22	26	30	38	1.85	+0.22	1.41	0	7	10	10	10	s.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	62.7	+5.1	101	22	26	29	50	0.81	−0.98	0.56	0	6	8	21	1	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	12	57.4	+1.9	88	2	26	29	39	4.03	+2.94	2.14	0	7	10	7	13	s.	A. G. Braund.
Ellendale	Dickey	1,457	41	63.4	+5.0	101	22	29	27	49	0.26	−1.50	0.08	0	6	21	5	4	nw.	J. E. Denmer.
Fullerton	Dickey	1,439	38	63.5	+6.3	101	22	27	27	49	0.79	−1.31	0.65	0	4	16	12	2	nw.	F. O. Alin.
Grafton	Walsh	827	44	61.0	+4.7	92	22	23	29	43	1.04	−1.30	0.48	0	6	8	8	14	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	45	60.2	+3.8	96	22	26	29	44	1.27	−0.77	0.73	0	8	5	16	9	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	62.0	......	100	22	29	29	52	3.30	......	2.25	0	7	25	3	2	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	44	59.8	+5.8	95	1	23	29	43	1.68	−0.52	0.65	0	4	11	15	4	sw.	James Muir.
Hillsboro	Traill	901	30	62.4	+3.8	99	22	27	29	48	0.74	−1.41	0.40	0	5	15	10	5	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	59.8	+3.3	98	22	24	29	49	0.34	−1.50	0.34	0	1	14	14	2	nw.	S. Calvelage.
Langdon	Cavalier	1,615	40	57.6	+5.3	95	1	26	29	46	2.61	+0.29	1.45	0	5	16	9	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	43	59.6	+4.3	92	22	25	29	42	1.08	−1.18	0.46	0	4	15	5	10	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	61.6	+4.1	100	22	26	29	41	1.74	−0.40	1.29	0	8	10	11	9	nw.	J. O. Halverson.
McLeod	Ransom	1,075	25	61.8	+2.8	100	22	26	25	54	1.03	−1.18	0.86	0	4	22	3	5	sw.	J. G. Carlson.
Mayville	Traill	975	40	64.4	+7.0	98	22	26	30	47	1.30	−0.89	0.80	0	3	11	6	13	nw.	H. B. Addicott.
Oakes	Dickey	1,318	7	64.0	......	102	22	25	29	55	0.79	......	0.31	0	8	11	17	2	nw.	Eugene Naylor.
Park River	Walsh	998	32	55.7	−0.9	90	3†	25	29	47	1.90	−0.34	1.46	0	3	16	7	7	nw.	C. B. Wright.
Pembina	Pembina	1,520	6	57.0	+2.9	86	3	26	29	36	3.57	+1.35	1.30	0	6	12	5	13	s.	E. N. Russell.
Sharon	Steele	1,516	12	58.6	......	92	22	27	29	39	1.74	−0.11	0.97	0	7	7	14	9	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	62.1	+3.9	99	22	25	29	50	0.58	−1.30	0.25	0	7	18	8	4	sw.	I. C. Robertson.
Wahpeton	Richland	962	44	64.0	+4.8	101	22	25	29	49	1.34	−1.04	0.87	0	6	13	13	4	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	62.2	+4.0	101	22	31	29	50	0.26	−1.96	0.11	0	6	5	12	13	s.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	60.7	+4.0	105	22	23	24†	55	1.47	−0.58	2.25	0	5	13	10	7	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	40	62.6	+5.3	99	22	25	30	44	0.45	−1.15	0.22	0	3	20	7	3	nw.	H. D. Piper.
Bismarck	Burleigh	1,670	62	61.6	+3.5	95	22	31	27	41	1.66	+0.43	0.85	0	5	14	13	3	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	58.6	+3.7	101	3	25	24	44	2.21	+0.58	1.05	0	4	18	6	6	se.	N. D. School of Forestry.
Carrington	Foster	1,579	38	57.2	+0.6	91	22	17	30	47	0.99	−0.52	0.78	0	3	13	10	7	nw.	L. A. Swanson.
Carson	Grant	2,500	24	59.9	+3.5	93	22	28	27	40	2.41	+0.81	1.00	0	5	21	8	1	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	60.6	+4.9	92	1	27	24†	44	1.85	+0.69	0.54	0	6	17	10	3	nw.	R. L. Williams.
Drake	McHenry	1,634	7	58.0	......	91	1†	28	24	48	0.67	......	0.41	0	6	9	16	5	se.	Peter Anton.
Dunseith	Rolette	1,682	40	57.4	+3.0	93	1	27	25	44	1.24	−0.50	0.80	0	4	6	12	12	nw.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	58.7	+3.5	98	2	26	26†	47	1.81	+0.35	1.25	0	7	9	18	3	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	61.5	+4.7	94	1	28	27	47	1.55	+0.08	0.92	0	5	19	10	1	n.	H. S. Solenberger.
Fessenden	Wells	1,610	24	59.4	+3.7	94	22	26	24	46	2.04	+0.40	1.08	0	6	12	12	6	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	62.4	+2.6	101	22	28	30	49	T.	−1.52	T.	0	0	12	16	2	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	59.8	+5.4	95	2	28	26	45	1.97	+0.47	1.48	0	5	12	9	9	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	61.3	......	96	22	29	27	40	0.63	......	0.36	0	5	17	12	1	nw.	A. H. Haut.
Garrison	McLean	1,901	59	59.4	+4.5	95	1	30	27	45	2.08	+0.53	1.06	0	4	21	7	2	nw.	E. L. Vorachek.
Granville	McHenry	1,504	29	60.8	+6.0	98	1	28	24	45	2.18	+0.57	1.09	0	3	17	10	3	nw.	W. A. Christianson.
Hansboro	Towner	1,597	28	58.0	+4.5	94	2	27	24†	42	1.45	−0.53	0.60	0	5	17	7	6	nw.	C. E. Blackorby.
Leeds	Benson	1,515	.....	60.7	......	98	3	26	24	47	0.97	......	0.52	0	4	6	11	13	sw.	Ole Semb.
Linton	Emmons	1,711	19	63.0	+4.5	100	22	19	27	52	0.08	−1.52	0.03	0	3	16	12	2	n.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	59.4	+3.8	91	4	28	24†	43	0.87	−0.56	0.55	0	4	21	4	5	nw.	Edw. Tapley.
Maddock	Benson	1,604	21	60.3	+4.6	94	22	23	24	48	0.65	−1.16	0.23	0	7	10	13	7	nw.	A. T. Felland.
Mandan	Morton	1,750	22	61.2	+3.8	95	4	29	27	42	1.46	−0.03	0.81	0	7	14	8	8	se.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	57.6	......	94	3	12	30	49	1.43	......	1.14	0	4	18	8	4	.....	A. W. Rice.
Minot	Ward	1,557	40	57.2	+1.3	95	2	27	27	42	1.83	+0.17	1.36	0	4	14	10	6	se.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	60.7	+6.7	98	2	27	26	46	1.30	−0.26	1.00	0	5	6	21	3	nw.	John Behan.
Napoleon	Logan	1,955	44	61.4	+4.7	100	22	23	27	48	1.05	−0.43	0.83	0	5	21	5	4	s.	C. J. Hoof.
New Salem	Morton	2,163	32	62.0	+4.5	98	3	25	27	50	0.29	−1.07	0.10	0	4	23	6	1	nw.	J. Christianson.
Pettibone	Kidder	1,856	27	58.9	+3.7	94	22	24	24†	48	0.34	−0.98	0.31	0	3	6	14	10	nw.	Sam Loeppke.
Steele	Kidder	1,857	42	61.2	+4.3	98	22	23	27	50	0.70	−0.82	0.55	0	4	16	10	4	sw.	R. S. Armstrong.
Towner	McHenry	1,482	34	61.0	+4.8	94	1†	28	24	43	2.16	+0.40	1.09	0	3	13	9	8	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	61.6	+5.3	96	1	29	27	44	0.75	−0.63	0.42	0	5	23	2	5	s.	M. A. Slettum.
Velva	McHenry	1,511	9	60.3	......	96	2	28	24†	46	1.65	......	1.42	0	4	8	16	6	nw.	Oscar Anderson.
Washburn	McLean	1,731	35	60.4	+1.9	91	1†	32	16†	46	1.26	−0.08	0.77	0	4	21	3	6	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	......	......	.....	.....	.....	.....	.....	......	......	......	.....	.....	.....	.....	.....	.....	D. W. Drake.
Willow City	Bottineau	1,471	44	58.0	+3.8	95	1	22	24	46	1.38	−0.35	0.86	0	3	17	11	2	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	60.4^{d}	+4.8	96^{d}	22	19^{d}	28	49^{d}	0.92	−0.27	0.65	0	4	.....	.....	.....	ne.	E. W. Davis.
Average for Middle Division		......	.....	60.1	+4.0	101	3†	12	30	52	1.29	−0.25	1.48	0	5	15	10	5	nw.	......
Western Division																				
Beach	Golden Valley	2,759	30	60.9	+4.5	92	1†	27	16	43	0.18	−1.11	0.11	0	3	16	9	5	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	61.0	+4.1	112	5	23	27	58	0.68	−0.91	0.15	0	6	17	8	5	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	59.0	+2.2	93	4	25	27	46	0.35	−0.93	0.15	0	4	22	5	3	nw.	George Larsen.
Crosby	Divide	1,954	28	56.2	+2.1	93	1	29	16†	54	0.32	−1.07	0.20	0	5	8	11	11	w.	J. H. Phelps.
Dickinson	Stark	2,543	44	58.7	+2.7	92	1†	26	27	49	0.23	−1.09	0.07	0	7	21	5	4	w.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	58.6	+2.4	92	2†	28	16	49	0.88	−0.56	0.73	0	3	20	7	3	w.	W. F. Moede.
Epping	Williams	2,224	26	61.4	......	97	5	26	16†	46	0.49	−0.90	0.14	0	5	16	13	1	nw.	T. Beachler.
Fryburg	Billings	2,790	18	62.0	......	93	1	30	26	44	0.47	−0.90	0.22	0	3	21	7	2	nw.	Verne King.
Hettinger	Adams	2,675	29	64.0	+6.4	93	1†	27	16	47	0.40	−1.00	0.23	0	4	22	7	1	nw.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	57.7	+3.4	94	2	12	30	43	0.08	−1.30	0.06	T.	2	14	10	6	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	61.2	......	93	1	28	26	43	0.88	−0.73	0.65	0	6	11	11	8	w.	Synthia M. Costello.
Marmarth	Slope	2,714	27	61.8	+5.3	95	13	26	16	53	0.36	−0.93	0.25	0	4	18	7	5	nw.	S. P. Grane.
Mott	Hettinger	2,424	29	65.7	+9.1	95	1†	25	27	50	0.67	−0.74	0.33	0	4	17	7	6	nw.	W. M. Hendricks.
New England	Hettinger	2,400	42	62.8	+6.4	99	22	13	30	50	0.35	−1.03	0.12	0	5	12	11	7	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	21	57.7	......	94	2	27	16†	50	1.31	−0.23	0.67	0	6	12	16	2	nw.	C. E. Shubert.
Portal	Burke	1,954	31	56.2	+1.8	92	2	22	26	47	1.55	−0.04	0.83	0	6	20	5	5	w.	R. G. Wegener.
Powers Lake	Burke	2,205	31	58.0	+3.9	93	1	27	15	43	1.34	−0.17	0.96	0	3	20	8	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	20	62.8	+6.0	95	22	30	27	42	1.02	−0.34	0.90	0	3	16	9	5	w.	Assumption Abbey.
Sanish	Mountrail	1,835	11	58.8	+2.6	98	2	28	26†	51	1.15	......	0.68	0	5	20	9	1	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	23	60.8	+4.5	98	2†	28	26	55	0.58	−0.74	0.28	0	3	9	18	3	n.	J. C. Zeller.
Williston	Williams	1,878	57	59.9	+3.3	93	2	27	30	40	0.46	−0.63	0.18	T.	5	20	8	2	n.	U. S. Weather Bureau.
Average for Western Division		......	.....	60.2	+4.2	112	5	12	30	58	0.68	−0.71	0.96	T.	4	17	9	4	nw.	......
Average for the State		......	.....	60.3	+4.0	112	5	12	30	58	1.15	−0.51	2.25	T.	5	15	10	5	nw.	......

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for September 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																0.00
Cavalier	do				1.20	.40	.08				.44				2.00					T.													4.12
Cooperstown	Sheyenne				.11	.03	T.	T.		T.	.20	T		T.	1.01					T					T.	.24			T.				1.59
Courtenay	James			T.	T.	.02			T.	.03			T.		.17				T.					.06	.14								0.42
Devils Lake ***	Devils Lake				1.41	.05	.10		T	T			.03	.09	.10									.07		T.	T.				T.		1.85
Edgeley	James				.06	.56	.10		.03		.03								.03														0.81
Edmore	Devils Lake				2.14	.83	.02	.08	T	T.	.15		T.	T.	.80	T.								.01	T.	T.	T.						4.03
Ellendale	James				.08	.04	.01			.02					.04			T.		.07													0.26
Forman	Sheyenne				.10	1.21	.50			T.	T	.07			T.	T.				.15													2.03
Fullerton	James			T.	.04	.65	T		T.	.08		.02		T.	T.			T.		T						T							0.79
Grafton	Red				.21	.16					.10	.05			.48										.04	T							1.04
Grand Forks ***	do				.05	.15	T.		T.	.04	.16	T.		T.	.73					.01				.01		.12							1.27
Hankinson ‖‖	do				.03	2.25	.05			.70		.05		.02						.20													3.30
Hannah	Pembina					.36	T.				.42		T.	.25	.65									T.		T.					T.		1.68
Hillsboro	Red							.40			.10		.02		.02											.20							0.74
Jamestown ‖‖	James				T.		.34													T.						T.	T.						0.34
Langdon ‖‖	Pembina							.10	T.		.20				1.45	.82									.04								2.61
Larimore	Red				.07	T.			T.		.41				.46											.14							1.08
Lisbon	Sheyenne		T.		.06		1.29	.02		.04	.07	T.			T	.09			.03	.14							T.						1.74
McLeod	do						.86		.01		.08				T			T.		.08													1.03
Mayville	Red							T.					.27		.80											.23	T.						1.30
Oakes	James				.10	.31	.02			.04	.04	.08			.05					.15													0.79
Park River	Red			.24		1.46				.20			T.	T	T.																		1.90
Pembina	do				1.03	1.30				.04	.23	.04			.93																		3.57
Petersburg	do				.14	.42		.02			.14		.01		.18											.04							0.95
Sharon	do				.08				T.	T.	.05	.41	.01	T.	.97									.01		.21							1.74
Valley City	Sheyenne				.05	.17	.07	T		T.	.02				.01					.25						.01							0.58
Wahpeton	Red				T.		.87	.04		T.	.20	.09		T.	.08			T.		.06													1.34
Moorhead, Minn. ***	do				T	.01	.01	.05	T.	T.	.11	T.		T.	.07	T.		T.		.01				T.		T.		T.					0.26
Middle Division																																	
Ashley	Missouri				.09	.22	.14		T	T.		T.						T.															0.45
Bismarck ***	do	T.		T.		.85	.07		.12	T.	T			.49	T											.13							1.66
Bottineau	Mouse			T.			1.05	.23			.58				.35																		2.21
Carrington ‖‖	James			.05						.16				.78											T.	T.							0.99
Carson	Heart					1.00	.59		.06					.72												.04							2.41
Dogden Butte	Mouse		.31			.54		.07	T.		.45		T.		.46											.02							1.85
Drake ‖‖	do						.41	.05			.04			T.	.15	.01										.01			T.				0.67
Dunseith	do							.04			T.	.32			.80										.08			T.					1.24
Eckman	do				T.	1.25	.02		.01	.12	.10			.26	.05																		1.81
Energy	Missouri					.92	.10			.20				.23												.10							1.55
Fessenden ‖‖	James				.02		.21				1.08				.61	.06										.06							2.04
Fort Yates	Missouri						T.		T.						T.																		T.
Foxholm (near)	Mouse					1.48			.08	.08				.31	.02											T.							1.97
Gackle	James			.05		.36	.03							.17												.02							0.63
Garrison ‖‖	Missouri						1.06	.11						T.	.86											.04			T.				2.08
Granville	Mouse					1.09	T.	T.	T.	.09			T	T.	1.00	T.										T.		T.					2.18
Hansboro	Devils Lake					.30		.25			.20			.10	.60																		1.45
Leeds	do					.52		.15							.28									.02									0.97
Linton	Missouri						.03		.03						T.											.02							0.08
McClusky	do					.55				.03					.15											.14							0.87
Maddock	Sheyenne				.04	.12	T.	.23	T.	T	.06		.02	.08	.10									T				T					0.65
Mandan ‖‖	Missouri		T.			.40	.05		.11	.01				.81	T.										.02	.06							1.46
Manfred	James				.05	.23			.01		.66			.11	.80											.02	T.						1.89
Max ‖‖	Missouri					1.14	.02			.04				.23											T.								1.43
Minot ‖‖	Mouse						1.36	.02	T.		.07				.38	T																	1.83
Mohall	do				T.	1.00	T.	.05	T	.03	T.			.12	.10	T.												T.					1.30
Napoleon ‖‖	Missouri						.83	.12		.05																.02	.03			T.			1.05
New Salem	Heart					.05	.10		T.	T				T.	.07											.07							0.29
Pettibone	James					.02	.01		T.	T.			T.		T											.31							0.34
Rugby (near)	Mouse		.12			.28		.05	T.	.05				.40	.07									T				T.	T.				0.97
Ryder	Missouri					.73	.18						T	.59	.01													.04					1.55
Steele	do					.55	.05		.02	T.			T.		T											.08							0.70
Tagus	Mouse					1.19	.02		.10	T.				.31	.04	T.																	1.66
Towner	do					.96				.11					1.09	T.										T.	T.	T.					2.16
Turtle Lake	Missouri		.04			.42	.02								.22											.05							0.75
Tuttle	do					.12	.01			T.				T.	.26											.15	.03						0.57
Velva	Mouse					1.42	T.			.02					.20											.01							1.65
Washburn ‖‖	Missouri						.32	.06							.77											.11							1.26
Westhope	Mouse																																
Willow City	do					.41			T.	.11			T.		.86													T.					1.38
Wishek ‖‖	Missouri				.05			.12			.10				.65																		0.92
Zap	Knife					.71	.05							1.12											.04								1.92
Western Division																																	
Alpha	Lit. Missouri			T.		.15					T				.02											.10							0.27
Beach	do			T.	T	.03			T.	T					.11											.04							0.18
Berthold Agency	Missouri					.15	.04			.14				.15	.12											.08							0.68
Bowman	Grand			T		T	.02		.12	.06	T.		T.													.15							0.35
Corinth	Missouri			T.	.36		.15	.05		.02			.02		.11	.03																	0.74
Crosby ‖‖	Mouse					.05	.20	.03	.01							.03	T																0.32
Dickinson ‖‖	Heart			T.	T.		.04	.01		.01	.01			.03		T.										.07	.06						0.23
Dunn Center ‖‖	Knife					.73		.07																		.08							0.88
Epping	Missouri					.07	.05	.13	.10						.14																		0.49
Fairfield	Knife																																
Fryburg	Heart			.14	T.	.22	.11			T.			T.	T.												T.							0.47
Hettinger	Grand			T.		.06	.23		.02																	.09	T.						0.40
Howard (near)	Missouri			T.		.06	T.		.02					T.	T.	T.											T.						0.08
Kenmare	Mouse					.65	.04	.02	.02					.09	.06	T																	0.88
Marmarth	Lit. Missouri	.06		T.		.03	T.		.02	T.	T.															.25							0.36
Mary	do					.07	.22							.44	.08									.13									0.94
Mott	Cannon Ball					.33	.22		.07	T.	T.			T.												.05							0.67
New England ‖‖	do		.01			.09			.08	.12																.05							0.35
Parshall ‖‖	Missouri					.45	.12			.01				T	.67	.04										.02							1.31
Portal ‖‖	Mouse					.50			.02	.05				.04	.83	.11																	1.55
Powers Lake	Missouri					.96			.31					.07																			1.34
Richardton	Heart			T.		.90	T.		T.	T	.06			T												.06							1.02
Sanish ‖‖	Missouri						.12				.20			.05	.68	.10										T.							1.15
Tioga ‖‖	do			.08	.63	.04	.04							.60	.08																		1.47
Trotters	Lit. Missouri				.22				T						.25											.06							0.53
Watford City	Missouri					.28				T.					.22											.08							0.58
Williston ***	do			T.	T.	.17	.01		.09	T.				T.	.18	T.										.01							0.46

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum	92	94	90	81	82	84	80	85	87	86	84	87	90	92	80	76	78	84	82	82	90	105	86	80	78	80	78	79	76	74	....	84.1
	Minimum	44	46	44	41	40	42	44	40	37	40	42	44	40	38	37	34	33	31	36	40	44	50	42	36	31	30	32	31	30	29	....	38.3
Devils Lake	Maximum	90	88	87	86	73	72	77	66	70	74	83	68	75	70	59	58	67	71	75	79	78	92	60	64	56	52	65	57	67	50	....	71.0
	Minimum	59	59	61	64	63	56	54	50	45	52	52	43	57	41	35	34	44	38	48	44	49	54	36	28	43	37	35	29	34	26	....	45.8
Edgeley	Maximum	85	92	86	83	92	86	77	71	73	85	89	88	83	82	72	71	76	69	80	84	88	101	99	68	66	60	65	60	64	60	....	78.5
	Minimum	60	61	54	60	61	51	64	63	38	51	52	48	61	58	40	35	39	35	45	43	50	53	49	27	49	34	27	38	26	35	....	46.9
Ellendale	Maximum	81	87	84	88	88	77	79	64	76	79	86	80	83	89	71	67	76	77	83	85	95	101	67	71	78	58	67	65	66	52	....	77.3
	Minimum	63	54	55	65	66	64	56	55	43	54	59	51	62	64	44	34	43	40	51	47	48	52	54	33	48	43	29	43	30	37	....	49.6
Fullerton	Maximum	88	89	86	88	93	77	79	76	81	80	87	78	82	87	69	64	76	73	81	83	91	101	86	69	71	56	68	65	66	58	....	78.3
	Minimum	63	54	56	64	65	62	59	54	42	55	55	51	63	58	43	33	44	39	52	46	47	52	52	30	48	42	27	41	28	36	....	48.7
Grafton	Maximum	87	88	91	88	85	78	80	79	76	75	82	71	74	77	62	59	66	70	75	79	79	92	87	60	59	57	66	65	66	64	....	74.6
	Minimum	52	59	60	65	66	56	57	56	40	55	52	45	56	56	39	36	40	33	44	48	53	50	44	42	50	39	31	35	23	43	....	47.5
Grand Forks	Maximum	86	87	89	85	81	79	83	68	74	75	85	72	74	81	67	58	68	73	74	80	79	96	59	60	55	55	67	57	64	50	....	72.7
	Minimum	57	58	60	67	68	58	54	57	41	56	56	43	57	50	41	37	43	36	48	46	53	52	47	34	50	39	31	32	26	35	....	47.7
Hillsboro	Maximum	88	88	86	86	86	79	82	80	74	78	88	85	75	88	69	60	74	75	79	80	81	99	89	62	62	52	65	68	64	63	....	76.8
	Minimum	55	56	59	66	68	67	56	55	39	56	54	45	59	61	42	34	41	35	47	50	44	51	48	32	49	39	35	34	27	40	....	48.1
Jamestown §	Maximum	86	90	86	88	84	78	82	70	68	78	90	75	78	78	67	63	73	75	79	84	87	98	65	72	57	55	71	62	70	50	....	75.3
	Minimum	59	53	59	61	65	59	55	56	40	43	54	46	46	62	38	35	38	35	36	43	45	49	48	28	31	40	27	29	24	26	....	44.3
Langdon §	Maximum	95	91	88	90	85	80	80	70	70	72	81	67	70	68	60	60	70	72	80	82	76	89	55	58	55	50	50	54	65	43	....	70.9
	Minimum	53	70	71	68	63	60	50	55	40	40	48	41	45	59	40	30	41	35	38	41	43	43	41	31	38	35	30	29	26	27	....	44.4
Larimore	Maximum	85	87	88	88	83	82	80	75	74	72	84	69	76	81	63	56	67	74	75	78	75	92	82	62	58	53	65	61	63	60	....	73.6
	Minimum	52	57	57	65	65	55	53	54	40	53	46	43	56	55	39	35	39	32	47	46	53	51	46	35	49	38	29	31	25	38	....	45.5
Lisbon §	Maximum	84	85	87	88	86	69	77	73	76	78	86	76	75	87	69	63	74	72	80	80	87	100	64	67	70	64	62	62	61	55	....	75.2
	Minimum	60	56	61	64	66	59	57	57	41	56	56	50	52	65	46	35	39	32	39	44	51	61	54	30	34	42	30	44	26	28	....	48.0
Oakes	Maximum	87	90	86	89	90	78	82	77	81	82	90	80	80	90	73	67	74	78	83	86	96	102	88	70	73	56	69	65	67	60	....	79.6
	Minimum	63	56	55	65	66	60	54	52	40	51	60	52	64	59	45	33	45	35	49	45	50	47	53	30	50	42	28	39	25	37	....	48.4
Sharon	Maximum	84	87	88	84	84	74	79	64	68	74	87	71	70	79	60	55	68	71	74	78	77	92	70	65	55	49	61	60	66	55	....	71.6
	Minimum	50	56	60	64	64	54	52	54	38	53	49	45	55	49	37	31	41	37	49	41	49	55	44	29	48	37	32	35	27	37	....	45.7
Valley City	Maximum	86	88	87	90	88	77	83	82	74	84	88	78	75	86	72	63	73	75	79	81	88	99	86	66	62	56	69	66	66	65	....	77.7
	Minimum	59	51	51	65	64	57	55	54	38	54	55	48	53	58	40	31	40	31	40	41	51	49	49	29	49	41	31	44	25	38	....	46.5
Wahpeton	Maximum	82	85	85	86	85	80	76	79	75	80	83	82	75	89	74	69	74	75	81	83	89	101	95	64	74	58	66	66	64	62	....	77.9
	Minimum	60	55	56	65	69	64	57	56	41	60	60	52	64	60	47	34	43	43	59	41	52	52	53	32	51	43	28	42	25	40	....	50.1
Moorhead, Minn.	Maximum	87	85	86	86	81	74	81	74	74	79	85	79	72	88	70	61	69	74	80	80	86	101	68	63	67	55	68	59	64	53	....	75.0
	Minimum	64	57	59	65	68	61	56	53	40	59	62	49	63	49	46	36	43	42	51	44	54	51	47	36	50	38	35	38	31	35	....	49.4
Middle Division																																	
Ashley	Maximum	90	86	78	87	90	80	83	78	78	82	90	80	83	77	68	66	74	78	81	83	81	99	90	71	70	55	67	68	65	54	....	77.7
	Minimum	63	62	51	62	65	57	52	55	34	51	55	50	62	60	39	34	44	34	47	42	53	55	49	27	50	40	26	38	40	25	....	47.4
Bismarck	Maximum	91	88	86	94	77	75	83	68	79	78	85	76	86	70	62	63	68	76	78	82	88	95	63	75	67	54	68	63	70	50	....	75.3
	Minimum	65	60	64	69	61	56	53	49	43	53	55	48	65	41	39	39	43	35	49	43	50	58	44	35	45	38	31	43	32	33	....	48.0
Bottineau	Maximum	85	93	101	91	93	86	72	71	70	71	72	72	71	82	63	58	52	66	73	75	79	76	86	54	59	51	58	64	65	62	....	72.5
	Minimum	63	62	62	66	67	67	52	51	42	50	50	45	42	52	35	28	32	35	45	42	41	52	42	25	35	28	30	35	35	28	....	44.6
Carson	Maximum	92	89	80	83	82	68	86	70	80	70	70	75	75	70	60	65	58	73	70	70	80	93	72	70	70	55	68	74	70	60	....	73.3
	Minimum	67	58	57	65	64	56	50	51	49	48	52	43	50	44	36	31	41	40	46	43	50	57	46	35	47	36	28	38	35	33	....	46.5
Drake §	Maximum	91	91	90	91	75	76	80	68	72	75	79	68	81	58	58	60	67	74	77	81	82	91	60	72	58	52	67	58	70	46	....	72.3
	Minimum	59	61	63	47	64	57	53	51	43	42	49	43	33	52	37	32	32	39	41	47	51	52	46	28	29	31	31	38	32	29	....	43.8
Fessenden §	Maximum	92	90	88	92	77	77	78	81	73	74	85	70	78	61	60	60	68	73	76	80	84	94	72	72	57	53	70	60	68	48	...	73.7
	Minimum	58	56	61	65	62	55	56	48	38	49	50	42	56	56	36	32	37	40	41	41	46	52	55	26	33	40	27	39	27	31	....	45.2
Foxholm (near)	Maximum	91	95	84	90	83	68	83	73	69	72	72	69	72	67	56	59	64	74	76	80	82	87	75	75	67	46	58	58	68	68	....	72.7
	Minimum	55	64	66	67	61	54	53	50	57	47	51	41	56	45	46	32	36	41	50	45	47	60	46	30	46	28	31	37	35	31	....	46.9
Garrison §	Maximum	95	92	91	93	78	76	86	70	78	75	80	72	85	62	58	63	68	75	76	82	88	90	62	77	57	55	68	61	74	42	....	73.6
	Minimum	59	60	61	65	66	56	52	51	44	48	52	45	47	50	38	32	33	36	38	42	46	47	46	32	36	33	30	44	34	33	....	45.2
Granville	Maximum	98	96	94	95	83	79	82	75	73	78	78	72	87	72	60	61	67	75	77	82	83	90	72	73	62	62	70	60	72	72	....	76.3
	Minimum	58	61	61	70	63	56	53	52	44	47	48	39	56	45	40	33	34	36	45	42	43	48	42	28	48	30	32	35	40	33	....	45.4
Hansboro	Maximum	93	94	90	93	80	78	80	71	70	75	77	70	75	70	58	60	67	71	76	81	72	89	72	60	58	51	58	67	67	61	....	72.8
	Minimum	51	56	55	62	60	51	54	51	40	48	45	37	55	45	36	32	36	35	49	50	44	49	41	27	45	30	27	27	27	30	....	43.2
Linton	Maximum	91	89	81	94	88	80	87	84	80	82	92	81	86	83	66	67	75	80	83	85	91	100	89	75	72	56	71	68	70	64	....	80.4
	Minimum	65	53	60	66	66	50	49	52	37	48	58	50	62	54	32	27	49	29	43	35	47	54	47	25	52	41	19	34	28	35	....	45.6
McClusky	Maximum	90	88	90	91	77	73	75	80	71	76	74	70	82	79	59	59	59	73	75	80	84	90	77	71	65	53	65	60	69	68	....	74.1
	Minimum	61	56	62	66	60	53	50	48	41	49	47	41	60	43	35	30	30	34	41	42	55	53	43	28	43	37	28	42	32	32	....	44.7
Maddock	Maximum	91	90	89	90	88	73	79	79	71	76	83	80	78	73	59	59	69	71	78	81	82	94	89	71	69	57	68	64	69	68	....	76.3
	Minimum	59	55	54	64	62	53	54	50	37	48	48	42	58	51	35	31	39	31	44	54	45	52	43	23	41	38	28	33	25	33	....	44.3
Minot §	Maximum	93	95	90	92	70	76	76	63	65	67	74	69	79	52	52	61	67	65	70	80	82	88	58	70	60	56	67	59	71	42	....	70.3
	Minimum	54	62	66	68	64	55	51	52	47	46	46	42	49	47	38	28	30	34	44	43	43	50	43	28	31	28	27	39	35	32	....	44.1
Mohall	Maximum	94	98	97	92	91	75	85	84	74	73	73	72	85	81	59	62	68	76	72	83	82	89	80	75	73	59	67	61	76	75	...	77.7
	Minimum	55	57	62	64	60	52	50	50	45	44	45	40	55	44	37	29	34	39	44	41	44	48	39	29	49	27	31	33	32	30	....	43.7
Napoleon §	Maximum	90	89	86	94	85	75	80	74	78	78	88	75	83	64	66	64	73	80	81	85	89	100	66	74	61	54	69	67	70	51	....	76.3
	Minimum	62	50	60	64	64	55	51	51	38	50	56	45	63	59	35	30	48	33	46	40	55	57	47	26	52	39	23	36	24	33	....	46.4
New Salem	Maximum	95	95	98	94	82	73	87	74	80	86	81	82	89	74	72	65	67	80	80	78	90	96	87	80	69	59	68	66	73	60	....	79.3
	Minimum	58	59	59	62	59	57	57	45	39	45	45	45	62	42	31	29	35	35	46	38	51	57	45	30	44	33	25	39	35	30	....	44.6
Steele	Maximum	90	90	90	89	91	73	80	70	78	80	80	78	87	75	68	60	68	78	80	81	85	98	80	73	66	52	70	65	70	58	....	76.9
	Minimum	60	55	61	67	61	55	51	51	40	51	56	44	64	51	31	28	40	30	46	40	47	48	47	26	48	40	23	39	28	35	....	45.4
Towner	Maximum	94	94	91	94	90	85	82	70	72	76	76	80	81	77	59	62	69	75	77	83	81	90	84	71	69	55	68	63	72	70	....	77.0
	Minimum	57	58	63	68	62	60	52	52	43	47	45	40	56	48	38	31	34	34	45	41	45	50	45	28	47	31	31	35	32	32	....	45.0
Westhope	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Western Division																																	
Beach	Maximum	92	91	92	92	83	76	85	76	83	80	77	84	91	62	58	66	66	80	75	83	88	88	76	77	69	52	67	68	76	49	....	76.7
	Minimum	55	55	65	57	61	51	45	54	45	40	44	47	59	44	38	27	33	38	47	41	50	55	47	34	47	28	30	38	42	37	....	45.1
Berthold Agency	Maximum	96	98	97	95	112	80	89	71	81	80	85	76	90	77	64	66	70	80	79	85	92	94	71	80	63	55	73	70	70	78	....	80.6
	Minimum	51	59	63	61	54	52	45	48	43	43	45	41	63	37	32	25	27	27	40	32	35	51	45	27	42	27	23	41	34	30	....	41.4
Bowman	Maximum	91	90	88	93	83	75	68	63	82	78	78	85	92	56	57	65	66	78	79	87	89	89	63	77	52	53	66	67	66	42	....	73.9
	Minimum	60	57	65	57	49	55	50	47	44	45	46	43	48	45	34	28	34	32	40	50	49	48	44	33	48	31	25	42	37	36	....	44.1
Crosby §	Maximum	93	90	87	82	84	73	74	73	72	73	73	71	74	70	71	67	57	54	55	81	82	85	53	79	60	59	83	69	68	55	....	72 2
	Minimum	49	50	53	55	55	48	46	47	40	40	40	36	33	47	37	29	30	32	37	41	42	42	42	30	36	29	29	42	37	33	....	40.2
Dickinson §	Maximum	92	92	91	92	80	79	87	84	81	78	80	83	92	58	60	65	69	80	77	85	90	90	62	78	52	51	67	60	76	48	....	75.5
	Minimum	55	57	58	57	56	52	48	51	40	41	41	44	44	47	33	31	31	32	34	40	43	49	45	29	31	32	26	37	39	35	....	41.9
Dunn Center §	Maximum	91	92	92	75	78	86	64	64	79	78	79	76	89	58	59	65	67	79	77	84	89	83	61	78	55	51	69	66	77	47	....	73.8
	Minimum	55	57	63	61	59	50	53	45	49	43	45	43	51	49	36	28	31	30	32	40	45	51	47	29	35	32	29	45	34	35	....	43.4
Hettinger	Maximum	93	90	85	93	82	75	82	71	82	80	83	84	90	65	64	68	70	78	73	84	90	93	87	92	67	51	66	69	68	59	....	77.8
	Minimum	63	57	64	60	63	52	49	52	46	45	49	48	66	46	36	27	34	31	44	42	53	77	58	67	48	41	55	50	43	42	....	50.3
Howard (near)	Maximum	91	94	93	88	80	75	85	70	80	79	70	71	86	60	56	63	67	72	77	81	88	86	66	76	67	54	71	66	78	54	...	74.9
	Minimum	50	53	60	55	57	46	52	45	41	40	42	39	40	46	32	21	30	45	46	42	45	45	40	34	24	24	32	38	38	12	....	40.5
Kenmare	Maximum	93	91	92	91	90	75	83	82	77	74	74	74	83	78	59	62	68	75	78	80	85	87	80	74	72	53	70	66	76	70	....	77.1
	Minimum	53	64	61	61	61	52	51	50	48	43	49	41	55	45	39	30	32	41	50	46	46	61	45	31	46	28	32	32	35	32	....	45.3
Marmarth	Maximum	91	91	86	90	81	78	86	77	83	80	80	88	95	67	61	66	70	79	76	83	93	90	78	78	69	56	65	70	75	65	....	78.2
	Minimum	53	54	68	60	60	57	57	52	48	42	43	52	70	47	38	26	31	30	40	47	40	46	47	33	46	34	30	32	39	39	...	45.4
Mott	Maximum	95	90	91	94	86	76	88	82	80	79	85	84	91	74	64	62	71	78	80	85	93	95	83	80	68	52	69	66	73	68	...	86.1
	Minimum	68	60	65	74	66	56	48	57	44	46	44	47	66	48	35	28	35	30	43	40	45	45	45	31	32	35	25	30	37	35	...	45.3
New England §	Maximum	96	96	90	94	82	90	92	84	81	84	81	90	94	68	68	72	73	81	87	94	97	99	68	80	53	59	61	70	61	46	....	79.7
	Minimum	63	64	75	74	55	61	60	41	44	45	41	56	49	36	29	35	32	43	45	55	57	49	31	49	34	25	39	38	36	13	....	45.9
Watford City	Maximum	96	98	93	98	80	74	85	76	82	84	78	84	88	72	58	63	70	78	81	85	90	91	62	77	63	51	70	66	80	48	....	77.4
	Minimum	53	56	69	59	59	51	49	49	46	42	46	40	33	41	38	30	37	36	46	41	48	53	47	33	42	28	29	49	42	35	....	44.2
Williston	Maximum	92	93	92	92	80	70	85	69	81	79	74	74	86	55	57	61	67	75	76	82	89	86	60	76	57	51	71	65	78	44	....	73.9
	Minimum	53	56	70	58	59	51	48	52	48	45	48	46	55	45	40	32	37	41	48	42	49	53	44	36	39	30	36	47	42	27	...	45.9

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 10-30-36—1050]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLV   Bismarck, N. D., October 1936   No. 10

GENERAL SUMMARY

October was cool and dry. The temperature during the first half of the month was near the normal, but the last half averaged considerably below normal. Practically no precipitation occurred during the first decade, but light, scattered amounts occurred later in the month. The first snowfall of the season was reported at most stations on the 19th or 20th. No severe storms were reported. There were dust storms at scattered places throughout the State on the 9th, 10th, 17th, and 28th. On the 30th the dust storms were general in all sections. Very little fall plowing was done due to dry soil. Ranges, pastures, and meadows deteriorated considerably and some livestock was shipped from the western part of the State due to lack of feed.

TEMPERATURE

The mean temperature for the State was 42.3°, or 1.4° below the 1892-1936 average for October. The mean for the eastern division was 40.8°; for the middle division, 42.1°; and for the western division, 43.9°. The highest mean temperature was 47.0° at Hettinger, and the lowest, 34.7° at Park River, making a range in mean temperature of 12.3°. The absolute range in temperature was 95°, from 90° at Fort Yates and New Salem on the 8th, to -5° at four stations in the central part of the State from the 21st to the 26th. The average daily deficiency in temperature for the State since January 1, 1936, is 1.4°.

PRECIPITATION

The average precipitation for the State was 0.21 inch, or 0.82 inch less than the 1892-1936 average for October. In the eastern division the average amount was 0.23 inch; in the middle division, 0.16 inch; and in the western division, 0.24 inch. The greatest monthly amount reported was 0.83 inch at Pembina; there was none at Ashley. The greatest amount recorded in any 24 consecutive hours was 0.60 inch at Pembina on the 24th. The accumulated deficiency in precipitation since January 1, 1936, is 7.73 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	1	..	6	4	8	7	7	5	..	..	..	..	1	7	8	..	..	..	1	..	..	..	..	..	..	..	..	..	3
Fogs	..	..	..	1	2	..	..	..	..	..	1	..	..	..	..	1	4	..	..	..	1	1	..	..	..	..	..	..	..	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	2	..	3	1	2
Solar halos	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Sleet	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	1	..	2	2	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.05	30.72	25	29.40	30	9.2	25	w.	28	68	43	48	66
Devils Lake	30.04	30.73	25	29.38	30	10.1	33	nw.	28	80	52	59	65
Grand Forks	30.00	30.65	25	29.36	30	......	29	nw.	9	72	....	52	....
Williston	30.04	30.65	25	29.40	30	8.5	30	nw.	28	69	46	50	61
Moorhead, Minn	30.04	30.73	26	29.39	30	9.4	25	s.	30	76	48	50	69
Averages & ext's	30.03	30.73	25	29.36	30	9.3	33	nw.	28	73	47	52	65

† And other dates.

COMPARATIVE DATA FOR OCTOBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	47.2	95	7	0.25	1.20	0.30	0.58	T.	3	15	8	8
1893	40.6	79	0	1.17	1.08	0.89	1.05	0.9	5	11	11	9
1894	43.0	77	16	2.28	1.76	0.94	1.66	0.0	6	14	8	9
1895	40.5	85	−12	0.31	0.15	0.27	0.24	0.0	2	16	8	7
1896	40.2	88	5	1.25	0.43	0.40	0.69	0.0	3	14	8	9
1897	45.9	93	6	1.01	0.75	0.56	0.77	0.8	4	13	9	9
1898	38.8	84	8	2.60	2.42	1.67	2.23	4.7	6	8	8	15
1899	42.1	86	7	1.16	1.21	1.15	1.17	1.3	5	11	8	12
1900	48.2	87	14	2.34	1.30	0.98	1.54	T.	6	15	4	12
1901	47.5	88	11	2.96	1.22	0.65	1.61	T.	5	17	7	7
1902	43.7	87	10	1.70	1.20	0.95	1.28	0.7	4	16	6	9
1903	47.0	81	11	1.42	0.80	0.60	0.94	0.2	3	19	5	7
1904	46.6	87	10	1.55	0.60	0.46	0.90	T.	5	12	7	12
1905	40.3	93	0	0.59	0.22	0.28	0.36	1.2	5	8	12	11
1906	45.0	89	0	0.75	0.45	0.27	0.49	1.4	4	14	9	8
1907	44.4	88	4	1.02	0.66	0.16	0.61	0.2	3	21	5	5
1908	43.0	86	8	1.46	1.36	2.07	1.63	0.7	6	11	7	13
1909	43.1	97	0	0.88	0.63	0.45	0.65	0.9	3	14	8	9
1910	48.2	95	0	0.49	0.66	0.38	0.51	0.1	3	16	8	7
1911	42.5	86	−10	1.25	1.27	1.20	1.24	0.5	6	11	8	12
1912	44.4	90	0	0.68	1.09	1.44	1.07	3.5	4	16	6	9
1913	39.3	90	− 2	2.40	1.34	1.03	1.59	0.7	4	12	9	10
1914	50.0	97	0	1.20	0.93	0.65	0.93	T.	4	16	8	7
1915	46.6	87	10	1.22	0.91	1.14	1.09	0.2	4	17	8	6
1916	40.0	85	− 2	0.49	0.88	0.73	0.70	2.0	4	12	8	11
1917	34.7	82	− 4	0.87	0.76	0.71	0.78	6.4	5	8	11	12
1918	46.2	90	4	0.80	0.45	0.35	0.53	0.8	4	14	8	9
1919	38.5	84	−18	0.93	1.14	1.35	1.14	9.3	6	11	9	11
1920	49.3	95	6	0.53	0.28	0.83	0.55	0.1	3	16	8	7
1921	47.3	88	16	0.80	1.09	0.10	0.66	T.	4	16	8	7
1922	45.7	98	8	0.37	0.65	0.73	0.58	2.3	3	15	7	9
1923	44.0	84	− 8	0.56	1.02	1.08	0.89	0.5	4	14	7	10
1924	50.3	86	19	2.31	2.14	2.82	2.42	0.3	7	17	5	9
1925	33.3	66	−16	0.83	0.64	0.96	0.81	3.7	6	8	9	14
1926	42.6	85	4	2.54	0.86	0.68	1.36	1.0	6	10	10	11
1927	47.0	88	12	1.53	1.49	0.96	1.33	1.0	5	14	8	9
1928	43.5	85	3	0.69	0.18	0.51	0.46	0.6	2	15	8	8
1929	46.8	88	10	2.87	1.63	1.05	1.85	5.1	6	17	5	9
1930	40.8	86	0	2.04	1.90	1.48	1.81	0.3	7	10	9	12
1931	47.7	90	10	2.63	0.93	0.60	1.39	0.2	6	15	6	10
1932	38.3	90	− 3	2.33	2.41	2.06	2.27	9.1	8	9	7	15
1933	41.5	88	5	0.39	0.48	0.74	0.54	1.7	4	14	8	9
1934	49.0	94	5	2.11	0.83	0.08	1.01	0.1	3	14	8	9
1935	43.5	86	−10	0.29	0.08	0.12	0.16	0.7	2	15	9	7
1936	42.3	90	− 5	0.23	0.16	0.24	0.21	1.1	3	14	9	8
Period	43.7	98	−18	1.29	0.97	0.82	1.03	1.4	4	14	8	9

Climatological Data for October 1936

Stations	Counties			Temperature, in degrees Fahr.							Precipitation, in inches				Number of days					
		Elevation, feet	Length of record, years	Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Eastern Division																				
Amenia	Cass	954	40	38.0	−6.6	74	1†	−2	23	57	0.02	−1.45	0.02	0.2	1	7	7	17	nw.	I. Idso.
Cavalier	Pembina	894	26	36.7	......	80	8	−1	22†	47	0.12	−1.29	0.07	1.2	2	8	4	19	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	39.3	......	86	8	−2	22†	61	0.31	−0.81	0.22	2.2	2	15	10	6	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	39	39.6	−2.8	86	8	4	22	43	0.25	−1.00	0.16	0.7	4	8	12	11	uw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	43.2	−2.1	79	18	−3	26	47	0.24	−0.85	0.09	2.5	4	6	25	0	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	12	39.6	−2.6	84	8	−4	22	46	0.26	−0.62	0.13	0.9	5	8	11	12	nw.	A. G. Braund.
Ellendale	Dickey	1,457	41	44.2	−1.4	88	8	1	26	52	0.05	−1.06	0.05	0.4	1	19	8	4	nw.	J. E. Demmer.
Fullerton	Dickey	1,439	38	43.8	−1.0	85	8	0	26	50	0.08	−1.35	0.06	0.8	2	11	15	5	nw.	F. O. Alin.
Grafton	Walsh	827	44	41.4	−0.7	88	8	−1	26	48	0.34	−0.88	0.22	1.0	3	8	9	14	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	45	39.0	−4.6	85	8	1	22†	43	0.23	−1.17	0.07	1.7	5	4	19	8	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	40.2	......	87	8	4	26†	48	0.06	......	0.02	0.2	4	19	7	5	uw.	Joseph Rindt.
Hannah	Cavalier	1,568	44	38.8	......	84	8	−1	26	47	0.34	−0.80	0.24	1.5	2	10	11	10	nw.	James Muir.
Hillsboro	Traill	901	30	42.0	−3.2	85	8	1	26	46	0.14	−1.33	0.05	0.6	3	16	12	3	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	39.6	−4.9	88	8	0	26	51	0.32	−0.96	0.30	0.2	2	16	14	1	nw.	S. Calvelage.
Langdon	Cavalier	1,615	40	36.6	−4.3	83	8	−5	22	45	0.42	−0.72	0.22	2.0	4	11	7	13	......	R. T. Burke.
Larimore	Grand Forks	1,134	43	40.6	−3.3	84	8	−2	26	46	0.17	−1.39	0.09	1.5	2	16	11	4	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	44.4	+0.6	86	8	0	26	48	0.17	−1.16	0.09	0.0	3	11	16	4	nw.	J. O. Halverson.
McLeod	Ransom	1,075	25	42.8	−3.4	85	8	−1	26	56	0.27	−1.21	0.20	2.0	3	18	6	7	nw.	J. G. Carlson.
Mayville	Traill	975	40	43.7	−2.2	87	8†	1	25	47	0.22	−1.12	0.10	2.2	4	20	4	7	n.	H. B. Addicott.
Oakes	Dickey	1,318	7	44.1	......	87	8	−4	26	55	0.12	......	0.10	1.0	2	12	17	2	sw.	Eugene Naylor.
Park River	Walsh	998	32	34.7	−9.1	86	8	−1	22	53	0.12	−1.16	0.06	0.3	4	13	4	14	nw.	C. B. Wright.
Pembina	Pembina	1,520	6	37.2	−4.2	80	8	−2	26	45	0.83	−0.48	0.60	5.2	5	8	5	18	nw.	E. N. Russell.
Sharon	Steele	1,516	12	39.8	......	85	8	1	22†	45	0.23	−1.83	0.15	2.1	4	10	8	13	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	44.4	−0.2	87	8	0	26	51	0.24	−0.94	0.10	3.0	3	24	2	5	u.	I. C. Robertson.
Wahpeton	Richland	962	44	45.0	−1.6	86	8	0	25	59	0.19	−1.38	0.08	1.0	4	13	12	6	uw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	41.6	−2.9	84	8	4	26	42	0.36	−1.33	0.18	1.9	4	7	10	14	n.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	40.8	−3.1	88	8	−5	22	61	0.23	−1.12	0.60	1.3	3	13	10	8	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	40	44.2	+0.1	86	8	−3	26	48	0.00	−1.16	0.00	0.0	0	22	5	4	nw.	H. D. Piper.
Bismarck	Burleigh	1,670	62	43.8	−1.1	89	8	8	22	46	0.14	−0.80	0.13	0.8	3	15	10	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	39.1	−1.9	86	8	−1	22	46	0.34	−0.74	0.17	2.0	5	16	5	10	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	38	38.2	−5.6	85	8	2	21†	42	0.28	−0.70	0.20	1.0	2	12	9	10	nw.	L. A. Swanson.
Carson	Grant	2,500	24	44.6	+1.3	88	8	6	22	48	0.20	−0.77	0.18	0.8	2	17	10	4	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	43.0	−1.1	85	8	−2	22	48	0.13	−1.00	0.07	1.0	3	17	7	7	nw.	R. L. Williams.
Drake	McHenry	1,634	7	39.6	......	87	8	3	22	49	0.15	......	0.08	0.5	4	13	9	9	nw.	Peter Anton.
Dunseith	Rolette	1,682	40	38.2	−3.2	85	9	0	22	43	0.18	−0.77	0.18	T.	1	11	11	9	n.	Wilbur Keeling.
Eckman	Bottineau	1,509	31	41.3	−0.5	87	8	−1	22	51	0.21	−0.72	0.06	0.5	4	12	14	5	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	44.0	0.0	87	8	6	22	49	0.15	−0.79	0.15	1.0	1	13	17	1	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	24	41.2	−1.8	89	8	−1	22	49	0.29	−0.80	0.08	2.0	4	11	15	5	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	46.0	−0.4	90	8	4	25	51	T.	−1.12	T	T.	0	14	14	3	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	42.3	+0.6	82	8	2	22	43	0.11	−0.99	0.05	0.5	4	13	7	11	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	42.8	......	83	8	3	26	43	0.16	......	0.09	0.4	2	23	6	2	nw.	A. H. Haut.
Garrison	McLean	1,901	59	41.8	−0.9	85	8	6	22†	51	0.34	−0.60	0.25	2.0	3	18	7	6	nw.	E. L. Vorachek.
Granville	McHenry	1,504	29	42.2	−1.1	87	8	−1	22	47	0.15	−0.78	0.15	2.0	1	19	2	10	nw.	W. A. Christianson.
Hansboro	Towner	1,597	28	40.3	−0.4	89	6	0	22	64	0.20	−0.91	0.20	T.	1	18	2	11	nw.	C. E. Blackorby.
Leeds	Benson	1,515	.....	.....	......	...	....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ole Semb.
Linton	Emmons	1,711	19	44.1	−0.6	88	8	−4	26	54	0.10	−1.01	0.10	T.	1	16	11	4	n.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	42.0	−0.3	85	8	−1	22	46	0.17	−0.86	0.07	0.5	3	23	3	5	nw.	Edw. Tapley.
Maddock	Benson	1,604	21	41.6	−1.3	88	8	−5	22	55	0.22	−0.87	0.15	0.7	2	12	11	8	nw.	A. T. Felland.
Mandan	Morton	1,750	22	43.5	−0.5	88	8	6	22†	49	0.17	−0.82	0.11	0.8	3	19	6	6	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	41.2	......	87	8	−5	21	50	0.05	......	0.03	0.2	2	12	6	13	nw.	A. W. Rice.
Minot	Ward	1,557	40	42.8	−0.5	84	8	10	25†	46	0.04	−0.97	0.02	0.5	2	15	5	11	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	43.0	+1.3	85	8	−1	22	48	0.20	−0.97	0.10	1.0	2	9	17	5	nw.	John Behan.
Napoleon	Logan	1,955	44	42.3	−1.4	88	8	−5	26	50	0.10	−1.00	0.08	0.8	2	22	3	6	w.	C. J. Hoof.
New Salem	Morton	2,163	32	44.5	−0.3	90	8	−1	22	52	0.13	−0.83	0.11	1.0	2	20	8	3	nw.	J. Christianson.
Pettibone	Kidder	1,856	27	39.8	−2.0	86	8	−3	22	50	0.06	−0.87	0.06	T.	1	16	8	7	nw.	Sam Loeppke.
Steele	Kidder	1,857	42	42.8	−1.0	88	8	−2	22†	50	0.11	−1.06	0.05	0.2	3	18	9	4	sw.	R. S. Armstrong.
Towner	McHenry	1,482	34	41.3	−2.1	89	8	0	22	50	0.22	−0.77	0.10	1.0	3	12	13	6	uw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	43.2	−0.1	88	8	1	22	48	0.22	−0.69	0.19	0.5	2	20	3	8	nw.	M. A. Slettum.
Velva	McHenry	1,511	9	43.0	......	87	8	0	22	50	0.12	......	0.06	0.5	3	10	13	8	nw.	Oscar Anderson.
Washburn	McLean	1,731	35	43.2	−1.3	88	8	10	22	47	0.19	−0.86	0.15	0.5	3	23	6	2	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	.....	......	...	....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. W. Drake.
Willow City	Bottineau	1,471	44	39.5	−1.9	76	7	−1	22	45	0.07	−0.81	0.07	T	1	18	9	4	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	41.6[d]	−2.3	84[d]	8	4[d]	22	49[d]	0.11	−0.67	0.11	1.0	1	.....	.....	.....	nw.	E. W. Davis.
Average for Middle Division		......	.....	42.1	−1.1	90	8	−5	21†	64	0.16	−1.19	0.25	0.7	2	16	9	6	nw.	....
Western Division																				
Beach	Golden Valley	2,759	30	45.4	+1.8	81	8	6	22	43	0.45	−0.49	0.19	2.0	6	11	8	12	uw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	43.8	−0.8	85	9	15	27	55	T	−0.89	T.	T.	0	21	2	8	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	.....	......	...	....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Larsen.
Crosby	Divide	1,954	28	41.8	0.0	82	7	−1	22	48	0.12	−0.72	0.08	0.0	2	6	11	14	nw.	J. H. Phelps.
Dickinson	Stark	2,543	44	42.1	−1.5	83	8	9	22†	53	0.39	−0.59	0.19	3.4	5	17	9	5	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	43.7	−0.7	82	8	9	22†	53	0.10	−0.81	0.10	1.0	1	18	7	6	nw.	W. F. Moede.
Epping	Williams	2,224	26	44.6	......	81	7†	6	22	46	0.16	−0.63	0.05	0.0	4	9	10	12	nw.	T. Beachler.
Fryburg	Billings	2,790	18	44.8	......	82	8	5	22	43	0.44	−0.61	0.22	4.2	4	24	2	5	nw.	Verne King.
Hettinger	Adams	2,675	29	47.0	+1.4	85	8	10	22	50	0.20	−0.57	0.20	0.2	1	24	5	2	w.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	42.6	+1.0	80	7	2	22	54	0.20	−0.59	0.20	T	1	14	7	10	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	44.0	......	82	7†	1	22	49	0.08	−0.98	0.04	0.5	3	11	9	11	w.	Synthia M. Costello.
Marmarth	Slope	2,714	27	46.4	+0.9	84	8	12	22	50	0.28	−0.57	0.18	3.0	2	16	4	11	nw.	S. P. Grane.
Mott	Hettinger	2,424	29	46.0	+2.7	88	8	10	22	51	0.14	−0.80	0.13	1.7	2	12	8	11	nw.	W. M. Hendricks.
New England	Hettinger	2,400	42	45.6	+2.2	86	8	12	21†	47	0.26	−0.58	0.18	1.0	3	18	3	10	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	21	42.4	......	82	8	1	22	52	0.23	−0.58	0.08	0.2	5	14	10	7	nw.	C. E. Shubert.
Portal	Burke	1,954	31	39.7	−1.7	80	7	−4	22	49	0.03	−0.86	0.03	T.	1	16	7	8	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	31	40.0	−3.9	71	4†	−5	30	45	0.31	−0.91	0.31	3.0	1	22	8	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	20	45.3	+1.9	85	9	10	22	43	0.16	−0.72	0.12	2.0	2	14	5	12	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	11	43.2	0.0	83	8	3	21	46	0.15	......	0.15	T.	1	13	7	11	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	23	45.3	+2.4	80	8	9	22	46	0.78	−0.09	0.46	6.0	4	6	18	7	w.	J. C. Zeller.
Williston	Williams	1,878	57	44.4	+1.0	81	8	12	22	43	0.29	−0.57	0.19	2.1	5	16	7	8	sw.	U. S. Weather Bureau.
Average for Western Division		......	.....	43.9	+0.4	88	8	−4	22	55	0.24	−0.67	0.46	1.4	3	14	8	9	nw.	....
Average for the State		......	.....	42.3	−1.2	90	8	−5	21†	64	0.21	−0.88	0.60	1.1	3	14	9	8	nw.	....

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for October 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																			T.				.02	T.								0.02
Cavalier	do																							.07	T.	T.	.05						0.12
Cooperstown	Sheyenne																.09				T			.22									0.31
Courtenay	James																.10							.15									0.25
Devils Lake ***	Devils Lake										T.	T	T.			T.	.16			T.	T.	.02		.04	.03	T		T				T.	0.25
Edgeley	James																.02				.08			.09		.05							0.24
Edmore	Devils Lake																.06					T.	T	.03	.13	.02		.02	T.				0.26
Ellendale	James																T.				.05			T									0.05
Forman	Sheyenne															.07					.08												0.15
Fullerton	James																T.				.06			.02	T.			T.					0.08
Grafton	Red												T.				.09							.03	.22	T.		T.				T.	0.34
Grand Forks ***	do										.01		T.				.07				T.			.05	.06	T.		.04					0.23
Hankinson ‖‖	do															.02					.02			.01	.01								0.06
Hannah	Pembina												T.	T	T.			T.							.24	T		.10				T.	0.34
Hillsboro	Red																.05							.05					.04				0.14
Jamestown ‖‖	James																				.30	.02											0.42
Langdon ‖‖	Pembina															T.	T.							.02	.08	.22	T.		.10				0.42
Larimore	Red																.09							.08				T					0.17
Lisbon	Sheyenne																.09				.05			.03		T.		T.					0.17
McLeod	do										T.						.20					.04		.03					T.				0.27
Mayville	Red										T.	T.	T				.10				.05			.02	T.		T.	T.				.05	0.22
Oakes	James																					.10		T.		.02							0.12
Park River	Red															T.	.06					T.	.03	.02	T.			.01					0.12
Pembina	do									.03				.01			T.							.10	.60			.09					0.83
Petersburg	do																T				T.			.03	.01			T.					0.04
Sharon	do										T.	T	T.				.06				.01			.15	.01	T		T.					0.23
Valley City	Sheyenne										T.						.08				.10			.06									0.24
Wahpeton	Red										T.						.06	T.			.08			.01		.04							0.19
Moorhead, Minn. ***	do									T.	T.	T.	T.				.07			.10	.08			.11	T.	T.		T.	T.				0.36
Middle Division																																	
Ashley	Missouri																																0.00
Bismarck ***	do										T.									.07	.06	T.		.01	T	T.		T.					0.14
Bottineau	Mouse												T.				.09	.06						.01	.17			.01					0.34
Carrington ‖‖	James																.20			T.			.08										0.28
Carson	Heart																				.18		.02										0.20
Dogden Butte	Mouse										T.						.05				.01	T.		.07	T.	T.		T.					0.13
Drake ‖‖	do																.02	.08					.02	.03	T.				T.				0.15
Dunseith	do																	T.							.18	T.	T.						0.18
Eckman	do																.06					T		.05	.05			.05					0.21
Energy	Missouri																T.			T.	.15	T				T.							0.15
Fessenden ‖‖	James																.07	.08					.06	.08									0.29
Fort Yates	Missouri																T.			T.	T.												T.
Foxholm (near)	Mouse																.01					T.		.03	.02			.05					0.11
Gackle	James																				.07			.09									0.16
Garrison ‖‖	Missouri																T.				.25		.03	.06				T.					0.34
Granville	Mouse															T.	T					T.		.15	T.			T					0.15
Hausboro	Devils Lake										T.	T.									T.				.20	T.		T.					0.20
Leeds	do																																....
Linton	Missouri																T.				.10		T.										0.10
McClusky	do																.07			T	T.	.03	.07	T.				T.					0.17
Maddock	Sheyenne																.15				T.	T.		.07	T.	T.		T.					0.22
Mandan ‖‖	Missouri																.01			.11		T.	T.	T.	T.							.05	0.17
Manfred	James																.14			T	.05	.03		.04									0.26
Max ‖‖	Missouri															T.				.03			.02		T.		T.					T.	0.05
Minot ‖‖	Mouse																.02					T.		.02	T.			T.					0.04
Mohall	do																								.10		.10						0.20
Napoleon ‖‖	Missouri																	T.			.08			.02									0.10
New Salem	Heart																				.11	T	.02	T.		T.							0.13
Pettibone	James																.06							T.									0.06
Rugby (near)	Mouse												T.				.14						.03		T.		T.	T.					0.17
Ryder	Missouri															T.	.01			.01		.02			.01		T.	T.				T.	0.05
Selfridge	do																				.14	T.	T.										0.14
Steele	do																.05				.04		T.	.02		T							0.11
Tagus	Mouse															T.	.02			T.		T.		T.	.02			.07					0.11
Towner	do																.10					T.		.10	.02								0.22
Turtle Lake	Missouri																.03			T.	.19	T.											0.22
Tuttle	do																.05				.08	.10		.06		T							0.29
Velva	Mouse																.06					T.		.05	T.			.01					0.12
Washburn ‖‖	Missouri															T.					.15		.02	.02									0.19
Westhope	Mouse																																....
Willow City	do																.07					T.		T.				T.					0.07
Wishek ‖‖	Missouri																				.11			T.									0.11
Zap	Knife																			.12	T											T.	0.12
Western Division																																	
Alpha	Lit. Missouri																			T.	.19	.03	T.			.02						.06	0.30
Beach	do					T.										.01				.13	.19	.08			.02	.02		T.				T.	0.45
Berthold Agency	Missouri																	T.			T.		T.		T.	T.	T.					T.	T.
Bowman	Grand																																....
Corinth	Missouri					.06			T.							T.						T.			.03								0.09
Crosby ‖‖	Mouse						.08																		.04								0.12
Dickinson ‖‖	Heart															T.		T.			.19	.11	.03			.05	.01	T.	T.				0.39
Dunn Center ‖‖	Knife																			.10													0.10
Epping ‖	Missouri									.01							.05			.05					.05								0.16
Fryburg	Heart																				.22	.12	.05			.05							0.44
Hettinger	Grand																				.20												0.20
Howard (near)	Missouri					T.				T.				T	T	T	T.			T	T	.20	T.	T.	T.	T		T.					0.20
Kenmare	Mouse															T.									.04	.01		.03					0.08
Marmarth	Lit. Missouri					T.														T	.18		T.									.10	0.28
Mary	do						T.										T				.20					.25	.05	.02					0.52
Mott	Cannon Ball																				.13	.01				T			T				0.14
New England ‖‖	do																			.18	.03											.05	0.26
Parshall ‖‖	Missouri									T.							.05			.08	.04	T		T.	.03	T.		.03					0.23
Portal ‖‖	Mouse																					T.		T	.03								0.03
Powers Lake	Missouri																						.31										0.31
Richardton	Heart															T.	T.				.12	.04				T.		T.					0.16
Sanish ‖‖	Missouri																			.15				T.								T.	0.15
Tioga ‖‖	do																								.07								0.07
Trotters	Lit. Missouri																			.12		.10		.10	T.								0.32
Watford City	Missouri																.04			.46		.06			.22								0.78
Williston ***	do					.03				.01							.02			.19		.04		T.	T.	T.		T.				T.	0.29

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. •Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia §	Maximum...	74	60	56	50	54	50	47	48	50	54	50	52	54	58	60	64	70	74	50	44	40	32	34	36	40	44	42	46	50	50	47	51.0
	Minimum ...	17	20	28	30	31	30	29	28	30	29	30	31	32	30	32	34	36	36	34	19	14	10	-2	6	12	15	20	28	32	30	24	25.0
Devils Lake	Maximum...	51	49	63	72	64	64	80	86	60	64	53	34	49	65	61	42	68	72	51	37	35	26	33	52	27	36	37	56	44	64	39	52.7
	Minimum ...	18	27	22	34	39	28	44	43	35	31	26	22	23	30	41	31	30	41	33	18	13	4	23	27	10	7	21	26	26	29	18	26.5
Edgeley	Maximum...	48	54	65	74	71	66	70	75	74	67	69	55	44	63	62	56	71	79	58	51	31	30	43	60	60	35	51	53	52	65	61	58.5
	Minimum ...	19	30	20	35	46	28	38	48	48	24	48	24	17	24	42	43	24	45	40	29	16	4	15	22	23	-3	19	19	27	23	30	28.0
Ellendale	Maximum...	54	58	75	76	77	64	76	88	62	66	72	51	46	66	68	54	74	80	57	45	36	32	40	65	33	33	50	58	54	67	44	58.7
	Minimum ...	21	29	23	42	49	33	36	38	47	30	38	27	21	23	47	42	26	48	45	31	17	9	19	22	26	1	19	20	37	25	33	29.8
Fullerton	Maximum...	52	55	72	73	75	62	75	85	68	66	69	48	46	66	66	59	73	77	67	54	35	30	37	64	48	33	50	58	54	67	50	59.2
	Minimum ...	20	25	22	38	47	31	35	36	52	28	36	27	21	24	45	42	26	47	43	28	17	7	17	21	25	0	20	20	33	24	28	28.5
Grafton	Maximum...	51	51	60	71	70	64	81	88	83	56	54	38	51	62	66	59	68	72	69	49	38	32	26	37	38	34	37	53	52	62	57	55.8
	Minimum ...	18	29	16	30	42	33	40	40	51	28	37	16	28	29	47	37	24	40	35	29	12	5	16	12	21	-1	18	25	35	25	23	27.1
Grand Forks	Maximum...	50	48	63	72	70	59	79	85	59	54	49	33	49	60	66	47	67	73	58	40	39	25	27	42	30	33	42	54	43	62	43	52.3
	Minimum ...	19	31	21	29	45	33	40	42	38	25	29	20	30	30	46	37	27	38	33	20	10	1	13	17	9	1	20	27	22	22	22	25.7
Hillsboro	Maximum...	52	49	67	73	74	70	78	85	62	53	58	42	52	61	67	61	67	71	62	52	40	35	24	47	45	33	52	54	50	63	63	56.8
	Minimum ...	21	30	21	30	38	33	34	46	43	28	25	24	29	28	46	39	28	40	40	31	14	7	12	17	23	1	22	19	32	22	21	27.2
Jamestown §	Maximum...	55	52	67	77	69	63	78	88	64	65	66	43	51	66	64	46	70	78	56	35	35	31	36	49	32	40	47	46	47	54	36	55.1
	Minimum ...	17	18	24	27	34	31	30	42	42	27	27	24	21	23	28	42	26	27	41	31	16	2	2	25	25	0	3	17	23	25	28	24.1
Langdon §	Maximum...	48	50	61	68	65	64	68	83	60	57	47	27	49	66	66	54	67	69	52	33	35	26	35	40	26	31	36	52	43	60	30	50.6
	Minimum ...	18	21	21	28	40	22	25	40	47	26	32	16	20	26	32	40	22	30	27	22	5	-5	0	20	20	4	8	21	25	26	24	22.7
Larimore	Maximum...	48	47	64	68	68	60	77	84	73	57	55	35	47	62	65	55	67	69	57	47	38	31	28	48	42	34	45	54	49	63	59	54.7
	Minimum ...	18	31	18	30	42	32	40	44	50	27	35	18	29	27	45	37	25	42	35	24	11	3	15	11	18	-2	17	22	31	22	22	21.4
Lisbon §	Maximum...	53	55	70	75	72	67	76	86	77	60	64	45	48	65	69	58	72	77	61	53	37	34	34	61	58	35	49	58	52	66	63	59.8
	Minimum ...	21	32	22	36	40	33	36	39	49	28	31	28	21	24	43	43	25	45	42	31	15	8	18	24	26	0	21	28	36	22	28	28.9
Oakes	Maximum...	56	58	76	76	80	63	77	87	71	68	71	50	46	66	66	59	73	77	67	54	34	34	38	65	37	33	50	58	54	65	64	60.4
	Minimum ...	19	27	25	37	42	30	32	36	52	28	35	28	21	24	45	42	26	47	43	28	15	7	17	10	24	-4	21	24	34	23	25	27.8
Sharon	Maximum...	50	51	61	71	70	65	78	85	63	59	53	34	47	59	60	50	67	72	57	42	33	28	28	50	42	33	44	52	44	64	52	53.7
	Minimum ...	16	28	21	35	42	29	38	40	44	27	32	21	24	30	44	36	22	39	35	21	12	1	14	20	15	1	20	24	27	24	20	25.9
Valley City	Maximum...	65	55	66	75	71	68	76	87	85	60	62	46	48	67	66	63	69	74	68	59	37	34	32	60	58	35	47	55	53	64	60	60.2
	Minimum ...	19	30	24	35	41	34	36	36	52	25	35	26	24	27	43	41	26	41	41	31	15	9	19	23	24	0	22	25	34	23	25	28.6
Wahpeton	Maximum...	52	56	70	74	81	72	76	86	80	58	64	49	49	60	70	66	70	75	70	55	36	34	34	61	59	59	49	58	56	64	62	61.5
	Minimum ...	20	30	26	40	41	36	35	38	46	27	33	29	23	31	46	43	29	38	43	31	13	10	16	19	0	2	20	29	31	25	30	28.4
Moorhead, Minn.	Maximum...	50	50	68	73	75	58	76	84	63	52	59	40	50	60	67	49	69	73	58	38	35	27	30	56	32	34	43	55	46	65	54	54.5
	Minimum ...	24	30	26	41	45	37	34	42	39	30	32	30	30	30	48	37	32	43	36	23	14	10	17	19	11	4	20	32	26	25	21	28.6
Middle Division																																	
Ashley	Maximum...	53	60	72	76	71	65	75	86	76	67	69	61	52	66	64	55	72	77	71	52	35	32	37	61	55	35	49	55	53	67	60	60.6
	Minimum ...	16	30	25	34	47	30	38	38	48	28	35	24	20	26	46	38	24	43	40	27	18	6	17	21	21	-3	20	19	30	26	30	27.8
Bismarck	Maximum...	55	55	69	75	66	66	81	89	62	66	70	50	52	70	61	47	73	80	55	33	35	30	33	61	34	39	42	59	52	68	44	57.2
	Minimum ...	20	33	32	35	45	36	43	39	43	34	34	28	26	33	46	34	27	43	33	25	21	8	26	33	14	9	27	22	32	37	22	30.3
Bottineau	Maximum...	53	47	57	70	73	73	80	86	60	64	44	41	50	71	54	53	73	72	49	36	34	28	38	48	28	28	34	56	48	42	64	53.4
	Minimum ...	14	23	26	29	39	27	37	40	45	33	29	23	23	26	33	38	28	32	29	19	10	-1	4	24	21	8	11	21	25	27	22	24.8
Carson	Maximum...	56	60	70	73	66	67	82	88	69	61	73	60	56	73	65	55	75	87	67	38	29	28	34	58	50	41	43	57	58	68	51	60.0
	Minimum ...	19	28	32	33	42	31	42	44	44	31	36	25	23	35	46	33	27	40	36	23	19	6	20	25	23	12	25	21	26	32	28	29.3
Drake §	Maximum...	53	48	69	73	62	66	80	87	61	64	63	39	51	70	58	43	70	76	47	36	33	29	42	55	29	35	40	58	50	61	31	54.2
	Minimum ...	18	18	23	26	38	31	36	44	45	35	36	23	18	21	34	40	27	33	36	22	17	3	4	17	24	5	7	23	16	28	25	24.9
Fessenden §	Maximum...	57	51	70	75	65	65	80	89	67	68	63	43	53	72	62	46	69	76	50	36	37	29	39	57	26	37	39	57	49	65	46	56.1
	Minimum ..	14	27	21	33	41	26	41	40	49	27	33	23	18	24	42	38	26	37	36	27	15	-1	9	22	23	6	10	24	30	26	24	26.2
Foxholm (near)	Maximum...	44	43	61	72	61	61	79	82	71	58	57	46	46	71	66	45	67	74	67	43	32	31	32	52	38	41	38	57	51	66	58	55.2
	Minimum ...	16	24	20	29	43	35	46	48	45	40	37	23	17	39	44	36	28	42	40	16	21	2	21	28	22	9	29	25	32	36	19	29.4
Garrison §	Maximum...	54	52	68	75	63	67	82	85	62	64	72	50	55	72	58	45	72	78	47	38	34	28	40	57	30	40	40	59	55	68	36	56.3
	Minimum ...	15	23	27	31	45	31	41	39	41	35	34	25	21	32	32	40	21	34	39	22	21	6	6	26	25	12	14	25	28	31	26	27.4
Granville	Maximum...	55	50	69	74	67	68	81	87	62	61	66	42	50	72	58	59	71	76	58	54	36	37	33	52	30	35	35	60	55	70	50	57.2
	Minimum ...	17	25	25	27	38	34	45	40	47	32	34	24	17	32	42	34	26	39	29	17	18	-1	12	27	21	12	18	24	32	32	22	27.1
Hansboro	Maximum...	52	47	61	73	64	89	87	65	75	66	54	42	53	68	60	49	68	72	63	50	40	29	35	38	32	40	34	55	60	64	50	56.0
	Minimum ...	11	21	12	24	41	25	43	40	35	28	32	21	21	26	46	34	23	43	34	32	7	0	12	21	18	4	23	18	26	25	16	24.6
Linton	Maximum...	56	59	74	77	70	61	77	88	78	68	70	56	55	72	65	55	74	80	77	48	36	34	36	63	56	37	46	59	53	61	53	61.0
	Minimum ...	11	20	34	29	38	31	34	34	52	24	32	37	24	30	44	40	22	35	37	26	27	2	26	37	23	-4	23	20	22	19	14	27.2
McClusky	Maximum...	53	50	71	71	68	64	79	85	72	64	67	51	50	58	65	47	68	74	65	40	30	26	29	54	47	35	40	55	50	64	45	56.0
	Minimum ..	14	29	27	43	40	28	40	41	50	33	34	23	23	31	47	39	22	40	32	22	17	-1	20	25	22	7	23	22	29	21	22	27.9
Maddock	Maximum...	51	50	66	73	68	65	80	88	82	65	62	37	50	70	69	51	69	75	68	46	35	28	30	54	50	36	38	56	53	65	61	57.8
	Minimum ...	13	25	18	18	38	24	41	48	47	28	30	23	19	26	46	38	27	38	32	25	10	-5	15	25	20	2	23	20	30	24	23	25.5
Minot §	Maximum...	35	46	65	72	65	60	79	84	78	63	62	45	55	68	68	46	71	78	61	43	32	27	33	49	38	41	37	54	51	65	58	55.9
	Minimum ...	14	16	28	34	36	28	45	38	36	58	37	24	20	41	45	39	27	37	40	18	20	23	23	28	10	10	28	28	30	37	22	29.7
Mohall	Maximum...	55	51	67	73	71	68	82	85	76	65	62	40	57	73	70	45	72	77	72	43	36	33	33	44	37	43	39	58	54	71	66	58.1
	Minimum ...	15	24	20	25	40	32	44	42	43	40	36	25	19	29	44	39	28	40	38	14	19	-1	22	27	22	9	29	23	30	37	13	28.0
Napoleon §	Maximum...	54	56	72	78	70	65	77	88	63	70	61	51	53	72	65	63	73	78	55	32	34	34	36	63	28	36	46	56	52	66	41	57.7
	Minimum ...	11	29	28	31	42	27	38	39	48	25	23	30	20	31	47	41	23	39	35	29	17	-1	20	21	23	-5	22	18	30	30	24	26.9
New Salem	Maximum...	55	55	70	73	70	71	81	90	81	70	71	65	51	75	75	57	73	80	75	58	36	30	31	61	50	39	45	60	49	71	61	62.3
	Minimum ...	15	28	21	33	44	30	39	38	41	30	33	22	19	30	45	38	25	43	33	19	9	-1	17	23	20	8	25	19	24	30	25	26.7
Steele	Maximum...	53	55	75	76	66	65	80	88	65	67	70	48	55	72	63	53	71	78	61	40	35	31	32	63	57	33	42	55	45	65	53	58.5
	Minimum ...	17	25	28	30	40	30	36	38	51	28	30	24	19	30	48	36	23	40	39	27	13	-2	21	25	22	-2	20	18	27	31	27	27.1
Towner	Maximum...	56	50	67	72	63	70	83	89	72	65	59	50	49	69	57	45	69	75	55	44	37	28	33	48	42	36	38	58	50	65	50	56.3
	Minimum ...	15	27	23	25	39	25	42	39	42	33	35	25	18	33	43	39	27	40	34	19	15	0	9	27	14	6	24	22	28	26	20	26.3
Westhope	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Western Division																																	
Beach	Maximum...	56	57	72	74	65	65	79	81	69	63	75	70	68	77	67	54	73	78	66	32	30	31	40	54	45	47	40	56	55	65	49	59.8
	Minimum ...	16	24	35	31	45	30	42	46	40	36	38	32	28	40	43	37	30	43	31	19	22	6	24	36	24	24	26	24	26	34	28	31.0
Berthold Agency	Maximum...	54	60	70	73	70	65	68	80	85	65	65	70	50	60	78	68	48	75	80	60	37	32	34	60	48	40	55	52	70	72	50	61.1
	Minimum ...	16	21	23	28	32	35	25	35	30	40	30	28	25	22	30	42	30	23	30	28	17	16	20	25	16	20	15	28	32	35	22	26.4
Bowman	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Crosby §	Maximum...	51	50	60	74	61	66	82	78	72	60	70	60	65	65	58	46	70	70	50	43	30	29	33	48	40	44	45	55	55	66	58	56.6
	Minimum ...	19	18	25	26	41	30	40	43	39	39	31	25	21	21	21	38	30	38	38	10	20	-1	21	28	20	20	30	22	25	35	18	26.9
Dickinson §	Maximum...	56	54	73	80	59	64	79	83	62	64	72	56	62	79	56	53	74	78	59	26	28	32	40	56	28	43	42	57	52	67	37	57.1
	Minimum ...	12	25	31	27	28	31	33	36	37	31	33	28	26	26	34	38	29	35	40	22	20	9	9	26	25	18	21	23	29	30	28	27.1
Dunn Center §	Maximum...	57	52	72	80	60	62	80	82	76	64	72	50	62	76	70	53	74	78	59	40	28	32	40	56	28	43	42	53	52	66	52	58.4
	Minimum ...	14	29	27	27	46	35	49	46	46	31	35	34	23	35	34	38	29	35	26	22	20	9	9	26	25	18	21	23	30	32	28	29.0
Hettinger	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Howard (near)	Maximum...	56	50	66	73	74	74	80	78	69	70	72	68	70	65	65	45	72	75	58	38	40	40	35	41	42	45	40	50	63	65	56	59.2
	Minimum ...	15	18	28	27	28	28	26	45	43	40	33	26	36	40	40	35	33	33	36	13	12	2	22	22	23	19	17	17	18	17	10	25.9
Kenmare	Maximum...	54	53	68	72	72	73	82	82	72	64	69	44	57	73	71	48	71	76	74	44	30	33	35	30	44	43	40	58	54	67	52	58.2
	Minimum ...	19	20	22	23	41	34	46	50	41	41	37	24	20	40	43	38	31	44	39	11	21	1	22	28	24	14	32	25	32	37	20	29.7
Marmarth	Maximum...	62	61	78	78	67	66	79	84	70	66	78	75	67	80	68	58	74	80	66	41	29	31	43	57	56	45	43	58	56	67	50	62.4
	Minimum ...	15	22	28	29	48	27	35	35	41	32	35	35	31	35	42	35	36	36	34	25	23	12	23	34	26	25	31	22	22	32	32	30.3
Mott	Maximum...	56	56	75	78	66	67	82	88	71	66	75	71	58	78	72	55	76	82	72	42	30	29	38	57	52	39	43	58	55	70	60	61.9
	Minimum ...	15	28	29	33	44	30	36	37	45	32	34	27	27	36	49	35	30	35	41	24	20	10	20	31	25	16	29	23	26	34	30	30.0
New England §	Maximum...	57	58	75	79	65	69	80	86	65	60	75	62	63	80	66	65	74	80	54	33	32	33	43	60	30	43	58	62	69	62	43	60.7
	Minimum ...	29	25	32	46	32	41	37	48	56	38	28	25	30	46	32	33	34	42	24	22	12	12	26	26	15	26	24	31	30	29	15	30.5
Watford City	Maximum...	55	51	73	77	66	67	78	80	67	63	74	56	63	74	51	53	72	75	58	36	33	34	45	57	45	48	42	59	54	65	46	58.6
	Minimum ...	16	29	33	31	44	33	42	45	45	42	40	30	26	43	39	40	36	41	36	17	20	9	26	33	26	24	30	28	31	33	24	32.0
Williston	Maximum...	54	53	68	74	59	65	81	81	61	63	72	46	63	75	53	53	74	77	49	35	32	32	36	54	31	47	41	58	51	67	41	56.3
	Minimum ...	19	27	36	31	41	36	44	45	43	46	39	32	28	45	42	36	37	41	33	17	17	12	26	31	27	27	29	27	31	38	20	32.4

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 11-28-36—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLV BISMARCK, N. D., NOVEMBER 1936 No. 11

GENERAL SUMMARY

The first decade during November was deficient in temperature, with precipitation being unevenly distributed, heavy snow occurring in the southeast portion, but generally light elsewhere. The second decade was much warmer with practically no precipitation. The third decade was somewhat colder with light scattered snows. Feed shipments into the State were large, and yard feeding of livestock was general throughout the month. There were also large shipments of livestock from the State. Do to extreme dryness of the soil, winter rye germination was unfavorable.

TEMPERATURE

The mean temperature for the State was 28.0°, or 1.4° below the 1892–1936 average for November. The mean for the eastern division was 25.7°; for the middle division, 27.9°; and for the western division, 30.4°. The highest mean temperature was 35.6° at Hettinger, and the lowest, 20.8° at Park River, making a range in mean temperature of 14.8°. The absolute range in temperture was 97°, from 69° at Watford City on the 19th, to −28° at Willow City on the 7th. The average daily deficiency in temperature for the State since January 1, 1936, is 1.4°.

PRECIPITATION

The average precipitation for the State was 0.34 inch or 0.26 inch less than the 1892–1936 average for November. In the eastern division the average amount was 0.37 inch; in the middle division, 0.33 inch; and in the western division, 0.31 inch. The greatest monthly amount reported was 1.10 inches at Napoleon; the least was 0.02 inch at Hettinger. The greatest amount recorded in any 24 consecutive hours was 0.70 inch at Richardton on the 5th. The accumulated deficiency in precipitation since January 1, 1936, is 7.99 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	1	..	..	..	..	2	1	2	3	1	1	1	6	2	..	2	1	3	..	..	..	1	1	1	..	2	4	1	..
Fogs	..	..	..	..	..	..	1	..	..	..	3	15	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..
Lunar halos	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	6	..	1	..	..	..	2	..	..
Solar halos	..	1	..	..	..	..	..	1	..	..	2	..	..	..	1	..	4	..	..	..	..	..	1	..	..	..	..	..	1	..	..
Sleet	..	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	..	..	..	..	3	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.18	30.77	6	29.72	20	9.4	35	nw.	20	80	66	71	51
Devils Lake	30.15	30.76	6	29.55	20	10.0	42	nw.	20	89	70	79	54
Grand Forks	30.12	30.70	6	29.48	24	......	44	w.	24	78	....	74	....
Williston	30.19	30.80	6	29.73	22	8.6	36	nw.	20	82	62	68	66
Moorhead, Minn	30.15	30.74	6	29.52	24	10.2	34	nw.	24	85	75	82	48
Averages & ext's	30.16	30.80	6	29.48	24	9.6	44	nw.	24	83	68	75	55

† And other dates.

COMPARATIVE DATA FOR NOVEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	22.3	75	−26	0.80	0.95	0.61	0.79	7.4	4	8	9	13
1893	22.4	74	−27	0.72	0.75	0.24	0.57	4.6	3	9	10	11
1894	23.1	71	−25	0.44	0.54	0.43	0.47	2.6	4	10	8	12
1895	20.6	76	−25	1.18	1.01	1.08	1.09	8.2	5	8	9	13
1896	8.1	62	−32	2.06	2.47	2.17	2.23	21.7	9	8	7	15
1897	20.0	86	−28	0.27	0.33	0.36	0.32	2.8	3	12	9	9
1898	23.0	69	−30	0.42	0.30	0.30	0.34	3.1	3	13	8	9
1899	36.0	68	2	0.26	0.51	0.16	0.31	1.0	2	15	4	11
1900	20.4	64	−29	0.28	0.29	0.40	0.32	5.2	5	14	7	9
1901	26.8	70	−7	0.10	0.09	0.19	0.13	1.6	1	15	8	7
1902	29.6	69	−12	0.25	0.11	0.36	0.24	1.9	3	11	6	13
1903	25.3	78	−20	0.27	0.22	0.28	0.26	2.5	2	13	4	13
1904	35.7	80	−10	0.10	0.09	0.07	0.09	0.7	1	18	5	7
1905	31.6	88	−38	1.66	1.54	0.89	1.36	11.0	9	7	13	10
1906	23.8	68	−16	1.90	1.34	1.23	1.49	10.2	7	10	7	13
1907	30.2	85	−15	0.08	0.10	0.05	0.08	0.7	1	16	8	6
1908	31.1	75	−15	1.10	0.91	0.80	0.94	8.2	4	12	8	10
1909	29.4	88	−23	0.68	0.31	0.44	0.48	4.6	3	11	9	10
1910	23.9	68	−23	0.34	0.44	0 43	0.40	3.2	2	8	10	12
1911	16.7	58	−33	0.70	0.60	0.63	0.64	7.1	6	12	8	10
1912	31.8	70	1	0.09	0.06	0.06	0.07	0.5	1	14	9	7
1913	34.1	77	−2	0.21	0.23	0.21	0.22	1.6	2	15	8	7
1914	30.7	83	−30	0.45	0.31	0.23	0.33	2.6	2	13	10	7
1915	28.1	71	−10	0.81	0.83	1.21	0.95	3.7	4	10	10	10
1916	28.8	75	−18	0.10	0.25	0.46	0.27	1.7	2	16	8	6
1917	36.8	77	−7	0.20	0.13	0.05	0.13	1.4	1	16	6	8
1918	28.9	71	−18	1.31	1.09	0.49	0.96	5.3	4	13	6	11
1919	15.6	57	−36	1.88	0.96	0.62	1.15	11.8	5	11	8	11
1920	28.0	65	−14	0.55	0.33	0.14	0.34	2.1	3	10	9	11
1921	21.0	69	−30	0.52	0.71	0.83	0.69	6.3	5	7	8	15
1922	31.8	65	−8	2.97	2.26	1.50	2.24	6.3	6	7	7	16
1923	36.5	72	−5	0.58	0.45	0.39	0.47	0.6	3	13	8	9
1924	27.6	69	−15	0.19	0.17	0.17	0.18	1.9	2	11	9	10
1925	28.8	69	−17	0.42	0.17	0.13	0.24	1.3	2	14	8	8
1926	21.5	68	−23	0.72	0.54	0.60	0.62	6.2	5	6	7	17
1927	20.7	59	−24	0.71	0.72	0.65	0.69	7.1	6	7	8	15
1928	31.0	70	−11	1.08	0.28	0.09	0.48	0.2	1	15	8	7
1929	24.8	70	−21	0.57	0.46	0.56	0.53	5.2	5	9	8	13
1930	29.4	72	−21	1.56	0.62	0.43	0.87	6.2	5	13	7	10
1931	30.3	78	−10	0.98	0.40	0.27	0.55	5.0	3	13	7	10
1932	25.2	70	−17	0.70	0.38	0.45	0.51	4.6	4	10	10	10
1933	28.3	78	−15	0.81	0.58	0.56	0.65	6.6	5	9	8	13
1934	33.9	73	−1	0.51	0.22	0.10	0.28	1.0	3	13	7	10
1935	17.2	57	−25	0.70	0.79	0.69	0.73	8.1	6	8	8	14
1936	28.0	69	−28	0.37	0.33	0.31	0.34	4.0	4	13	8	9
Period	26.6	88	−38	0.72	0.58	0.50	0.60	4.7	4	11	8	11

Climatological Data for November 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	21.7	−6.3	38	20	−4	1	40	0.68	+0.05	0.60	......	3	1	15	14	w.	I. Idso.
Cavalier	Pembina	894	26	21.4^{k}	......	59^{k}	19	−8^{k}	7	28^{k}	0.16	−0.63	0.08	2.8	4	7	10	13	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	25.1	......	63	20	−12	7	45	0.24	−0.44	0.14	3.0	3	19	2	9	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	39	25.7	+1.2	60	19	−8	7	31	0.13	−0.59	0.05	2.0	6	5	9	16	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	26.1	−3.7	63	19	−6	7	40	0.27	−0.19	0.15	3.2	3	6	19	5	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	12	25.3	+0.5	56	14	−16	7	35	0.17	−0.43	0.04	1.7	7	6	6	18	sw.	A. G. Braund.
Ellendale	Dickey	1,457	41	27.8	+1.7	60	19	−1	7	34	0.44	−0.18	0.16	6.7	4	13	7	10	nw.	J. E. Demmer.
Fullerton	Dickey	1,439	38	28.2	−1.0	60	19	−2	7	36	1.04	+0.18	0.42	10.4	5	10	8	12	nw.	F. O. Alin.
Grafton	Walsh	827	44	26.4	+1.7	62	20	−10	7	38	0.17	−0.57	0.07	2.6	3	11	7	12	n.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	45	24.4	−1.6	58	20	−11	7	38	0.32	−0.50	0.07	3.2	8	3	14	13	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	25.8	......	54	19†	−6	7†	42	0.96	......	0.48	12.0	3	17	0	13	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	44	23.1	+2.8	55	20	−18	7	34	0.16	−0.59	0.06	1.6	4	5	15	10	nw.	James Muir.
Hillsboro	Traill	901	30	25.4	−2.4	56	19†	−5	7	37	0.28	−0.54	0.16	2.8	3	12	5	13	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	25.6	−1.7	58	19	−4	7	40	0.25	−0.43	0.20	3.0	2	10	11	9	nw.	S. Calvelage.
Langdon	Cavalier	1,615	40	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	V. Sturlaugson.
Larimore	Grand Forks	1,134	43	25.4	−0.4	58	20	−11	7	39	0.16	−0.75	0.07	2.8	5	12	4	14	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	27.6	−1.3	58	19	−4	7	37	0.50	−0.16	0.15	6.5	5	5	14	11	sw.	J. O. Halversou.
McLeod	Ransom	1,075	25	28.4	−1.9	56	1	−8	7	38	0.46	−0.20	0.27	5.0	4	18	7	5	sw.	J. G. Carlson.
Mayville	Traill	975	40	28.9	+0.7	63	20	−3	7	40	0.04	−0.65	0.04	0.5	1	17	4	9	n.	H. B. Addicott.
Oakes	Dickey	1,318	7	27.2	......	58	19	−5	7	37	0.48	......	0.20	4.8	4	19	3	8	nw.	Eugene Naylor.
Park River	Walsh	998	32	20.8	−7.0	59	19	−16	7	45	0.08	−0.61	0.06	1.3	2	13	4	13	nw.	C. B. Wright.
Pembina	Pembina	1,520	6	23.8	+0.5	57	20	−4	7	33	0.29	−0.52	0.15	4.2	3	13	1	16	nw.	E. N. Russell.
Sharon	Steele	1,516	12	24.7	......	55	19	−10	7	36	0.31	−0.56	0.12	3.3	7	7	11	12	w.	Nels O. Grefsheim.
Valley City	Barnes	1,245	30	27.9	−0.1	58	19	−8	7	35	0.32	−0.37	0.13	6.0	5	17	3	10	sw.	I. C. Robertson.
Wahpeton	Richland	962	44	26.4	−2.4	52	20	−9	7	35	0.47	−0.29	0.23	9.1	5	10	8	12	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	25.2	−1.9	54	20	−3	7	36	0.58	−0.32	0.26	6.6	6	4	10	16	n.	U. S. Weather Bureau.
Average for Eastern Division		......	......	25.7	−1.0	63	20	−18	7	45	0.37	−0.36	0.60	4.2	4	11	8	11	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	40	28.2	+0.2	56	19	−1	3†	33	0.91	+0.29	0.30	11.5	4	15	6	9	sw.	H. D. Piper.
Bismarck	Burleigh	1,670	62	31.2	+2.7	64	19	−1	6	29	0.45	−0.12	0.17	6.7	6	8	12	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	24.1	+0.5	58	19	−15	6	44	0.13	−0.36	0.08	2.0	3	18	1	11	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	38	25.0	−2.8	60	19	−10	6	39	0.18	−0.40	0.08	2.5	3	15	3	12	......	L. A. Swanson.
Carson	Grant	2,500	24	31.4	+1.4	65	19	−6	3	36	0.55	−0.02	0.20	7.5	6	16	6	8	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	28.8	+2.5	60	19	−8	7	30	0.32	−0.19	0.07	5.5	7	14	5	11	sw.	R. L. Williams.
Drake	McHenry	1,634	7	26.4	......	61	19	−8	7	40	0.16	......	0.06	1.4	5	6	12	12	sw.	Peter Anton.
Dunseith	Rolette	1,682	40	24.0	−0.4	62	19	−11	6	49	0.08	−0.47	0.08	0.5	1	8	11	11	n.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	27.3	+1.5	62	19†	−19	7	40	0.15	−0.32	0.05	4.0	4	6	15	9	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	30.6	+2.1	63	19†	−8	6	39	0.55	+0.11	0.20	8.0	5	14	7	9	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	24	25.2	−1.9	60	19	−11	6	39	0.25	−0.44	0.17	3.5	4	15	5	10	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	31.8	+2.0	66	18	−3	3	44	0.30	−0.20	0.24	1.3	2	15	8	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	28.8	+3.7	62	20	−16	7	31	0.47	−0.20	0.13	4.8	7	10	7	13	sw.	E. C. Bierbaum.
Gaekle	Logan	1,951	6	28.0	......	57	19	−1	6†	33	0.21	......	0.06	3.0	4	19	3	8	sw.	A. H. Haut.
Garrison	McLean	1,901	59	26.8	+0.5	62	19	−5	7	38	0.49	+0.04	0.20	6.5	4	17	2	11	nw.	E. L. Voraebek.
Granville	McHenry	1,504	29	27.0	+0.3	62	20	−18	7	40	0.15	−0.41	0.08	2.0	3	12	8	10	nw.	W. A. Christianson.
Hansboro	Towner	1,597	28	24.7	+1.2	65	19	−20	7	38	0.30	−0.29	0.15	4.0	2	9	6	15	nw.	C. E. Blackorby.
Leeds	Benson	1,515	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Ole Semb.
Linton	Emmons	1,711	19	29.8	+0.8	65	19	−2	3	40	0.19	−0.31	0.15	5.7	4	11	14	5	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	26.6	+1.1	60	19	−11	7	32	0.36	−0.21	0.15	4.8	6	17	2	11	nw.	Edw. Tapley.
Maddock	Benson	1,604	21	27.3	+0.7	59	20	−5	2	38	0.15	−0.31	0.07	2.0	4	3	11	16	nw.	A. T. Felland.
Mandan	Morton	1,750	22	30.3	+1.1	64	19	−3	6	33	0.61	+0.10	0.30	6.8	6	13	7	10	sw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	24.7	......	58	13†	−9	6	37	0.71	......	0.25	7.5	5	......	......	......	......	A. W. Rice.
Minot	Ward	1,557	40	28.4	+0.9	65	19	−16	7	40	0.20	−0.47	0.07	2.0	4	13	5	12	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	27.0	+2.2	64	20	−15	7	36	0.07	−0.47	0.07	1.0	1	3	20	7	nw.	John Behan.
Napoleon	Logan	1,955	44	27.3	+0.6	59	19	−4	7	36	1.10	+0.53	0.40	11.0	6	21	2	7	sw.	C. J. Hoof.
New Salem	Morton	2,163	32	30.4	+0.6	64	19	−6	3†	35	0.68	+0.19	0.50	6.0	5	13	7	10	sw.	J. Christianson.
Pettibone	Kidder	1,856	27	24.6	−1.8	57	19	−14	7	42	0.25	−0.33	0.20	5.0	2	7	9	14	uw.	Sam Loeppke.
Steele	Kidder	1,857	42	28.0	+1.7	60	19	−4	6†	42	0.11	−0.42	0.07	1.1	3	15	4	11	sw.	R. S. Armstrong.
Towner	McHenry	1,482	34	26.8	+1.6	58	19	−15	7	39	0.44	−0.08	0.20	4.0	5	11	10	9	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	28.4	+0.2	62	19	−10	7	30	0.26	−0.16	0.10	3.0	5	17	0	13	nw.	M. A. Slettum.
Velva	McHenry	1,511	9	29.2	......	63	20	−17	7	38	0.19	......	0.08	4.0	5	7	11	12	w.	Oscar Anderson.
Washburn	McLean	1,731	35	29.1	−1.2	60	19	−4	6	35	0.39	−0.07	0.18	5.5	3	17	5	8	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	D. W. Drake.
Willow City	Bottineau	1,471	44	25.0	+2.4	56	20	−28	7	46	0.20	−0.36	0.05	2.0	4	13	11	6	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	30.0^{e}	+0.2	64^{e}	20	−3^{e}	7	41^{e}	0.23	−0.12	0.06	3.2	5	......	......	......	nw.	E. W. Davis.
Average for Middle Division		......	......	27.9	+0.9	66	18	−28	7	46	0.33	−0.20	0.50	4.2	4	13	7	10	nw.	......
Western Division																				
Beach	Golden Valley	2,759	30	30.6	−0.4	64	19	−5	3	44	0.47	−0.01	0.32	4.7	3	......	......	......	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	28.7	+0.2	68	19†	−8	3	45	0.09	−0.28	0.05	1.0	3	19	0	11	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	George Larsen.
Crosby	Divide	1,954	28	30.5	+3.8	66	13†	−17	7	35	0.40	−0.20	0.20	4.0	3	6	9	15	w.	J. H. Phelps.
Dickinson	Stark	2,543	44	29.6	+1.3	65	19	−5	3†	39	0.49	+0.02	0.18	4.9	6	12	10	8	w.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	30.8	+2.9	67	19	−3	6	31	0.15	−0.31	0.15	2.0	1	13	8	9	sw.	W. F. Moede.
Epping	Williams	2,224	26	29.2	......	64	20	−13	7	33	0.19	−0.25	0.07	5.0	4	16	8	6	nw.	T. Beachler.
Fryburg	Billings	2,790	18	32.4	......	65	19	0	3†	32	0.41	−0.08	0.23	5.2	3	15	9	6	sw.	Verne King.
Hettinger	Adams	2,675	29	35.6	+4.0	62	19	2	2†	41	0.02	−0.40	0.02	0.2	1	25	3	2	w.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	27.5	+1.2	60	19	−19	7	40	0.35	−0.20	0.30	3.0	2	16	8	6	sw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	29.4	......	64	20	−12	7	31	0.27	−0.28	0.06	2.7	7	5	15	10	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	27	32.0	+0.6	65	19	0	3	37	0.31	−0.08	0.13	4.6	5	16	5	9	......	S. P. Grane.
Mott	Hettinger	2,424	29	33.1	+3.9	67	19	−3	3	36	0.30	−0.18	0.24	4.5	3	17	5	8	nw.	W. M. Hendricks.
New England	Hettinger	2,400	42	32.4	+3.3	66	19	−3	2	33	0.56	+0.12	0.28	4.5	4	14	5	11	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	21	28.4	......	64	19	−21	7	39	0.05	−0.32	0.03	1.0	2	7	17	6	sw.	C. E. Shubert.
Portal	Burke	1,954	31	26.8	+1.4	64	19	−16	7	50	0.17	−0.38	0.10	1.8	3	13	5	12	w.	R. G. Wegener.
Powers Lake	Burke	2,205	31	28.4	+3.8	63	20	−12	2	33	0.40	−0.09	0.21	4.0	2	21	6	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	20	31.6	+3.3	65	19†	−2	6†	44	0.79	+0.31	0.70	7.5	4	4	8	18	sw.	Assumption Abbey.
Sanish	Mountrail	1,835	11	29.5	+0.7	66	19	−20	6	34	0.27	......	0.15	3.5	3	15	5	10	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	23	31.8	+3.5	69	19	−8	7	32	0.40	−0.10	0.22	5.0	2	12	11	7	w.	J. C. Zeller.
Williston	Williams	1,878	57	30.8	+3.6	67	19	−11	7	32	0.38	−0.20	0.26	4.7	4	17	7	6	w.	U. S. Weather Bureau.
Average for Western Division		......	......	30.4	+2.0	69	19	−21	7	50	0.31	−0.16	0.70	3.6	3	14	8	8	w.	......
Average for the State		......	......	28.0	+0.6	69	19	−28	7	50	0.34	−0.24	0.70	4.0	4	13	8	9	nw.	......

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for November 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red	.03	.60			T.																				.05							0.68
Cavalier	do		.03						T.						T											.02	.03				.08		0.16
Cooperstown	Sheyenne	.04	.14			.06																				T.	T.				T.		0.24
Courtenay	James	.15			.10	.05	.05																		T.	T.					T		0.35
Devils Lake ***	Devils Lake	.03	T.	T.	.01	.05	T.		.01	T.					T.					T.					T.	.01	T.		T.	T	.02		0.13
Edgeley	James	.15	T.		.07	.05																											0.27
Edmore	Devils Lake	T.	.03		T.	T.	.03		.02	.01			T.								T.				T.	.02	.02		T.		.04		0.17
Ellendale	James	.14	.16				.09			T.															T.	.05							0.44
Forman	Sheyenne	.09	.28	.08	T	.14				T.																.05							0.64
Fullerton	James	.42	.25		T.	.25	.04																		T.	.08							1.04
Grafton	Red	T.	.07				.04		T																	T.	T.				.07		0.17
Grand Forks ***	do	.07	.04		.01	.02	.02		.04																T.	.06	T.		T.		.06		0.32
Hankinson ‖‖	do	.48	.08			.40			T.																	T.	T.						0.96
Hannah	Pembina	T.	.04			T.	.04		.02	T.															T.	T.	T.		T		.06		0.16
Hillsboro	Red	.16	.07				.05																			T.	T.						0.28
Jamestown	James	T.		.20																							.05						0.25
Langdon ‖‖	Pembina																																
Larimore	Red	T.	.07			T.	.03		T.																	.02	.03				.01		0.16
Lisbon	Sheyenne	.15	.15	.08	T.	.08																			T.	.04	T.				T.		0.50
McLeod	do			.08			.27	T.																		.07		.04					0.46
Mayville	Red				T.	.04			T.									T.		T.						T.					T.		0.04
Oakes	James	.20	.10		T.	.17		T.	T																	.01							0.48
Park River	Red	T.				.06																			T.	.02							0.08
Pembina	do								.04																	.10					.15		0.29
Petersburg	do	T.	.07			T	.05		T.																						T.		0.12
Sharon	do	.02	.12		T	.09	.01		.03																T.	.03	T.		T.		.01		0.31
Valley City	Sheyenne	.13	.10		.02	.02																				.05							0.32
Wahpeton	Red	.23	.06	T.		.07	.05			T.															T	.06	T.						0.47
Moorhead, Minn. ***	do	.25	.16		T.	.08	.01		.03	T.													T.		T.	.05	T.				T.		0.58
Middle Division																																	
Ashley	Missouri	.21	.28			.12																	.30										0.91
Bismarck ***	do	.07	.12		T	.17	T.																.02		T.	.04	.03				T.		0.45
Bottineau	Mouse	.04		T.	T.	.01			T.																					T.	.08		0.13
Carrington ‖‖	James	T.	.08		T.	.08																				.02							0.18
Carson	Heart	.15	.20			.08																	.02		.02		.08						0.55
Dogden Butte	Mouse	T	.05		.03	.07	.07		.02	T.													.03			.05					T.		0.32
Drake ‖‖	do		.04			.01	.06			.02																T.	.03						0.16
Dunseith	do		.08			T.			T																T.						T.		0.08
Eckman	do	T.	.05			.03			T.	.02																.05					T.		0.15
Energy	Missouri	.10				.10																	.20			.10	.05						0.55
Fessenden ‖‖	James		.02		.05		.17																			.01							0.25
Fort Yates	Missouri	.24	T.			.06																	T			T.							0.30
Foxholm (near)	Mouse	.04	.13		.02	.02	T.			.03											T				T.	.13	.10				T.		0.47
Gackle	James	.05		.04	.06	.06																	T.										0.21
Garrison ‖‖	Missouri		.13				.07																	.20			.09						0.49
Granville	Mouse	.08	.04			T.			T.																	.03					T		0.15
Hansboro	Devils Lake	.15			T.																					T.					.15		0.30
Leeds	do																																
Linton	Missouri	T.	.02			.01		T.															.15	.01		T							0.19
McClusky	do	T.	.04		.04	.15	.05																.04		T.	.04					T.		0.36
Maddock	Sheyenne	T.	.05		.02	.07	.01		T.																T.	T.					T.		0.15
Mandan ‖‖	Missouri	.11	.11		.03	.30			T.														.01		T.	.05							0.61
Manfred	James		.06		.02	.02	.08		.02																	.05					T.		0.25
Max ‖‖	Missouri	.10		.16	T	.05																	.25			.15							0.71
Minot	Mouse	.07	.05		T.	T.	.03		T.														T.		T.	.05	T.				T.		0.20
Mohall	do	T.	.07		T.	T.				T.																							0.07
Napoleon ‖‖	Missouri	.10	.10	.30			.10																	.40			.10						1.10
New Salem	Heart	.02	.12			.50	T.																.02		T	.02							0.68
Pettibone	James	T			T.	T	.20																		T.	.05					T.		0.25
Rugby (near)	Mouse		.04		T		.04			.02																T					.02		0.12
Ryder	Missouri	.05		.01	T.	T.			.02														.06			.07							0.21
Selfridge	do	T.	.25			.20	T.																T.			.08	.10						0.63
Steele	do	.02			T.	.07			T.														T.		T	.02							0.11
Tagus	Mouse	.03	.02		T.	.01	T.																.02		T.		.08						0.16
Towner	do		.06		T.	.05	.20		.10																	.03					T.		0.44
Turtle Lake	Missouri	.02	.04		T.	.10	.02																.08										0.26
Tuttle	do		.08		.04	.10																	.01		T.	.05				T.			0.28
Velva	Mouse	T.	.08		T.	.03	.03		.02														T.			.03					T.		0.19
Washburn ‖‖	Missouri	T.	.05		T.	T.	.18																	.16			T.						0.39
Westhope	Mouse																																
Willow City	do	T.	.05		.05	.05			T.																	T					.05		0.20
Wishek ‖‖	Missouri		.02	.06			.04																	.06			.05						0.23
Zap	Knife	T.	T.			.15																	.04			T.							0.19
Western Division																																	
Alpha	Lit. Missouri	.09	.06			.06	T.																								T.		0.21
Beach	do	.32	.08			.07																	T.								T.		0.47
Berthold Agency	Missouri	.05				T.																	.02		T.	T.	.02						0.09
Bowman	Grand																																
Corinth	Missouri	.19		.05		T.																	.30		.05					.01	T.		0.60
Crosby	Mouse	.20			.10																		.10		T.								0.40
Dickinson ‖‖	Heart	.09	.15	T.		.03	.18	.01	T.															.03		T.							0.49
Dunn Center	Knife	.15																					T.		T.								0.15
Epping	Missouri	.02	.07		.05		.05																										0.19
Fryburg	Heart	.23	.09				.09																T.		T.	T.					T.		0.41
Hettinger	Grand							.02																									0.02
Howard (near)	Missouri	.30	T		.05																				T.								0.35
Kenmare	Mouse	.06	.04		.01	.03	.03																T.			.04	.06						0.27
Marmarth	Lit. Missouri	.10	.13			.06	.01																.01								T.		0.31
Mary	do	.04	.05			T.																			.01								0.10
Mott	Cannon Ball	.04	.24			.02	T.																										0.30
New England ‖‖	do	.28	.06			.16																	.06										0.56
Parshall	Missouri		.03		T.	T.																	T			T.	.02						0.05
Portal ‖‖	Mouse		.10					.03																.04			T.						0.17
Powers Lake	Missouri			.21																			.19										0.40
Richardton	Heart	.05				.70	.03																T		T.		.01				T.		0.79
Sanish ‖‖	Missouri	.15		T.		.08																	.04										0.27
Tioga	do				.13																		.07										0.20
Trotters	Lit. Missouri	.30					.03																T								T.		0.33
Watford City	Missouri	.22				.18																											0.40
Williston ***	do	.23	.03		.02	.10			T.														T.		T.						T		0.38

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum	36	34	36	34	34	32	30	30	32	28	28	30	28	36	30	32	34	36	36	38	34	36	32	34	36	34	32	34	27	30	....	32.4
	Minimum	-4	10	6	8	12	10	6	8	6	8	10	8	10	11	10	11	12	13	12	14	15	14	12	16	14	16	15	16	15	16	....	11.0
Devils Lake	Maximum	19	15	28	20	18	12	17	37	35	45	42	45	55	48	48	53	42	43	60	60	40	27	40	40	32	26	48	40	25	23	....	36.1
	Minimum	14	6	-3	13	12	-6	-8	9	12	17	25	21	36	23	18	26	20	17	36	29	15	15	11	9	8	16	17	24	13	14	....	15.3
Edgeley	Maximum	32	32	23	28	25	20	12	37	36	44	45	46	38	44	44	52	54	35	63	60	49	49	35	31	28	24	25	25	27	25	....	36.3
	Minimum	18	10	0	17	18	2	-6	5	20	19	28	19	23	16	23	25	30	22	30	20	18	21	18	16	10	6	11	10	10	18	....	15.9
Ellendale	Maximum	34	19	15	31	24	16	15	36	28	34	44	40	50	53	41	46	49	41	60	49	43	36	38	37	34	32	47	38	29	30	....	36.3
	Minimum	19	12	2	7	16	6	-1	2	26	16	23	34	27	39	23	27	33	32	31	40	23	17	14	29	13	17	13	29	15	17	....	19.3
Fullerton	Maximum	28	22	20	28	25	22	15	37	38	34	42	39	51	53	42	44	47	41	60	59	41	32	38	41	34	31	49	45	33	29	....	37.3
	Minimum	20	13	2	9	17	3	-2	2	20	16	25	23	27	38	22	26	34	21	30	39	28	16	13	27	12	17	13	27	16	16	....	19.0
Grafton	Maximum	25	25	26	26	19	18	17	31	38	39	41	48	54	49	41	55	48	40	57	62	40	36	42	42	32	29	48	44	28	20	....	37.3
	Minimum	21	15	0	8	7	6	-10	3	11	7	25	23	30	31	10	23	31	15	31	39	23	18	10	16	8	12	10	23	6	11	....	15.4
Grand Forks	Maximum	27	20	23	23	20	16	16	37	36	37	39	33	57	45	38	50	43	39	56	58	38	30	41	41	31	20	47	37	19	22	....	34.6
	Minimum	20	15	0	11	14	-5	-11	-1	8	8	27	26	28	18	13	21	20	18	29	36	24	14	12	9	7	12	11	16	11	12	....	14.1
Hillsboro	Maximum	27	25	20	21	21	20	12	29	36	37	41	37	53	50	39	47	42	38	56	56	42	36	37	34	30	25	43	41	27	25	....	34.9
	Minimum	24	15	3	15	16	8	-5	-1	15	6	22	26	27	34	14	23	30	20	19	30	24	20	10	15	6	12	3	25	15	7	....	15.9
Jamestown	Maximum	25	19	24	24	20	16	21	38	25	43	42	44	51	51	47	51	45	43	58	52	41	31	39	38	30	30	46	31	21	29	....	35.8
	Minimum	17	12	0	-1	16	0	-4	3	19	15	18	23	24	36	20	17	27	18	18	40	22	15	11	10	10	17	11	23	14	15	....	15.5
Langdon §	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Larimore	Maximum	22	21	22	23	19	16	15	35	35	38	41	43	57	50	44	51	44	39	55	58	39	32	39	41	30	28	47	42	26	21	....	35.8
	Minimum	19	14	-1	12	14	-3	-11	4	11	9	28	20	32	30	10	23	29	14	30	39	24	15	12	15	3	8	8	24	11	10	....	15.1
Lisbon §	Maximum	28	25	21	25	25	21	13	35	27	38	44	38	49	51	42	46	48	42	58	54	41	35	40	43	33	29	49	44	32	29	....	36.8
	Minimum	21	16	3	12	18	7	-4	2	13	9	22	21	26	35	18	25	32	22	30	40	23	15	13	25	10	16	12	29	20	18	....	18.3
Oakes	Maximum	30	24	22	27	24	21	15	33	37	36	42	34	49	51	45	43	48	40	58	57	42	33	40	42	33	29	49	42	33	29	....	36.9
	Minimum	20	13	2	7	17	5	-5	0	16	10	17	21	23	36	20	20	31	21	31	40	22	17	14	25	11	16	12	28	20	18	....	17.6
Sharon	Maximum	23	17	22	17	16	15	14	35	34	39	44	42	54	47	44	49	44	41	55	46	38	26	37	39	28	26	45	39	26	23	....	34.2
	Minimum	17	12	-5	12	12	1	-10	2	9	7	27	20	30	26	14	28	28	16	32	36	20	20	12	15	6	12	9	24	13	10	....	15.2
Valley City	Maximum	34	23	23	26	23	24	15	37	38	38	44	42	52	50	50	48	46	41	58	55	42	37	40	40	32	30	48	46	32	27	....	38.0
	Minimum	20	14	0	13	12	4	-8	2	17	10	28	21	28	36	17	27	31	18	32	41	21	14	14	25	9	16	13	27	17	15	....	17.8
Wahpeton	Maximum	31	27	18	29	28	27	11	30	38	36	41	35	40	44	38	43	44	37	48	52	42	35	33	44	28	27	47	41	31	27	....	35.1
	Minimum	21	17	3	15	21	9	-9	-2	17	3	20	22	19	35	15	21	30	23	30	39	28	18	20	23	7	11	12	27	20	16	....	17.7
Moorhead, Minn.	Maximum	28	23	19	23	25	18	13	38	38	33	41	30	46	47	35	44	44	35	53	54	38	32	37	43	29	21	47	39	24	27	....	34.1
	Minimum	22	16	5	5	18	0	-3	2	8	5	23	21	20	24	17	23	28	22	32	37	27	22	15	11	8	14	14	24	16	15	....	16.4
Middle Division																																	
Ashley	Maximum	35	21	20	39	34	20	12	36	36	38	44	40	50	52	49	50	52	44	56	53	41	35	31	37	32	31	43	42	32	28	....	37.8
	Minimum	16	10	-1	13	19	2	-1	3	24	19	27	22	30	35	19	25	30	21	34	40	20	17	8	29	10	21	14	27	11	14	....	18.6
Bismarck	Maximum	24	17	30	37	25	13	20	40	38	49	46	46	56	53	53	56	52	50	64	56	46	30	43	40	37	31	51	39	31	33	....	40.2
	Minimum	17	8	2	24	13	-1	2	20	25	25	31	25	34	33	24	30	32	28	39	34	23	20	14	27	29	22	23	24	18	18	....	22.1
Bottineau	Maximum	28	17	26	20	20	3	25	28	25	48	44	47	54	49	50	52	45	44	58	49	43	32	40	44	37	33	48	32	21	20	....	36.1
	Minimum	4	-7	-2	12	-5	-15	0	16	16	20	17	22	30	23	20	24	20	20	34	5	8	-3	12	10	12	12	11	19	16	12	....	12.1
Carson	Maximum	32	17	30	40	33	25	18	39	40	48	52	50	55	54	59	53	55	56	65	56	48	42	43	40	40	34	53	41	35	33	....	42.9
	Minimum	14	9	-6	20	13	-4	1	11	28	22	28	23	34	32	30	26	28	29	36	36	17	23	12	13	20	22	19	24	16	17	....	19.8
Drake §	Maximum	21	15	28	19	18	8	26	38	28	48	45	45	56	51	53	56	45	45	61	44	45	30	38	39	32	31	47	35	23	27	....	36.6
	Minimum	16	5	-1	-2	16	-5	-8	-2	21	20	26	22	22	25	23	30	29	21	23	35	15	18	11	18	17	21	18	25	12	15	....	16.2
Fessenden §	Maximum	22	16	25	19	20	10	24	37	26	43	45	42	54	51	51	52	46	47	60	45	43	30	38	38	31	30	46	34	21	26	....	35.7
	Minimum	16	7	-5	-1	15	-11	-8	0	16	15	25	20	25	29	18	25	27	20	21	36	16	15	10	18	10	20	13	25	9	13	....	14.6
Foxholm (near)	Maximum	20	14	26	26	17	12	15	38	38	46	43	50	59	52	55	55	48	48	60	62	45	38	40	41	32	30	47	42	31	26	....	38.5
	Minimum	12	4	-3	12	11	0	-16	13	20	23	28	20	38	39	25	32	31	19	39	37	17	15	13	28	27	18	18	24	10	16	....	19.0
Garrison §	Maximum	20	14	29	25	18	10	27	39	29	52	47	50	57	54	54	54	52	51	62	44	46	30	40	37	28	25	40	35	25	30	....	37.5
	Minimum	16	0	0	0	18	-4	-5	1	25	21	22	20	20	34	22	28	29	25	26	40	19	19	12	17	10	1	9	27	16	18	....	16.2
Granville	Maximum	20	17	25	28	14	12	14	39	30	40	32	40	45	40	60	58	47	49	61	62	48	48	40	48	33	23	42	44	24	25	....	36.9
	Minimum	16	-2	-6	14	12	-10	-18	12	18	21	25	17	35	35	20	28	25	20	36	40	12	18	12	29	23	18	16	24	8	17	....	17.2
Hansboro	Maximum	23	24	27	33	25	12	18	38	39	43	40	44	58	48	38	36	40	44	65	52	38	32	39	38	34	35	45	30	28	25	....	36.4
	Minimum	12	3	-5	7	1	-4	-20	4	11	11	29	20	25	28	17	15	24	16	32	25	16	16	7	17	7	14	14	22	14	12	....	13.0
Linton	Maximum	34	19	27	41	39	20	11	39	38	45	46	43	55	53	51	55	53	46	65	57	45	38	40	44	31	32	50	43	32	30	....	40.7
	Minimum	10	9	-2	15	18	-1	1	6	21	20	24	21	27	33	28	29	29	25	31	39	15	20	0	27	16	25	26	27	14	17	....	19.0
McClusky	Maximum	32	30	21	24	20	13	15	35	34	40	44	39	53	50	50	50	48	43	60	51	42	30	34	35	30	28	24	38	22	25	....	35.3
	Minimum	16	14	-3	18	13	-8	-11	9	22	20	22	19	32	36	23	30	30	24	35	35	10	20	7	23	18	17	17	23	12	15	....	17.9
Maddock	Maximum	25	18	24	24	20	15	17	36	37	45	45	43	53	51	51	53	57	46	58	59	43	42	40	39	31	31	47	43	31	25	....	38.3
	Minimum	15	-5	5	13	14	12	7	7	14	14	24	12	30	33	13	23	24	17	34	38	14	14	8	25	7	19	13	22	11	12	....	16.3
Minot	Maximum	23	15	27	27	19	14	18	23	32	43	39	42	61	56	58	54	48	49	65	58	41	40	38	37	31	31	42	37	27	27	....	37.4
	Minimum	14	6	-1	16	14	2	-16	15	21	23	27	19	38	38	18	33	29	22	40	39	14	19	7	30	27	20	16	13	19	21	....	19.4
Mohall	Maximum	18	17	28	26	18	12	18	40	29	29	49	44	52	59	54	56	54	43	41	64	42	51	30	45	38	32	36	49	36	23	....	37.8
	Minimum	13	4	-6	14	11	-1	-15	13	13	18	26	18	22	36	19	21	18	18	20	40	10	11	11	20	28	19	19	22	12	16	....	16.1
Napoleon §	Maximum	22	13	24	35	22	7	21	38	33	42	42	41	52	53	51	54	50	46	59	47	42	34	36	36	32	32	44	36	26	28	....	36.6
	Minimum	15	9	-2	13	19	-2	-4	2	30	20	28	20	31	35	18	25	28	23	35	42	18	15	3	24	10	21	14	26	9	14	....	18.0
New Salem	Maximum	42	24	26	34	23	22	19	40	39	44	46	46	55	53	56	55	51	50	64	63	44	39	40	38	38	38	50	45	34	30	....	41.6
	Minimum	12	1	-6	22	8	12	-6	5	24	18	26	22	32	33	26	26	30	24	35	34	17	17	9	25	28	27	21	22	9	23	....	19.2
Steele	Maximum	31	20	21	40	24	16	38	35	32	40	40	40	50	53	52	50	48	48	60	45	43	30	34	38	28	32	47	41	26	28	....	37.7
	Minimum	17	10	-3	15	16	-4	-4	20	20	20	25	19	30	36	20	28	31	25	32	37	15	17	5	25	16	18	13	24	10	13	....	18.2
Towner	Maximum	20	20	34	27	18	15	19	35	36	48	40	48	54	53	53	54	46	46	58	51	46	28	37	30	35	33	47	43	29	26	....	37.6
	Minimum	2	2	-5	13	15	-6	-15	5	18	18	27	18	28	32	18	30	25	20	34	35	14	18	8	28	14	21	20	25	10	10	....	16.1
Westhope	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Western Division																																	
Beach	Maximum	28	13	24	37	27	6	16	38	34	42	45	44	51	54	55	53	55	54	64	57	53	44	41	37	47	35	52	44	39	30	....	40.6
	Minimum	13	1	-5	23	5	0	3	10	21	26	27	26	35	32	29	34	28	31	38	13	19	24	17	32	23	27	26	23	18	21	....	20.7
Berthold Agency	Maximum	30	18	30	30	24	15	20	42	40	54	50	55	55	55	60	55	50	55	68	68	50	38	42	45	42	35	50	40	34	32	....	42.7
	Minimum	10	-4	-8	18	10	-8	-4	14	25	18	20	15	25	30	15	22	23	20	25	25	12	10	8	26	25	16	14	15	8	16	....	14.7
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Crosby	Maximum	19	14	28	28	26	9	14	40	39	43	43	47	66	55	56	65	66	56	66	61	47	33	46	46	38	35	51	41	31	25	....	41.1
	Minimum	12	2	-7	16	9	-5	-17	11	29	22	18	21	33	40	29	31	31	25	42	43	12	22	12	31	26	26	24	26	10	22	....	19.9
Dickinson §	Maximum	17	10	29	35	22	9	25	37	36	47	48	48	54	53	56	55	52	55	65	45	53	45	41	38	42	37	53	40	38	33	....	40.6
	Minimum	15	3	-5	0	22	-4	-5	9	24	25	27	25	27	30	25	25	26	26	26	39	16	14	15	18	23	28	25	26	17	17	....	18.6
Dunn Center	Maximum	25	15	27	36	21	15	15	43	40	50	49	51	56	54	57	57	49	55	67	47	41	37	42	42	41	36	53	44	35	27	....	40.6
	Minimum	15	5	-1	21	-1	-3	5	15	30	24	26	28	31	34	23	26	26	27	42	15	17	25	27	31	30	26	32	24	14	17	....	21.0
Hettinger	Maximum	50	40	42	43	50	38	26	45	41	53	54	55	55	56	56	58	58	57	62	55	60	47	46	49	45	39	46	54	48	38	....	48.9
	Minimum	22	2	18	22	30	2	6	9	23	26	32	24	34	36	22	24	27	34	28	14	20	24	17	31	23	24	24	26	27	15	....	22.2
Howard (near)	Maximum	35	28	26	32	17	10	0	35	40	41	42	44	58	52	58	56	56	51	60	54	50	38	34	36	39	47	49	41	32	32	....	39.8
	Minimum	10	-2	-7	15	4	-14	-19	-10	28	24	20	18	35	30	25	30	23	24	24	18	10	16	11	21	22	23	23	22	17	14	....	15.2
Kenmare	Maximum	23	13	28	27	19	12	16	40	39	45	44	48	60	56	49	55	48	52	63	64	48	38	39	42	35	36	50	44	32	27	....	39.7
	Minimum	13	0	-3	15	5	-6	-12	14	15	26	26	23	37	37	24	35	31	24	41	35	17	17	15	32	26	20	21	23	10	15	....	19.2
Marmarth	Maximum	34	16	28	40	30	21	18	40	41	46	46	48	52	55	56	55	54	55	65	45	53	47	42	42	45	37	55	41	40	36	....	42.8
	Minimum	15	7	0	21	20	0	4	3	21	22	25	23	34	30	25	29	27	32	35	35	18	24	18	33	21	28	24	27	16	22	....	21.3
Mott	Maximum	37	19	30	42	36	19	22	43	42	53	55	54	57	56	56	58	54	58	67	59	53	45	43	40	43	37	55	48	38	35	....	45.1
	Minimum	16	7	-3	21	18	0	5	10	30	31	26	22	32	31	24	25	27	29	32	38	17	21	14	30	21	28	22	24	15	21	....	21.1
New England §	Maximum	21	16	31	44	27	20	31	40	41	46	50	54	53	54	55	55	56	56	66	48	54	45	42	41	42	44	52	44	41	34	....	43.4
	Minimum	4	-3	20	22	-2	2	12	22	25	29	23	44	31	23	28	25	35	26	42	20	23	12	28	23	25	23	22	14	22	19	....	21.3
Watford City	Maximum	25	16	31	30	19	12	17	38	42	48	43	49	57	59	58	56	51	56	69	56	51	34	43	42	46	41	53	41	37	31	....	41.7
	Minimum	15	3	2	17	11	-6	-8	14	28	27	27	26	36	35	32	33	29	31	37	33	19	26	18	30	26	30	25	23	17	22	....	21.9
Williston	Maximum	20	15	29	30	23	7	17	38	40	47	42	48	58	55	58	54	50	54	67	58	50	37	43	41	41	41	52	40	34	30	....	40.6
	Minimum	14	1	0	23	6	-5	-11	16	30	26	27	24	35	34	27	32	29	29	35	29	20	21	19	27	26	28	27	22	17	21	....	21.0

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 12-28-36—1050]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLV Bismarck, N. D., December 1936 No. 12

GENERAL SUMMARY

The month opened with comparatively low temperature, accompanied by generally light snow, though moderately heavy in some sections, and this condition prevailed during the first 15 days; the second half was much milder, with some snow near the close. Due to a shortage of feed on ranges, pastures, and harvested fields, much yard feeding of livestock was necessary. December was the ninth consecutive month with precipitation below the normal.

TEMPERATURE

The mean temperature for the State was 15.0°, or 2.4° above the 1892-1936 average for December. The mean for the eastern division was 14.2°; for the middle division, 14.6°; and for the western division, 16.2°. The highest mean temperature was 20.2° at Hettinger, and the lowest, 8.4° at Bottineau, making a range in mean temperature of 11.8°. The absolute range in temperature was 95°, from 59° at Mott on the 23d, to -36° at Willow City on the 30th. The average daily deficiency in temperature for the State since January 1, 1936, is 0.6°.

PRECIPITATION

The average precipitation for the State was 0.43 inch, or 0.07 inch less than the 1892-1936 average for December. In the eastern division the average amount was 0.50 inch; in the middle division, 0.32 inch; and in the western division, 0.46 inch. The greatest monthly amount reported was 1.23 inches at Fullerton; the least was a trace at Carrington. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Crosby on the 28th. The accumulated deficiency in precipitation since January 1, 1936, is 8.10 inches. The average snowfall for the State was 5.5 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	..	..	..	..	1	..	..	..	..	1	4	3	..	..	..	..	..	..	1	2	1	..	..	..	..	1	..	..	..	..
Fogs	1	..	..	..	..	..	..	..	8	1	..	..	..	..	3	18	24	2	..	..	..	..	1	28	41	24	6	9	3	..	..
Lunar halos	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	4	1	1	1	..	1	2	2	1	..	1
Solar halos	..	..	4	..	3	5	3	1	1	..	1	..	..	..	..	..	..	1	..	1	1	..	..	..	..	1	2	..	..	5	6
Sleet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	4	6	7	..	7	3	1	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.06	30.52	4	29.56	2	8.7	35	nw.	19	80	69	77	47
Devils Lake	30.06	30.57	4	29.42	30	9.2	38	nw.	19	87	80	84	57
Grand Forks	30.03	30.54	4	29.34	30	......	43	nw.	19	90	....	88	....
Williston	30.05	30.52	6	29.51	2	8.2	37	nw.	19	79	69	73	54
Moorhead, Minn	30.08	30.56	4	29.44	30	9.3	35	nw.	19	88	83	88	47
Averages & ext's	30.06	30.57	4	29.34	30	8.8	43	nw.	19	85	75	82	51

† And other dates.

COMPARATIVE DATA FOR DECEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	7.1	60	−39	0.44	0.49	0.78	0.57	7.7	4	13	8	10
1893	4.7	55	−36	0.71	0.83	1.02	0.85	8.4	6	11	9	11
1894	19.1	70	−32	0.38	0.17	0.32	0.29	1.6	2	18	7	6
1895	13.8	62	−32	0.24	0.29	0.39	0.31	2.6	3	12	9	10
1896	16.4	53	−35	0.50	0.46	0.13	0.36	2.6	3	13	9	9
1897	10.8	69	−35	0.24	0.21	0.21	0.22	2.2	3	12	8	11
1898	12.1	51	−38	0.24	0.24	0.24	0.24	2.1	3	14	9	8
1899	12.8	60	−26	0.31	0.31	0.34	0.32	3.3	3	13	7	11
1900	17.3	58	−29	0.35	0.29	0.29	0.31	3.0	4	13	8	10
1901	12.4	61	−43	0.72	0.74	0.75	0.74	7.2	5	10	7	14
1902	7.8	49	−35	0.50	0.30	0.72	0.51	4.2	4	14	7	10
1903	11.6	57	−33	0.63	0.74	0.93	0.77	7.2	6	11	7	13
1904	14.2	55	−43	0.60	0.62	0.73	0.65	6.2	5	7	8	16
1905	15.3	55	−34	0.21	0.16	0.12	0.16	1.6	4	16	2	13
1906	8.4	48	−40	1.09	0.91	1.27	1.09	10.7	6	11	7	13
1907	20.1	68	−26	0.36	0.23	0.31	0.30	3.1	3	15	7	9
1908	14.4	62	−37	0.53	0.26	0.28	0.36	3.7	3	13	10	8
1909	5.2	54	−42	1.88	1.10	0.86	1.28	12.1	7	9	8	14
1910	12.9	56	−34	0.45	0.42	0.42	0.43	4.6	4	12	8	11
1911	14.9	61	−33	0.45	0.26	0.34	0.35	4.5	4	10	8	13
1912	18.9	72	−28	0.62	0.55	0.13	0.43	4.0	4	14	8	9
1913	22.7	61	−21	0.05	0.12	0.01	0.06	0.3	1	18	6	7
1914	5.4	57	−42	0.58	0.40	0.42	0.47	5.7	4	12	9	10
1915	15.8	57	−27	0.56	0.56	0.44	0.52	5.4	5	11	9	11
1916	2.7	61	−50	1.39	1.34	0.81	1.18	13.9	5	15	8	8
1917	0.7	58	−44	0.51	0.64	0.61	0.59	7.4	6	9	9	13
1918	18.5	65	−41	0.97	0.92	0.76	0.88	9.9	5	9	8	14
1919	7.4	49	−38	0.65	0.48	0.28	0.47	4.8	3	14	9	8
1920	15.2	59	−32	0.48	0.33	0.16	0.32	3.2	3	11	9	11
1921	16.5	59	−33	0.52	0.33	0.38	0.41	3.9	4	14	7	10
1922	8.5	55	−34	0.75	0.76	0.53	0.68	7.4	5	11	8	12
1923	22.2	62	−36	0.38	0.35	0.23	0.32	3.6	3	16	8	7
1924	2.9	58	−46	0.40	0.39	0.54	0.44	5.3	4	12	7	12
1925	16.5	67	−38	0.24	0.30	0.30	0.28	2.6	3	12	8	11
1926	9.2	55	−36	0.60	0.50	0.59	0.56	5.5	3	14	8	9
1927	− 1.8	43	−38	0.96	0.52	0.91	0.80	8.7	5	14	7	10
1928	20.7	57	−30	0.47	0.23	0.27	0.32	3.2	3	14	7	10
1929	12.5	59	−38	0.68	0.88	0.88	0.81	9.9	5	12	8	11
1930	19.9	53	−30	0.21	0.16	0.21	0.19	2.0	3	12	8	11
1931	21.0	58	−21	0.25	0.15	0.29	0.23	2.7	2	13	8	10
1932	12.4	60	−31	0.17	0.14	0.28	0.20	1.7	3	14	10	7
1933	8.6	62	−38	1.09	0.79	0.83	0.90	9.7	6	9	8	14
1934	12.6	53	−44	0.40	0.22	0.29	0.30	3.9	5	9	8	14
1935	12.6	51	−34	0.65	0.52	0.34	0.50	5.6	5	10	7	14
1936	15.0	59	−36	0.50	0.32	0.46	0.43	5.5	4	11	8	12
Period	12.6	72	−50	0.55	0.47	0.48	0.50	5.2	4	12	8	11

Climatological Data for December 1936

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	40	14.7	+2.5	42	23	−20	7	36	0.88	+0.34	0.75	9.0	3	6	11	14	nw.	I. Idso.
Cavalier	Pembina	894	26	13.2	......	50	14†	−24	7	35	0.61	−0.23	0.22	6.0	4	7	2	22	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	39	11.8	......	45	19	−25	6	44	0.16	−0.40	0.10	2.0	2	14	6	11	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	39	12.6	+3.1	48	23	−24	6	29	0.29	−0.25	0.10	3.7	6	9	8	14	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	35	15.2	+0.6	50	23	−21	7	26	0.52	+0.12	0.21	8.0	5	7	10	14	nw.	O. A. Thompson.
Edmore	Ramsey	1,521	12	12.1	+3.2	44	23	−24	6	37	0.34	−0.32	0.11	3.3	9	9	6	16	w.	A. G. Braund.
Ellendale	Dickey	1,457	41	15.9	−0.9	45	22	−19	6	28	0.48	+0.02	0.16	7.5	5	12	6	13	nw.	J. E. Demmer.
Fullerton	Dickey	1,439	38	16.4	+2.0	41	19	−19	6	28	1.23	+0.38	0.42	12.3	6	8	6	17	nw.	F. O. Alin.
Grafton	Walsh	827	44	12.6	+3.7	47	23	−23	7	55	0.31	−0.23	0.18	2.2	2	11	4	16	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	45	12.2	+1.6	43	22	−23	6	31	0.30	−0.30	0.19	3.0	4	7	8	16	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	7	17.4	......	48	23	−21	7	46	0.56	......	0.40	7.0	3	15	3	13	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	44	8.7	+1.9	40	23	−29	7	41	0.50	−0.12	0.18	5.0	6	6	15	10	sw.	James Muir.
Hillsboro	Traill	901	30	13.3	+2.1	41	19	−21	7	30	0,42	−0.24	0.20	5.0	5	10	8	13	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	44	14.4	+1.0	52	23	−24	6	31	0.46	−0.20	0.36	5.8	2	13	15	3	nw.	S. Calvelage.
Langdon	Cavalier	1,615	40	8.6	+0.3	42	23	−26	6	43	0.77	+0.14	0.18	9.2	11	11	2	18	w.	V. Sturlaugson.
Larimore	Grand Forks	1,134	43	13.2	+2.2	44	23	−21	6	36	0.21	−0.36	0.15	2.6	3	10	4	17	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	32	16.8	+2.7	43	15	−18	7	35	0.80	+0.32	0.40	10.0	5	9	8	14	sw.	J. O. Halverson.
McLeod	Ransom	1,075	25	16.9	+2.5	41	23	−20	6†	43	0.28	−0.20	0.10	2.8	4	16	4	11	sw.	J. G. Carlson.
Mayville	Traill	975	40	16.6	+3.7	44	20	−18	7	46	0.36	−0.18	0.16	4.5	5	11	5	15	n.	H. B. Addicott.
Oakes	Dickey	1,318	7	16.6	......	43	22	−24	7	34	0.64	......	0.26	12.0	4	14	8	9	nw.	Eugene Naylor.
Park River	Walsh	998	32	11.7	+1.2	41	22	−25	6	56	0.25	−0.18	0.13	2.5	2	9	8	14	nw.	C. B. Wright.
Pembina	Pembina	1,520	6	11.6	+5.3	39	19†	−26	7	29	0.42	−0.22	0.21	5.0	3	13	0	18	nw.	E. N. Russell.
Sharon	Steele	1,516	12	12.4	......	42	22	−22	6	37	0.29	−0.16	0.13	2.7	5	7	10	14	w.	Nels O. Greisheim.
Valley City	Barnes	1,245	30	17.3	+3.6	45	22	−20	6	30	0.30	−0.18	0.15	4.0	6	9	7	15	nw.	I. C. Robertson.
Wahpeton	Richland	962	44	17.8	+2.5	44	23	−19	7	34	0.61	+0.15	0.32	7.1	7	8	6	17	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	55	14.2	+2.7	42	19	−18	6	32	0.77	+0.05	0.32	11.9	11	4	8	19	s.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	14.2	+2.5	52	23	−29	7	55	0.50	−0.07	0.75	6.0	5	10	7	14	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	40	16.0	+1.8	42	23	−22	6	33	0.32	−0.24	0.14	10.0	3	16	6	9	nw.	H. D. Piper.
Bismarck	Burleigh	1,670	62	16.7	+2.0	54	23	−21	6	27	0.21	−0.36	0.08	3 8	6	11	7	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	44	8.4	+1.0	44	22	−31	30	50	0.82	+0.35	0.30	9.0	6	23	0	8	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	38	16.6	+4.9	52	22†	−23	5	54	T.	−0.39	T.	T	0	9	11	11	nw.	L. A. Swanson.
Carson	Grant	2,500	24	16.6	+1.9	55	23	−26	6	36	0.36	−0.15	0.08	4.5	5	8	10	13	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	10	15.3	+2.2	47	23	−25	6	30	0.32	−0.10	0.11	5.5	4	15	6	10	sw.	R. L. Williams.
Drake	McHenry	1,634	7	13.1	......	50	23	−27	6	47	0.27	......	0.10	4.0	6	12	4	15	nw.	Peter Anton.
Dunseith	Rolette	1,682	40	10.4	+1.3	45	23†	−26	6	43	0.12	−0.30	0.12	5.0	1	6	15	10	nw.	Wilbur Keeling.
Eckman	Bottineau	1,500	31	12.7	+3.4	52	23	−30	6	46	0.46	−0.02	0.26	7.0	4	7	15	9	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	24	17.0	+2.7	50	22†	−24	6	31	0.13	−0.32	0.08	2.0	2	11	12	8	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	24	12.8	+2.2	54	23	−25	6	52	0.35	−0.25	0.15	4.0	6	14	5	12	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	36	17.8	−0.6	48	20	−21	6†	33	0.35	−0.07	0.24	3.0	3	11	5	15	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	15	14.7	+2.4	52	23	−27	6	34	0.65	+0.22	0.41	8.2	4	8	10	13	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	6	15.2	......	48	23	−24	6	31	0.13	......	0.07	2.0	2	15	5	11	sw.	A. H. Haut.
Garrison	McLean	1,901	59	16.5	+2.8	50	22†	−25	6	32	0.28	−0.21	0.10	4.0	4	12	9	10	nw.	E. L. Vorachek.
Granville	McHenry	1,504	29	16.0	+4.0	43	21	−21	30	35	0.28	−0.19	0.13	5.2	3	8	13	10	nw.	W. A. Christianson.
Hansboro	Towner	1,597	28	11.4	+3.4	44	23	−28	7	41	0.70	+0.11	0.30	9.0	3	10	4	17	nw.	C. E. Blackorby.
Leeds	Benson	1,515	.....	.....	......	...	...	.....	...	.....	.....	......	.....	.....	.....	.....	.....	.....	.....	Ole Semb.
Linton	Emmons	1,711	19	15.9	+2.0	47	22	−24	6	34	0.04	−0.34	0.03	2.7	2	10	11	10	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	18	14.1	+2.2	47	23	−29	6	33	0.50	−0.02	0.15	5 0	6	18	7	6	nw.	Edw. Tapley.
Maddock	Benson	1,604	21	13.4	+3.4	44	22	−28	6	35	0.34	0.00	0.15	4.0	4	3	15	13	nw.	A. T. Felland.
Mandan	Morton	1,750	22	15.8	+2.1	53	23	−23	6	45	0.24	−0.23	0.06	3.4	8	15	6	10	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	7	11.8	......	50	22	−29	5	32	0.10	......	0.10	1.5	1	12	4	15	nw.	A. W. Rice.
Minot	Ward	1,557	40	16.3	+4.4	47	23	−20	30	24	0.22	−0.24	0.11	2.5	3	7	6	18	sw.	Mark. M. Chatfield.
Mohall	Renville	1,646	42	14.2	+3.2	55	24	−29	6	45	0.50	+0.08	0.24	8.5	4	5	20	6	nw.	John Behan.
Napoleon	Logan	1,955	44	14.2	+1.6	46	23	−27	6	36	0.60	+0.15	0.40	6.2	4	16	3	12	s.	C. J. Hoof.
New Salem	Morton	2,163	32	16.3	+1.0	51	23	−28	6	40	0.24	−0.34	0.08	2.5	6	15	9	7	nw.	J. Christianson.
Pettibone	Kidder	1,856	27	12.8	+2.3	45	23	−28	6	38	0.05	−0.42	0.04	2.0	2	13	6	12	nw.	Sam Loeppke.
Steele	Kidder	1,857	42	14.2	+1.9	47	22	−27	6	36	0.13	−0.44	0.10	3.0	3	11	7	13	nw.	R. S. Armstrong.
Towner	McHenry	1,482	34	14.8	+4.7	55	23	−28	6	36	0.48	+0.04	0.25	5.5	3	7	11	13	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	22	15.7	+4.1	48	23	−29	6	40	0.19	−0.32	0.10	2.5	3	15	0	16	nw.	M. A. Slettum.
Velva	McHenry	1,511	9	15.6	......	55	23	−28	6	33	0.29	......	0.11	4.5	4	3	11	17	w.	Oscar Anderson.
Washburn	McLean	1,731	35	15.4	+1.4	51	23	−23	6	48	0.11	−0.36	0.06	1.0	2	11	7	13	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	30	.....	......	...	...	.....	...	.....	.....	......	.....	.....	.....	.....	.....	.....	.....	D. W. Drake.
Willow City	Bottineau	1,471	44	11.0	+2.3	47	23	−36	30	46	0.70	+0.11	0.30	7.0	4	11	13	7	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	7	15.2	+2.2	52	20	−23	7	48	0.57	−0.07	0.18	6.0	6	7	2	22	nw.	E. W. Davis.
Average for Middle Division		......	.....	14.6	+2.7	55	23	−36	30	54	0.32	−0.15	0.41	4.4	4	11	8	12	nw.	....
Western Division																				
Beach	Golden Valley	2,759	30	18.7	+1.7	49	23	−28	6	35	0.49	−0.01	0.24	6.0	6	......	......	......	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	43	15.2	−0.2	56	23	−34	30	39	0.17	−0.21	0.15	6.2	2	17	1	13	nw.	C. L. Hall.
Bowman	Bowman	2,872	22	17.8	+2.7	52	23	−23	6	29	0.49	+0.13	0.18	6.0	5	15	8	8	nw.	George Larsen.
Crosby	Divide	1,954	28	13.7	+2.1	57	23	−31	6	39	1.10	+0.59	0.80	11.0	4	6	7	18	sw.	J. H. Phelps.
Dickinson	Stark	2,543	44	15.0	−1.4	48	23	−27	7	41	0.79	+0.29	0.23	8.4	9	6	17	8	w.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	37	16.8	−0.9	51	23	−26	6	34	0.40	−0.06	0.40	5.0	1	12	9	10	w.	W. F. Moede.
Epping	Williams	2,224	26	16.1	......	49	24	−31	6	35	0.15	−0.30	0.15	3.0	1	13	11	7	nw.	T. Beachler.
Fryburg	Billings	2,790	18	18.0	......	50	23	−28	6	32	0.72	+0.21	0.26	8.5	6	8	12	11	sw.	Verne King.
Hettinger	Adams	2,675	29	20.2	+3.4	53	20†	−24	6	37	0.23	−0.17	0.20	2.3	2	24	5	2	nw.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	29	11.6	0.0	51	23	−34	6	34	0.80	+0.17	0.40	8.0	3	14	11	6	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	5	15.3	......	54	23	−28	6	33	0.57	+0.11	0.18	6.0	7	7	14	10	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	27	19.4	+2.6	49	22	−26	6	33	0.40	−0.01	0.14	5.9	5	8	11	12	nw.	S. P. Grane.
Mott	Hettinger	2,424	29	19.4	+5.6	59	23	−24	6	34	0.26	−0.34	0.12	3.8	4	9	8	14	se.	W. M. Hendricks.
New England	Hettinger	2,400	42	17.6	+1.1	52	23	−25	5	42	0.44	+0.03	0.18	7.0	4	12	6	13	sw.	F. S. Sleight.
Parshall	Mountrail	1,929	21	14.2	......	49	23	−31	6	31	0.10	−0.30	0.05	4.0	3	7	16	8	sw.	C. E. Shubert.
Portal	Burke	1,954	31	11.1	−1.1	51	23	−32	6	45	0.53	+0.06	0.25	6.0	4	7	7	17	e.	R. G. Wegener.
Powers Lake	Burke	2,205	31	19.2	+5.6	43	13	−26	6	36	0.96	+0.40	0.72	9.0	3	20	7	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	20	13.9	−0.1	45	23	−27	6	25	0.14	−0.25	0.04	4.5	4	1	7	23	sw.	Assumption Abbey.
Sanish	Mountrail	1,835	11	15.5	+4.6	51	22	−27	5	49	0.48	......	0.24	6.0	3	2	16	13	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	23	17.2	+4.2	52	22	−27	6	36	0.53	−0.01	0.18	9.0	5	6	17	8	s.	J. C. Zeller.
Williston	Williams	1,878	57	15.0	+1.2	49	22	−26	6	35	0.45	−0.13	0.19	6.0	4	9	15	7	sw.	U. S. Weather Bureau.
Average for Western Division		......	.....	16.2	+1.7	59	23	−34	6†	49	0.46	−0.01	0.80	6.1	4	10	10	11	nw.	....
Average for the State		......	.....	15.0	+2.3	59	23	−36	30	55	0.43	−0.07	0.80	5.5	4	11	8	12	nw.	....

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters. ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for December 1936

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red					.75		T	.10																		T.	.03	T.	T		T	0.88
Cavalier	do	T.				.16				T.	T.		T.			T.									T.	T.	T.		.20	.22		.03	0.61
Cooperstown	Sheyenne					.10		T.	T.										.06							T.			T.	T.	T.		0.16
Courtenay	James					.50													.10								.10			.05	.05	.20	1.00
Devils Lake ***	Devils Lake	T.		T.		.10		T.	T.	T.						T	.06	T.	.01	T.					T.	T.	T.		.07	.04	.01		0.29
Edgeley	James					.05			.21		.11																	.05	.10				0.52
Edmore	Devils Lake	.01				.10	T		T.	.01							.01		T						.01	T.	T.		.11	.07	.01	.01	0.34
Ellendale	James					.16	T.	T.	.15																		T.	.11	.02	.04			0.48
Forman	Sheyenne					.23		T.	T.	.09							T	T.									.09	.20	T.	T.			0.61
Fullerton	James					.42		.05	.32	T							T.											.18	.22	.04			1.23
Grafton	Red					.13				T.																			T.	.18			0.31
Grand Forks ***	do	T.		T.		.19	T		T.	T.	T.						T	T.	T.						T	.03	T		T.	.02		.06	0.30
Hankinson ‖‖	do		T.			.40			.08										T.							T.		.08				T.	0.56
Hannah	Pembina					T				.08							.02	T.							T.				.18	.18	.03	.01	0.50
Hillsboro	Red					.20			.05										.03											.12		.02	0.42
Jamestown	James					.36																						.10					0.46
Langdon ‖‖	Pembina	.10				.04	.06				.06						.06		.03						T.	.02			.03	.18	.06	.13	0.77
Larimore	Red.					.15													T.						T.	.02				.04			0.21
Lisbon	Sheyenne					.40		T	.08	.16							T.	T.							T.	T.	T.	.08	T.	.08		T.	0.80
McLeod	do					.08				.04									.06									.10					0.28
Mayville	Red	T.			.04	.16				.08							.04	.04															0.36
Oakes	James					.26		T.	T.	.22								T.							T.			.09		.07			0.64
Park River	Red.					.13																							.12				0.25
Pembina	do					.10																							.21	.11			0.42
Petersburg	do				.08					T.								T.												.02			0.10
Sharon	do	T.				.13		T.	T	T							T.		.05						T.	.02	T.		.01	.08	T.		0.29
Valley City	Sheyenne					.15		T.	.03	.05									.01									.04	.02	T.			0.30
Wahpeton	Red.			.01		.32			.03	.09								T	T.							.01	T.	.07		.08		T.	0.61
Moorhead, Minn. ***	do		T.			.32		.03	.15	.02							T.	T.	.08						T.	.01	.02	.02	.01	.07		.04	0.77
Middle Division																																	
Ashley	Missouri					.14			.10	.08																							0.32
Bismarck ***	do				.02	.08	.01	.05	T.	T								T							T.	T.	T.	T.	.03	.02			0.21
Bottineau	Mouse				.06				.08								.01												.30	.28		.09	0.82
Carrington ‖‖	James					T																				T.			T.				T.
Carson	Heart					.08		.08		.08																	.08			.04			0.36
Dogden Butte	Mouse					.06	T.	T.		.05															T				.10	.11			0.32
Drake ‖‖	do	T.				.04	.03		T		.03						T.								T.		T.		.03	.04	.10		0.27
Dunseith	do					T.				.12							T.									T.			T.				0.12
Eckman	do					.03				.03							T												.26	.14		T.	0.46
Energy	Missouri					.08																							T.	.05			0.13
Fessenden ‖‖	James	T				.15	.01				.01																			.05	.03	.10	0.35
Fort Yates	Missouri				T.				.24									T.									T.			.05		.06	0.35
Foxholm (near)	Mouse					.07		T		.02																T.			.41	.15			0.65
Gackle	James					.06		T																			T.	T.	.07	T.			0.13
Garrison ‖‖	Missouri					.10		.05																					.08	.05			0.28
Granville	Mouse					.03				T.								T											.12	.13			0.28
Hansboro	Devils Lake									.10																			.30	.30			0.70
Leeds	do																																.....
Linton	Missouri					.03		.01	T.									T										T.	T.	T.			0.04
McClusky	do				.15					T.															.05		.10	.10	.05	.05		T.	0.50
Maddock	Sheyenne	T.			T.	.09		T.	T.	T.	T.								T.						T.		.08		T.	.15		.02	0.34
Mandan ‖‖	Missouri				.06	.02	.01	.05		T.						T.											.02	T	.05	.02	T	.01	0.24
Manfred	James					.08		.02		.01																	.02		T.	.08		T.	0.21
Max ‖‖	Missouri				T.																								T.	.10			0.10
Minot	Mouse		T.			.04		T.		T.							T.										T.			.11	.07		0.22
Mohall	do	T.					.06			.02																			.24	.18			0.50
Napoleon ‖‖	Missouri					.40				.08																		.10			.02		0.60
New Salem	Heart					.08	.03	.07		.01																T.	.03	T.	T.	.02	T.		0.24
Pettibone	James					.04		T.										T.									.01		T	T			0.05
Rugby (near)	Mouse					.02	.02	T.		.02																			.60		.20		0.86
Ryder	Missouri					.02		T		.02																	T.		.08			.12	0.24
Selfridge	do				T.	T.			.10	T								T.	T								.08		T.	T.			0.18
Steele	do					.10		T.		T.								T.									.02	.01					0.13
Tagus	Mouse					.02			T.																				.03	.10			0.15
Towner	do					.05				T.							T.	T.											.18	.25			0.48
Turtle Lake	Missouri					.06				T.																			.03	.10			0.19
Tuttle	do			T.		.04	.05		.04	T.																T.	.02		.03	.04			0.22
Velva	Mouse					.08	.01	T		T.																			.09	.11	T.		0.29
Washburn ‖‖	Missouri					.06					T.																T.	.05					0.11
Westhope	Mouse																																.....
Willow City	do					.05	T	T.		.05																			.30	.30			0.70
Wishek ‖‖	Missouri					.18		.04	.01	.15																			.13	.06			0.57
Zap	Knife				.13	.03		T.	T.	T.																							0.16
Western Division																																	
Alpha	Lit. Missouri		T.			.08		.05	T										T.										.01	.13			0.27
Beach	do					.04	.04	.10	.05	T.									T.									.02	T.	.24	T		0.49
Berthold Agency	Missouri					.02		T.	T	T.															T		T.		T.	.15			0.17
Bowman	Grand						.12		.18		T.							T.									.04	.07	T.	.08			0.49
Corinth	Missouri					.05																							.38	.20			0.63
Crosby	Mouse			T.		.10	.10																						.80	.10			1.10
Dickinson ‖‖	Heart	.01		T.	T.	.13	.08	.23	.12	.02	T.							T.	T.									.03	T.	.05	.12		0.79
Dunn Center	Knife.					T.	T.	T																			T.			.40			0.40
Epping	Missouri																													.15			0.15
Fryburg	Heart			T		.08	.07	.22	.04																			.05	T.	.26	T.	T.	0.72
Hettinger	Grand									.20																				.03			0.23
Howard (near)	Missouri	.10		T		T																							.30	.40			0.80
Kenmare	Mouse					.07	.01	T.		.02																			.16	.18	.08	.05	0.57
Marmarth	Lit. Missouri			T.		.07	.07	.03	.14																		T.			.09			0.40
Mary	do		T		.08	.03																						.07	.06				0.24
Mott	Cannon Ball					.08				.12																	.03			.03			0.26
New England ‖‖	do				.12		.05		.09																				.18				0.44
Parshall	Missouri					.02				T																			.03	.05			0.10
Portal ‖‖	Mouse						.03			.12																			.25	.13			0.53
Powers Lake	Missouri			.11																									.13	.72			0.96
Richardton	Heart			T.		.04	T.	.04	T.	T.																	T	.02	T	.04			0.14
Sanish ‖‖	Missouri					.16			T.																		T.		.08	.24			0.48
Tioga	do										.04																		.10	.12	.01		0.27
Trotters	Lit. Missouri					.04		.14											T.								.04		.05	.09	.10		0.46
Watford City	Missouri		T.			.12	.10																				.05		.08	.18			0.53
Williston ***	do		T.			.08	T.	T.		T.								T.											.17	.19	.01		0.45

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December 1936

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum	24	22	20	24	32	20	14	10	18	20	22	36	34	36	35	34	33	34	36	34	34	36	42	30	24	18	14	11	10	8	10	25.0
	Minimum	6	0	-4	-2	0	-14	-20	-15	-10	-12	-4	0	14	12	15	20	18	17	18	20	18	20	18	15	14	10	-6	-3	0	-4	-5	4.4
Devils Lake	Maximum	24	42	14	2	-2	-9	0	8	18	0	33	34	39	37	36	31	33	36	40	34	35	43	48	23	18	15	2	8	8	6	6	21.4
	Minimum	4	14	-5	-16	-10	-24	-15	0	-2	-20	-4	19	17	20	25	21	21	26	13	13	6	20	23	6	15	-2	-8	-6	-7	-18	-9	3.8
Edgeley	Maximum	28	27	25	35	10	4	-10	-1	9	6	-1	25	33	38	40	39	38	36	38	34	30	48	50	38	23	21	11	5	18	11	10	23.2
	Minimum	10	12	11	9	-15	-10	-21	-18	-5	-14	-5	-5	18	30	35	27	25	20	20	12	16	23	29	15	20	10	-5	-1	-5	-8	-3	7.3
Ellendale	Maximum	27	34	18	12	4	-7	4	11	22	6	21	31	35	40	41	31	28	38	40	37	28	45	39	24	25	18	14	13	14	9	8	22.9
	Minimum	22	18	12	-9	-7	-19	-18	-2	6	-10	-5	15	8	31	22	26	23	26	20	14	11	17	24	19	18	14	-3	-4	9	-3	1	8.9
Fullerton	Maximum	29	34	32	9	4	-4	2	11	22	15	20	32	36	37	39	34	29	39	41	35	30	43	39	36	25	26	13	19	20	10	9	24.7
	Minimum	19	18	8	-9	-9	-19	-17	-4	5	-12	-5	14	9	25	20	27	23	24	18	14	10	15	24	17	22	13	-3	-3	9	-3	-1	8.0
Grafton	Maximum	21	31	31	9	2	-2	-1	6	14	14	14	36	39	42	34	33	25	38	42	31	31	42	47	42	22	17	4	10	15	9	5	22.7
	Minimum	-1	15	8	-13	-9	-18	-23	-7	-7	-16	-15	10	12	10	21	16	19	22	15	11	16	-13	21	6	16	4	-7	-6	7	-9	-4	2.6
Grand Forks	Maximum	21	32	23	4	0	-7	1	6	15	3	16	37	36	41	36	28	23	40	41	27	27	43	42	29	25	17	2	18	19	6	6	21.2
	Minimum	0	18	4	-14	-10	-23	-20	1	3	-18	-15	15	11	10	21	11	12	18	16	11	9	13	23	8	17	0	-7	-6	6	-3	-12	3.2
Hillsboro	Maximum	25	35	33	11	-3	-1	1	15	18	15	12	35	39	37	35	33	21	31	41	28	26	39	38	35	25	23	8	16	22	12	7	23.0
	Minimum	8	19	10	-11	-9	-16	-21	-5	-10	-14	-18	11	12	10	21	20	0	19	5	12	9	9	21	11	12	8	-6	-7	12	-1	0	3.6
Jamestown	Maximum	24	24	36	11	1	-2	0	8	15	16	19	23	35	38	40	30	30	38	41	34	31	45	52	39	21	18	1	12	13	0	6	22.5
	Minimum	19	18	9	-12	-14	-24	-16	-4	5	-15	-6	14	12	24	24	24	21	27	22	14	8	16	21	11	18	7	-8	-5	4	-12	-3	6.4
Langdon §	Maximum	22	23	7	2	0	-8	0	6	5	-2	31	31	35	35	34	22	31	37	36	29	24	38	42	14	16	14	4	5	7	-2	4	17.5
	Minimum	-3	8	5	-20	-10	-26	-24	-14	-4	-22	-12	12	10	15	18	13	17	22	25	13	4	2	19	2	8	4	-10	-11	-8	-21	-22	-0.3
Larimore	Maximum	23	32	28	5	0	-5	-1	8	19	18	20	33	35	36	36	33	25	36	39	30	28	41	44	40	22	25	3	11	11	10	6	22.3
	Minimum	3	17	5	-15	-12	-21	-20	-1	1	-18	-14	10	16	15	21	18	13	24	24	10	8	13	26	6	15	3	-7	-7	7	-8	-4	4.1
Lisbon §	Maximum	30	36	29	12	1	-5	2	11	16	21	24	38	32	38	43	36	28	38	42	32	31	42	40	35	28	28	14	15	22	11	12	25.2
	Minimum	20	20	12	-9	-8	-16	-18	-5	9	-11	-11	16	11	20	21	27	21	24	19	11	11	13	26	16	20	14	0	-2	11	0	0	8.5
Oakes	Maximum	29	34	33	12	5	-6	5	11	18	22	21	35	32	39	40	41	29	40	41	33	33	43	38	34	26	26	14	18	22	11	10	25.5
	Minimum	21	16	11	-9	-9	-19	-24	0	5	-12	0	13	5	24	23	26	21	25	12	13	10	14	23	18	20	13	-2	-3	10	-2	-1	7.8
Sharon	Maximum	22	31	27	4	0	-10	-2	4	16	15	23	35	33	37	36	30	25	35	39	30	25	42	41	38	24	17	5	11	13	4	6	21.2
	Minimum	5	18	2	-15	-11	-22	-19	-3	3	-17	-14	16	13	18	26	12	9	19	16	11	5	15	25	6	16	3	-7	-7	4	-9	-5	3.6
Valley City	Maximum	28	34	32	12	2	-4	0	8	18	17	21	36	34	36	42	41	34	37	41	34	35	45	42	38	28	32	13	15	20	12	10	25.6
	Minimum	16	24	10	-14	-5	-20	-15	-4	0	-13	-8	15	14	21	24	27	22	25	20	14	11	16	24	14	19	10	-2	-3	12	-4	-2	8.0
Wahpeton	Maximum	30	39	39	15	10	3	2	11	18	19	19	38	36	37	33	34	27	32	41	33	30	40	44	40	34	32	16	22	32	20	13	27.2
	Minimum	20	20	12	-7	-5	-14	-19	-1	8	-12	-15	14	9	24	25	23	5	20	16	12	8	14	24	24	30	15	-2	-6	18	-1	-2	8.3
Moorhead, Minn.	Maximum	28	35	32	3	5	-7	1	10	18	6	15	36	35	36	40	33	28	30	42	28	26	39	41	33	33	22	3	23	28	10	9	23.1
	Minimum	15	21	3	-8	-10	-18	-18	0	6	-18	-17	13	9	21	22	15	8	13	12	15	12	12	21	16	22	3	-5	-2	9	0	-4	5.4
Middle Division																																	
Ashley	Maximum	29	38	36	12	5	-4	1	7	21	21	29	29	31	35	37	33	31	34	39	32	32	40	42	39	23	23	14	12	15	6	8	24.2
	Minimum	20	20	9	-12	-6	-22	-17	-7	5	-12	-3	19	14	25	27	20	23	24	21	8	3	18	28	18	16	12	-5	-3	5	-7	-3	7.7
Bismarck	Maximum	36	41	18	8	4	-5	2	10	21	10	35	35	41	42	45	28	32	39	46	41	32	50	54	32	22	17	13	8	8	6	9	25.2
	Minimum	21	18	-2	-11	-5	-21	-10	-13	1	-10	8	18	16	27	26	21	24	29	21	17	11	24	30	19	18	13	-2	2	-11	-19	-5	8.2
Bottineau	Maximum	30	33	18	3	5	4	0	10	15	4	30	34	41	40	41	37	28	35	41	34	35	44	43	40	21	18	13	11	12	5	5	23.5
	Minimum	8	16	-22	-19	-28	-28	-15	-8	-26	-28	-5	5	6	5	7	10	7	8	10	-4	-15	4	6	-5	-1	-6	-21	-15	-12	-31	-7	-6.6
Carson	Maximum	39	39	32	10	7	-5	0	10	20	12	36	32	43	40	43	33	31	36	46	39	33	49	55	39	25	20	12	5	10	6	5	25.9
	Minimum	19	30	1	-13	-8	-26	-10	-6	8	-15	0	17	14	24	28	16	21	24	24	14	11	18	27	20	17	10	-5	-1	-8	-17	-12	7.2
Drake §	Maximum	33	40	5	4	0	-5	0	12	21	20	33	36	40	40	37	26	28	44	39	37	30	48	50	16	17	11	11	4	0	5	5	22.2
	Minimum	16	20	4	-17	-16	-27	-21	-12	-5	-17	-14	16	17	24	22	23	20	25	26	17	7	8	29	11	9	11	-8	-8	-2	-17	-16	4.0
Fessenden §	Maximum	31	43	10	1	-1	-7	3	13	21	20	34	35	39	39	39	28	33	41	39	37	30	47	54	18	17	11	7	4	4	5	5	22.6
	Minimum	15	20	5	-16	-16	-25	-24	-11	-1	-19	-18	14	16	21	22	23	21	22	23	17	5	5	26	5	9	9	-10	-5	-3	-19	-18	3.0
Foxholm (near)	Maximum	31	38	24	1	2	-5	-1	8	19	12	36	34	43	40	40	31	32	37	44	35	29	45	52	42	17	17	8	5	0	2	3	23.3
	Minimum	17	24	-3	-18	-6	-27	-15	-9	-2	-17	6	23	17	25	30	19	19	24	24	16	6	20	35	8	9	3	-7	-6	-6	-17	-2	6.1
Garrison §	Maximum	32	39	34	8	6	-8	0	7	20	12	36	36	36	43	40	32	30	38	48	38	30	50	50	40	20	20	12	7	5	4	6	24.9
	Minimum	20	30	2	-13	-3	-25	-6	-12	7	-12	8	22	12	28	26	18	22	26	24	16	10	20	20	16	16	10	-2	-2	-2	-17	-8	8.1
Granville	Maximum	26	25	15	4	5	4	7	8	15	34	25	33	41	36	35	24	30	32	40	35	43	42	40	38	19	17	12	6	2	6	8	22.8
	Minimum	21	15	-2	-16	-5	-16	-14	-2	-2	-1	9	22	19	20	30	18	20	25	25	18	19	33	32	19	15	6	-2	2	-4	-21	-2	9.2
Hansboro	Maximum	25	36	15	10	0	-8	-5	16	15	8	31	34	40	43	32	37	29	35	27	29	28	41	44	28	14	13	15	1	0	3	4	20.6
	Minimum	3	12	-10	-5	-15	-24	-28	-8	-5	-23	-10	20	14	15	24	16	17	15	21	13	14	7	27	2	7	6	5	-15	-4	-10	-15	2.1
Linton	Maximum	33	43	33	10	6	-3	2	10	23	13	34	35	38	40	44	36	32	38	42	38	32	47	43	31	22	20	15	10	12	2	10	25.5
	Minimum	20	22	10	-15	-10	-24	-14	-12	10	-20	0	15	4	19	21	22	24	23	20	10	5	16	29	20	17	13	-6	0	-5	-19	0	6.3
McClusky	Maximum	28	35	32	5	2	-5	-3	7	20	10	30	30	36	36	36	29	29	35	40	35	35	44	47	40	26	22	9	9	5	0	2	22.8
	Minimum	18	26	0	-17	-7	-29	-15	-9	5	-16	-1	17	11	20	26	21	20	24	21	14	2	20	31	13	14	9	-10	-4	-2	-19	-15	5.4
Maddock	Maximum	25	43	36	5	3	-4	-1	7	20	15	35	36	39	37	36	32	30	37	36	36	31	44	43	41	18	17	6	3	5	3	5	23.2
	Minimum	9	20	3	-20	-7	-28	-20	-5	-6	-22	-7	22	15	18	19	23	20	26	24	14	3	13	23	6	13	4	-16	-8	0	-23	-1	3.6
Minot	Maximum	29	38	7	3	2	3	1	7	20	8	33	34	43	39	38	32	31	36	40	35	28	44	47	36	18	17	8	4	2	4	4	22.0
	Minimum	20	26	-3	-16	-4	-9	-14	-8	0	4	15	27	22	22	31	22	25	28	23	28	20	30	36	16	15	9	-7	-4	-4	-20	0	10.6
Mohall	Maximum	26	35	39	6	2	3	-10	0	12	18	14	38	37	45	40	37	26	34	40	37	20	36	49	55	17	18	9	10	-1	1	7	22.6
	Minimum	18	26	1	-20	-3	-29	-16	-10	-6	-20	2	21	17	24	24	20	20	26	26	15	6	17	33	10	7	3	-8	-4	-5	-16	-2	5.9
Napoleon §	Maximum	30	41	14	10	0	-12	0	10	20	13	31	33	35	38	40	27	32	38	40	36	30	44	46	24	22	17	10	12	9	-1	7	22.5
	Minimum	18	23	7	-17	-5	-27	-22	-11	5	-18	-5	18	13	20	27	17	22	25	21	9	4	16	30	22	16	14	-8	-5	4	-19	-15	5.8
New Salem	Maximum	39	39	21	21	18	9	0	5	20	14	35	33	40	40	45	31	30	38	48	40	34	50	51	45	28	28	19	4	8	3	3	27.1
	Minimum	22	21	0	-19	-10	-28	-14	-15	2	-16	8	16	13	22	24	15	11	22	22	11	5	18	31	15	15	18	-8	-8	-14	-16	2	5.3
Steele	Maximum	29	42	32	7	-5	-10	-3	10	21	16	28	33	32	38	42	33	32	38	40	38	30	47	46	30	20	15	8	9	9	2	7	23.1
	Minimum	19	24	0	-18	-10	-27	-17	-13	6	-20	-5	15	17	18	22	20	21	22	22	12	3	19	27	15	15	8	-12	-3	-3	-20	1	5.1
Towner	Maximum	28	43	28	6	5	2	2	9	21	12	34	36	41	41	36	31	30	40	37	39	31	48	55	40	18	18	11	5	4	9	6	24.7
	Minimum	14	25	1	-16	-5	-28	-15	-12	-3	-21	-2	21	13	19	19	24	20	25	25	15	3	18	31	7	12	8	-5	-7	-1	-21	-14	4.8
Westhope	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Western Division																																	
Beach	Maximum	40	38	29	15	8	-5	5	27	22	21	35	33	39	42	38	31	40	36	43	27	37	47	49	44	27	29	23	18	13	1	4	27.6
	Minimum	15	27	0	-12	-6	-28	-7	-8	8	-11	21	16	13	25	26	18	23	22	23	18	11	27	35	24	18	15	14	0	-4	-12	-6	9.8
Berthold Agency	Maximum	38	40	26	8	8	0	0	12	20	18	42	35	46	42	42	85	35	40	50	40	35	50	56	35	22	28	10	8	6	5	8	27.1
	Minimum	18	21	-2	-20	-12	-32	-12	-16	2	-20	5	20	13	26	18	8	18	24	20	15	0	12	26	13	15	8	0	-5	-20	-34	-5	3.4
Bowman	Maximum	42	40	22	4	5	-5	10	24	20	28	37	30	39	42	44	31	38	40	36	40	37	49	52	30	22	18	14	12	9	3	3	26.3
	Minimum	16	22	0	-9	-8	-23	-12	-4	9	3	10	15	10	24	23	24	22	24	24	15	17	20	28	22	18	14	-2	3	-1	-14	-3	9.3
Crosby	Maximum	37	35	10	2	10	-10	2	15	12	14	35	38	45	53	35	83	37	38	47	35	37	45	57	26	17	15	14	5	-5	3	3	23.9
	Minimum	17	10	-6	-20	-10	-31	-11	-24	-1	-18	14	12	14	20	33	1	15	24	19	17	5	27	25	12	10	-2	-2	-5	-24	-9	-3	3.5
Dickinson §	Maximum	40	38	11	12	6	-2	1	22	22	28	36	28	39	38	38	29	36	43	38	38	36	45	48	27	23	6	15	5	1	5	5	24.7
	Minimum	20	19	6	-14	-13	-26	-27	-13	1	-13	-3	18	11	24	23	14	9	25	24	13	7	7	26	23	19	15	0	0	-3	-18	-12	5.2
Dunn Center	Maximum	40	34	27	11	10	0	2	12	22	20	38	35	42	43	42	33	36	38	39	38	36	48	51	35	24	22	13	8	-1	-1	5	25.9
	Minimum	15	27	1	-16	-8	-26	-9	-11	11	-14	17	19	21	25	26	10	18	26	23	21	4	21	23	23	21	13	-6	-2	-11	-20	-4	7.7
Hettinger	Maximum	34	42	24	10	20	0	10	12	24	31	38	33	45	43	44	41	44	38	43	53	53	50	48	50	33	31	16	6	7	5	7	30.2
	Minimum	23	21	3	-10	-5	-24	-18	-5	-7	0	19	17	24	26	23	28	30	23	36	16	16	24	23	21	16	14	-4	2	-2	-12	-5	10.1
Howard (near)	Maximum	35	35	25	5	0	-16	0	8	7	17	37	38	41	37	36	34	33	37	45	33	35	48	51	38	17	17	20	12	-10	0	3	23.0
	Minimum	10	10	-8	-25	-16	-34	-15	-10	-10	-16	15	14	15	16	17	0	0	0	23	14	4	20	33	12	3	-3	-3	-10	-27	-19	-4	0.2
Kenmare	Maximum	35	40	24	2	4	-1	1	10	20	17	39	37	44	44	38	32	35	41	47	36	32	48	54	42	22	20	20	-2	-5	3	1	25.2
	Minimum	18	19	-5	-18	-5	-28	-14	-5	0	-16	9	19	11	24	26	14	20	26	20	17	7	17	23	9	7	5	-5	-4	-5	-16	-3	5.4
Marmarth	Maximum	42	40	27	16	10	-3	10	21	24	20	21	33	42	42	41	32	37	37	44	40	37	49	48	41	31	30	17	10	7	5	5	27.6
	Minimum	16	26	4	-7	-4	-26	-4	3	7	5	10	18	9	20	21	24	24	24	27	17	32	20	29	27	20	17	0	4	0	-12	-5	11.2
Mott	Maximum	44	40	36	12	12	3	6	18	23	21	42	35	42	44	46	36	34	37	43	43	38	53	59	46	27	22	16	8	8	5	9	29.3
	Minimum	22	30	8	-11	-7	-24	-7	-3	12	-12	10	17	11	22	27	19	24	24	27	14	9	19	27	21	16	14	-4	3	-3	-14	1	9.4
New England §	Maximum	42	40	21	16	17	-11	10	18	21	23	42	43	40	43	45	32	37	43	36	42	37	50	52	38	29	20	14	8	9	6	9	28.1
	Minimum	31	-9	-14	-12	-25	-17	-7	10	-8	-2	19	19	17	20	18	21	24	29	21	9	16	28	19	16	14	-2	0	-2	-19	-6	-7	6.5
Watford City	Maximum	39	36	20	13	12	-6	4	12	16	25	37	34	39	44	42	33	39	45	34	39	42	52	49	31	27	23	17	10	-1	6	6	26.4
	Minimum	16	20	-1	-15	-8	-27	-8	-8	6	-11	17	19	13	25	28	10	18	24	25	25	10	24	34	22	18	11	-2	-2	-12	-16	-1	8.1
Williston	Maximum	38	37	9	7	7	-5	4	12	18	25	36	32	43	41	39	25	38	39	46	36	39	49	48	27	23	20	17	6	-4	5	5	24.6
	Minimum	19	9	-7	-17	-19	-26	-5	-3	-5	-10	18	19	18	25	23	4	21	26	24	17	10	24	22	19	12	6	3	-18	-21	-12	-9	5.4

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing, ° 2 days, etc.

[WBO, Minneapolis, 2-8-37—1050]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

Vol. XLV Bismarck, N. D., Annual 1936 No. 13

GENERAL SUMMARY

The year of 1936 was the driest in the climatological history of North Dakota. The precipitation in January, February, and March was slightly above normal, but all other months averaged below normal. Every station in the State reported sub-normal amounts for the year. The year was also outstanding due to the temperature extremes. February 1936 was the coldest month of any name on record, and July was the hottest month on record. The January-February average temperature was 8.4° lower than the next coldest January-February (1929). The lowest temperature, -60° at Parshall on February 15th, was the lowest reading ever observed in North Dakota. Crops were poor in all sections due to the hot, dry weather, and some livestock had to be shipped out of the State due to the shortage of feed and water.

The average temperature for the State was 38.8°, or 0.5° below the 1892-1936 average, and 0.6° lower than the average for 1935. The highest annual temperature reported was 43.5° at Hettinger, Adams County; the lowest was 34.1° at Langdon, Cavalier County. The highest temperature reported was 121° at Steele, Kidder County on July 6th; the lowest was -60° at Parshall, Mountrail County on February 15th.

The average annual precipitation for the State was 8.83 inches, or 8.10 inches below the 1892-1936 average, and 9.21 inches below the average for 1935. The greatest annual precipitation reported was 14.37 inches at Pembina, Pembina County; the least was 4.17 inches at Hettinger, Adams County. The greatest monthly amount reported was 4.73 inches at Maddock, Benson County in June; there was none at several stations. The average snowfall for the State was 35.2 inches.

The average number of days with 0.01 inch or more of precipitation was 59.

There were 171 clear days, 110 partly cloudy days, and 85 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS

January.—This was the third coldest month in the climatological history of North Dakota. Many stations in the eastern and central divisions reported the lowest mean temperatures ever recorded. The precipitation averaged slightly above normal, and due to the fact that there was no melting during the month much snow remained on the ground. The continued cold weather and heavy snow cover caused much suffering to humans and to animals. Highways were blocked in many sections and much feeding of livestock was necessary.

February.—With an average temperature of -12.9°, this was the coldest month on record in North Dakota. It was 10.8° lower than the next coldest February, and 6.5° lower than the coldest January of record. A new low record for North Dakota, -60°, was established at Parshall on the 15th. All sections of North Dakota were extremely cold and most stations broke their previous low records. Considerable suffering to humans and animals was caused by the severely cold weather, and some animals particularly in the southwestern part of the State were frozen to death. Precipitation averaged somewhat above normal and there was considerable snow on the ground during the month.

March.—Both the temperature and precipitation averaged slightly above normal. The greatest amounts of precipitation occurred in the northern districts. The snow disappeared rapidly in the southern part of the State early in March, but much snow remained on the ground at the end of the month in the northern districts. Considerable feeding of livestock was necessary, and the cold weather near the end of the month delayed farm work.

April.—The first week was unusually cold, but this was followed by somewhat higher temperatures. April 1926 was the only drier month of the same name since State-wide records began in 1892, but due to above average snowfall during February and March, there was ample moisture in the top soil. About 20,000 acres of bottom lands were under water from the 1st to the 12th along the Missouri River north of Bismarck due to ice gorges, and some alfalfa fields and pastures were destroyed.

May.—This was a warm, dry month. The State averaged only four rainy days. Temperatures were slightly above normal during the first two decades and considerably above normal during the last decade. No frost was reported after the 19th. By the end of the month all crops needed rain badly and pastures and ranges were short and drying rapidly. High winds, accompanied by light to moderate dust storms were reported at most stations from the 16th to the 23d.

June.—The outstanding feature of the weather during June was the extreme dryness. It was the driest June since State-wide records began in 1892. All sections of the State had deficient rainfall. Temperatures averaged above normal, with the warmest periods during the 2d and 4th weeks. No severe wind or dust storms were reported. Many fields of small grain were used for pastures and considerable livestock was shipped due to lack of feed.

July.—This was the warmest July since State-wide records began and most stations reported the highest temperatures ever recorded. Precipitation was very light; four-fifths of the stations had less than an inch of rainfall. Severe wind and damaging hail was reported near Edmore with destruction of an elevator and some farm buildings. Damaging hail was reported from Cooperstown, Kenmare, and Valley City. Dust storms were reported from many stations on the 19th and 31st. By the end of the month, threshing was accomplished in limited areas with poor yields, most fields being used for pastures, and livestock was being shipped due to lack of feed and water.

[Continued on page 53]

Climatological Data for the Year 1936

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number of days				Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall	With .01 inch or more precip.	Clear	Pt. cloudy	Cloudy	
Eastern Division																				
Amenia	Cass	954	41	37.2	115	July 10	−42	Feb. 15	41	8.76	2.88	May	0.00	Sept.	37.6	40	93	105	168	nw.
Cavalier	Pembina	894	2	35.0	110	July 11	−41	Jan. 22†	27	13.68	4.12	Sept.	0.07	Apr.	35.2	59	126	115	125	n.
Cooperstown	Griggs	1,428	2	37.1	118	July 6	−47	Feb. 15	40	9.93	2.36	Aug.	0.16	Apr.†	39.5	43	236	71	59	nw.
Courtenay	Stutsman	1,523	......	......	......	......	......	......	8	8.16	2.80	Aug.	0.04	May	38.9	55	165	152	49	nw.
Devils Lake	Ramsey	1,478	40	36.6	112	July 6	−46	Feb. 15	40	10.29	2.13	June	0.13	Nov.	23.8	83	116	113	137	nw.
Edgeley	LaMoure	1,568	36	39.5	116	July 6	−39	Feb. 6†	36	9.74	3.69	May	0.14	July	24.0	52	80	241	45	nw.
Edmore	Ramsey	1,524	12	......	107	July 10	−53	Feb. 15	13	......	......	......	......	......	......	......	......	......	......	......
Ellendale	Dickey	1,451	34	40.7	112	July 6	−39	Feb. 16	42	5.93	1.10	May	0.05	Oct.	26.3	56	194	84	88	nw.
Forman	Sargent	1,249	......	......	......	......	......	......	44	9.06	2.03	Sept.	0.15	Oct.	29.0	51	235	64	67	nw.
Fullerton	Dickey	1,439	39	40.8	113	July 6	−36	Feb. 15	39	11.40	1.67	May	0.08	Oct.	52.9	58	152	125	89	nw.
Grafton	Walsh	827	45	37.8	108	July 8	−41	Feb. 6	45	12.84	3.11	June	0.17	Nov.	50.1	52	153	112	101	nw.
Grand Forks	Grand Forks	830	46	36.8	109	July 12	−42	Feb. 16	46	9.91	2.26	June	0.23	Oct.	39.8	88	68	217	81	nw.
Hankinson	Richland	1,068	8	39.7	112	July 6	−34	Jan. 22†	8	11.47	3.30	Sept.	0.06	Oct.	35.2	61	243	39	84	nw.
Hannah	Cavalier	1,568	28	35.6	108	July 11	−45	Feb. 5	45	11.84	2.37	Aug.	0.12	Apr.	33.3	58	113	174	79	nw.
Hillsboro	Traill	901	31	38.6	115	July 6	−40	Feb. 15	31	7.19	1.58	May	0.06	July	27.9	47	169	105	92	nw.
Jamestown	Stutsman	1,457	45	38.8	118	July 6	−42	Feb. 15	45	6.91	1.80	Aug.	0.25	Nov.	31.5	38	158	144	64	nw.
Langdon	Cavalier	1,615	41	34.1	112	July 7	−51	Feb. 16	41	11.67	2.61	Sept.	0.00	Apr.	44.8	45	197	98	71	nw.
Larimore	Grand Forks	1,134	44	37.6	111	July 10†	−41	Feb. 15	44	7.68	1.82	June	0.12	May	34.9	50	195	79	92	nw.
Lisbon	Ransom	1,091	33	40.1	113	July 6	−38	Feb. 6	33	9.15	1.74	Sept.	0.13	Oct.	38.9	66	123	135	108	nw.
McLeod	Ransom	1,075	25	40.2	114	July 6	−41	Feb. 16	26	10 77	2.02	Aug.	0.27	Oct.	39.5	55	232	57	77	sw.
Mayville	Traill	975	41	40.7	114	July 6†	−40	Feb. 15	41	6.98	1.38	May	0.03	July	33.7	52	136	140	90	n.
Oakes	Dickey	1,318	8	41.1	115	July 6	−46	Feb. 16	8	9.14	2.88	June	0.11	Jan.	31.8	56	122	171	73	nw.
Park River	Walsh	998	33	34.1	108	July 11	−42	Feb. 15†	33	11.91	3.47	June	0.08	Nov.	47.3	50	169	87	110	nw.
Pembina	Pembina	789	63	35.3	109	July 7†	−44	Feb. 5	63	14.37	4.44	Aug.	0.12	Apr.	48.0	58	189	58	119	nw.
Petersburg	Nelson	1,520	......	......	......	......	......	......	7	7.91	3.13	June	0.04	Oct.	20.8	47	155	99	112	nw.
Sharon	Steele	1,516	10	37.0	114	July 6	−48	Feb. 15	13	11.70	3.85	Aug.	0.14	May	30.9	73	119	138	109	nw.
Valley City	Barnes	1,245	31	40.4	116	July 6	−40	Feb. 6†	31	8.08	1.82	Aug.	0.12	June	34.1	60	211	72	83	nw.
Wahpeton	Richland	962	45	41.4	111	July 6†	−39	Feb. 15	45	10.94	2.21	Aug.	0.19	Oct.	35.6	73	156	113	97	nw.
Moorhead, Minn.	Clay	935	56	38.9	114	July 6	−37	Jan. 22†	56	8.87	1.38	Feb.	0.26	Sept.	58.9	88	81	129	156	n.
Middle Division																				
Ashley	McIntosh	2,001	41	40.7	114	July 6	−41	Feb. 16	41	6.60	1.02	June	0.00	Oct.	48.5	52	219	75	72	nw.
Bismarck	Burleigh	1,674	62	41.0	114	July 6	−45	Feb. 16	62	5.97	1.66	Sept.	0.10	July	39.9	68	149	125	92	nw.
Bottineau	Bottineau	1,638	45	36.3	111	July 12	−49	Feb. 12	45	9.61	2.21	Sept.	0.09	Apr.	37.2	70	249	41	76	nw.
Carrington	Foster	1,579	31	37.0	116	July 6	−43	Feb. 14	39	6.52	2.22	Aug.	T	May†	15.0	28	118	137	111	nw.
Carson	Grant	2,500	25	40.4	116	July 6	−43	Feb. 15	25	8.50	2.41	Sept.	0.05	July	40.0	57	179	113	74	nw.
Dogden Butte	McLean	1,880	11	38.8	109	July 6	−39	Feb. 6	11	8.29	1.85	Sept.	0.10	Apr.	40.0	53	184	90	92	nw.
Drake	McHenry	1,634	7	37.0	113	July 6	−42	Feb. 15	8	6.81	1.58	Aug.	0.12	Apr.	21.2	73	131	111	124	nw.
Dunseith	Rolette	1,682	41	35.8	110	July 11	−40	Feb. 12	41	8.25	2.53	June	0.02	Apr.	18.9	40	124	151	91	nw.
Eckman	Bottineau	1,500	32	36.0	111	July 11	−52	Feb. 15	32	9.15	2.68	June	0.07	Apr.	42.5	68	108	188	70	nw.
Energy	McLean	1,750	12	40.4	114	July 6†	−54	Feb. 15	25	8.30	2.28	Aug.	0.13	Dec.	46.5	44	166	162	38	nw.
Fessenden	Wells	1,610	25	37.3	116	July 6	−47	Feb. 15	25	10.55	2.62	Aug.	0.04	May	43.1	60	149	121	96	sw.
Fort Yates	Sioux	1,670	37	42.6	119	July 6	−50	Feb. 16	37	5.14	1.10	Apr.	0.00	May	19.6	26	187	98	81	nw.
Foxholm	Ward	1,657	12	37.6	110	July 11	−44	Feb. 15	16	11.06	2.38	June	0.07	Apr.	41.6	70	126	129	111	nw.
Gackle	Logan	1,951	7	39.7	112	July 6	−39	Feb. 15†	7	6.51	2.68	Aug.	0.08	May†	24.8	42	213	92	61	nw.
Garrison	McLean	1,901	42	38.8	116	July 6	−45	Feb. 15†	42	9.15	2.08	Sept.	0.03	July	39.5	56	186	110	70	nw.
Granville	McHenry	1,504	30	37.5	114	July 11	−52	Feb. 15	30	10.76	2.87	June	T.	Apr.	53.2	57	154	111	101	nw.
Hansboro	Towner	1,597	29	35.3	109	July 10	−42	Feb. 6	29	13.40	4.00	May	0.20	Oct.	47.0	50	202	89	75	nw.
Linton	Emmons	1,711	19	41.4	116	July 6	−52	Feb. 16	20	5.05	1.63	Aug.	0.03	May	19.7	48	151	147	68	se.
McClusky	Sheridan	1,943	12	38.4	115	July 6	−53	Feb. 15	19	8.78	1.70	Aug.	0.17	Oct.	38.1	69	233	56	77	nw.
Maddock	Benson	1,604	22	37.5	110	July 7	−50	Feb. 14	22	11.10	4.73	June	0.09	May	27.7	55	104	155	107	nw.
Mandan	Morton	1,750	23	40.3	115	July 6	−46	Feb. 16	23	6.43	1.46	Sept.	0.00	July	39.5	68	169	61	136	nw.
Manfred	Wells	1,605	......	......	......	......	......	......	34	9.81	2.72	Aug.	0.02	May	30.2	71	......	......	......	......
Max	McLean	2,093	8	36.5	110	July 6	−47	Feb. 16	8	8.52	1.43	Sept.	0.05	Oct.	33.7	50	168	69	129	nw.
Minot	Ward	1,557	41	37.3	109	July 11	−49	Feb. 15	41	7.83	1.83	Sept.	0.04	Oct.	23.0	58	149	100	117	w.
Mohall	Renville	1,646	43	37.8	112	July 11	−44	Feb. 16	43	10.93	2.40	Aug.	0.06	Apr.	28.5	54	79	219	68	nw.
Napoleon	Logan	1,955	45	39.3	118	July 6	−47	Feb. 15	45	9.07	1.78	Aug.	0.10	Oct.	40 7	73	222	52	92	nw.
New Salem	Morton	2,163	33	40.6	119	July 6	−41	Feb. 16	33	6.55	1.18	Aug.	0.04	July	35.2	58	223	81	62	nw.
Pettibone	Kidder	1,856	28	37.6	118	July 6	−50	Feb. 15	28	6.96	2.36	Aug.	T.	Apr.	30.6	29	134	119	113	nw.
Rugby	Pierce	1,562	......	......	......	......	......	......	8	7.57	2.26	June	0.04	Apr.	18.6	55	121	178	67	nw.
Ryder	Ward	2,108	......	......	......	......	......	......	8	9.11	1.61	May	0.05	Oct.	25.7	76	204	68	94	nw.
Steele	Kidder	1,857	43	38.7	121	July 6	−50	Feb. 16	43	4.86	1.43	July	0.02	Apr.	14.8	40	175	98	93	nw.
Tagus	Mountrail	2,179	......	......	......	......	......	......	8	8.39	1.66	Sept.	0.11	Oct.	41.7	70	201	106	39	nw.
Towner	McHenry	1,482	35	37.6	111	July 6	−48	Feb. 15	35	11.16	3.09	June	0.10	Apr.	41.3	45	170	119	77	nw.
Turtle Lake	McLean	1,899	23	38.0	115	July 10	−50	Feb. 15†	23	5.20	0.96	Feb.	0.05	Apr.	26.6	44	242	23	101	nw.
Tuttle	Kidder	1,936	......	......	......	......	......	......	29	7.22	2.63	Aug.	0.08	Apr.	26.7	78	198	105	63	nw.
Velva	McHenry	1,511	10	38.7	110	July 6	−47	Feb. 6	10	8.57	1.65	Sept.	0.12	Oct.	45.0	58	89	175	102	nw.
Washburn	McLean	1,731	35	39.9	115	July 6	−45	Feb. 16	36	5.66	1.26	Sept.	0.08	Apr.	39.5	44	198	77	91	nw.
Willow City	Bottineau	1,471	45	35.1	110	July 11	−53	Feb. 15	45	9.96	2.73	June	0.03	Apr.	29.0	45	185	133	48	nw.
Wishek	McIntosh	2,010	8	39.7	120	July 6	−43	Feb. 16	8	6.31	1.10	Aug.	0.11	Oct.	33.1	63	......	......	......	nw.
Zap	Mercer	1,838	......	......	......	......	......	......	22	5.59	1.92	Sept.	0.05	July	9.9	43	239	84	43	......
Western Division																				
Alpha	Golden Valley	......	......	......	......	......	......	......	10	4.91	1.69	Aug.	0.14	Feb.†	16.1	53	216	97	53	nw.
Beach	Golden Valley	2,579	31	41.8	109	July 6	−43	Feb. 15	31	6.50	1.27	June	0.18	Sept.	30.2	63	......	......	......	nw.
Berthold Agency	McLean	2,082	44	37.9	112	July 11†	−56	Feb. 15	44	7.27	1.60	June	T.	Oct.	43.0	46	235	41	90	nw.
Bowman	Bowman	2,872	22	41.6	112	July 6	−43	Feb. 15†	23	8.07	1.87	Aug.	0.20	May	33.4	65	220	86	60	nw.
Corinth	Williams	2,180	......	......	......	......	......	......	9	12.65	2.21	Mar.	0.09	Oct.	68.0	81	45	222	99	nw.
Crosby	Divide	1,954	30	36.7	110	July 5	−47	Feb. 16	30	9.06	2.02	July	0.12	Oct.	36.7	66	115	99	152	nw.
Dickinson	Stark	2,543	45	39.5	114	July 6	−47	Feb. 16	45	6.72	1.23	Aug.	0.21	Apr.	33.3	92	168	126	72	nw.
Dunn Center	Dunn	2,191	38	39.7	111	July 6	−52	Feb. 15	38	7.17	1.50	June	0.06	Apr.	36.0	47	186	96	84	nw.
Epping	Williams	2,224	27	......	110	July 5	......	......	27	8.58	1.51	Mar.	0.15	Dec.	40.5	76	196	107	63	nw.
Fryburg	Billings	2,790	1	......	113	July 6	......	......	19	6.42	1.23	Aug.	0.26	Feb.	32.3	55	197	99	70	nw.
Hettinger	Adams	2,675	30	43.5	113	July 6	−45	Feb. 16	30	4.17	1.03	Apr.	T.	July	11.8	44	252	84	30	nw.
Howard	Williams	2,275	30	36.2	108	July 5	−52	Feb. 16	30	13.78	2.48	Mar.	0.02	Apr.	60.4	46	164	135	67	nw.
Kenmare	Ward	1,799	5	39.0	108	July 11	−41	Feb. 6	6	10.46	1.62	Aug.	0.07	Apr.	40.2	75	149	138	79	w.
Marmarth	Slope	2,714	23	43.1	108	July 6	−52	Feb. 15	28	6.31	1.33	Aug.	0.03	May	33.3	53	167	92	107	nw.
Mary	McKenzie	......	......	......	......	......	......	......	8	7.75	1.78	June	0.10	Nov.	36.4	59	204	68	94	nw.
Mott	Hettinger	2,424	30	43.3	114	July 6	−43	Feb. 16	30	6.11	0.98	Apr.	0.14	Oct.	27.0	57	176	87	103	nw.
New England	Hettinger	2,400	43	42.7	114	July 6†	−46	Feb. 14	43	7.27	1.41	Aug.	0.15	July	32.5	54	168	93	105	nw.
Parshall	Mountrail	1,929	4	36.5	112	July 11	−60	Feb. 15	22	9.26	2.25	June	0.05	Nov.	21.2	60	115	205	46	nw.
Portal	Burke	1,954	24	35.3	109	July 11	−50	Feb. 16	32	10.61	1.78	May†	0.03	Oct.	25.8	58	168	77	121	w.
Powers Lake	Burke	2,205	11	37.8	105	July 10†	−55	Feb. 15	32	11.87	1.81	May	0.31	Oct.	55.5	40	234	82	50	e.
Richardton	Stark	2,467	21	41.0	113	July 6	−38	Feb. 15	21	7.17	1.08	Aug.	0.06	July	38.0	53	135	116	115	nw.
Sanish	Mountrail	1,835	12	38.7	110	July 6†	−55	Feb. 15	12	10.45	2.60	June	0.14	Apr.	43.0	58	135	145	86	nw.
Tioga	Williams	2,279	......	......	......	......	......	......	8	8.75	1.59	Mar.	0.07	Oct.	31.3	58	199	69	98	nw.
Trotters	Golden Valley	......	......	......	......	......	......	......	11	6.55	0.96	May	0.24	Apr.	34.5	50	184	91	91	nw.
Watford City	McKenzie	2,084	24	40.4	112	July 6	−44	Feb. 15	24	9.41	2.05	June	0.17	Apr.	49.3	58	150	146	70	nw.
Williston	Williams	1,878	58	39.7	110	July 5	−50	Feb. 16	58	8.50	1.51	Mar.	0.12	Apr.	45.5	79	182	115	69	se.

†Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1936, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.
Eastern Division																										
Amenia	0.50	+0.04	1.19	+0.69	1.00	+0.51	0.39	-1.28	2.88	+0.01	0.50	-3.21	0.20	-2.59	0.52	-2.07	0.00	-2.12	0.02	-1.45	0.68	+0.05	0.88	+0.34	8.76	-11.08
Cavalier	0.63	-0.04	0.82	+0.30	0.55	-0.16	0.07	-1.28	0.43	-1.97	1.43	-1.77	0.85	-1.82	3.89	+1.53	4.12	+1.86	0.12	-1.29	0.16	-0.63	0.61	-0.23	13.68	-5.50
Cooperstown	0.98	+0.49	1.58	+1.18	0.35	-0.28	0.16	-1.23	0.19	-2.41	1.52	-1.81	0.49	-1.97	2.36	-0.27	1.59	-0.23	0.31	-0.81	0.24	-0.44	0.16	-0.40	9.93	-8.18
Courtenay	0.70	......	1.38	......	0.62	......	0.16	......	0.04	......	0.35	......	0.09	......	2.80	......	0.42	......	0.25	......	0.35	......	1.00	......	8.16	......
Devils Lake	0.36	-0.11	0.65	+0.14	0.51	-0.27	0.44	-1.08	0.65	-1.38	2.13	-1.43	1.55	-1.02	1.48	-1.00	1.85	+0.22	0.25	-1.00	0.13	-0.59	0.29	-0.25	10.29	-7.77
Edgeley	0.20	-0.20	0.34	+0.01	0.38	-0.33	0.62	-1.15	3.69	+1.06	1.84	-1.82	0.14	-2.63	0.69	-1.78	0.81	-0.98	0.24	-0.85	0.27	-0.19	0.52	+0.12	9.74	-8.74
Edmore	0.86	+0.22	0.68	+0.29	1.33	+0.87	0.22	-0.89	0.38	-1.52	2.15	-0.71	1.79	-1.08	2.47	+0.33	4.03	+2.94	0.26	-0.62	0.17	-0.43	0.34	-0.32	14.68	-0.92
Ellendale	0.28	-0.21	0.25	-0.29	0.43	-0.48	1.06	-0.73	1.10	-1.67	0.37	-2.91	0.68	-2.06	0.53	-2.19	0.26	-1.50	0.05	-1.06	0.44	-0.18	0.48	+0.02	5.93	-13.26
Forman	0.29	-0.17	0.53	-0.01	0.60	-0.14	1.18	-0.69	1.15	-2.01	0.93	-2.56	0.51	-2.46	0.45	-2.33	2.03	-0.14	0.15	-1.30	0.64	+0.02	0.61	+0.05	9.06	-11.74
Fullerton	0.46	-0.33	1.58	+0.65	0.82	-0.38	1.20	-0.94	1.67	-1.51	1.63	-2.14	0.66	-2.46	0.24	-2.29	0.79	-1.31	0.08	-1.35	1.04	+0.18	1.23	+0.38	11.40	-11.50
Grafton	0.74	+0.25	1.51	+0.97	0.93	+0.28	0.47	-0.74	0.36	-1.81	3.11	-0.29	2.13	-0.42	1.73	-0.85	1.04	-1.30	0.34	-0.88	0.17	-0.57	0.31	-0.23	12.84	-5.59
Grand Forks	0.80	+0.29	1.09	+0.53	1.09	+0.35	0.40	-1.22	1.00	-1.59	2.26	-1.09	0.66	-2.09	0.49	-2.15	1.27	-0.77	0.23	-1.17	0.32	-0.50	0.30	-0.30	9.91	-9.71
Hankinson	0.40	......	0.50	......	0.89	......	1.06	......	1.83	......	0.60	......	0.28	......	1.03	......	3.30	......	0.06	......	0.96	......	0.56	......	11.47	......
Hannah	0.63	-0.09	1.05	+0.46	0.77	+0.08	0.12	-0.92	0.71	-1.41	2.32	-1.07	1.19	-1.16	2.37	+0.25	1.68	-0.52	0.34	-0.80	0.16	-0.59	0.50	-0.12	11.84	-5.89
Hillsboro	0.57	+0.06	0.88	+0.30	0.70	-0.05	0.16	-1.68	1.58	-1.51	0.75	-2.62	0.06	-2.62	0.91	-1.79	0.74	-1.41	0.14	-1.33	0.28	-0.54	0.42	-0.24	7.19	-13.43
Jamestown	0.43	-0.12	0.57	-0.02	0.95	+0.08	0.31	-1.27	0.34	-2.66	0.33	-3.28	0.81	-1.97	1.80	-0.89	0.34	-1.50	0.32	-0.96	0.25	-0.43	0.46	-0.20	6.91	-13.22
Langdon	0.90	+0.33	1.08	+0.46	0.50	-0.30	0.00	-1.15	0.10	-1.92	2.17	-1.23	1.15	-1.22	1.81	-0.65	2.61	+0.29	0.42	-0.72	0.16	-0.66	0.77	+0.14	11.67	-6.63
Larimore	0.48	-0.18	0.83	+0.25	0.45	-0.32	0.28	-1.32	0.12	-2.77	1.82	-2.04	0.68	-2.54	1.40	-1.38	1.08	-1.18	0.17	-1.39	0.16	-0.75	0.21	-0.36	7.68	-13.98
Lisbon	0.55	-0.02	0.73	+0.11	0.50	-0.14	0.99	-0.82	1.42	-1.50	0.41	-3.43	0.61	-2.58	0.73	-1.95	1.74	-0.40	0.17	-1.16	0.50	-0.16	0.80	+0.32	9.15	-11.73
McLeod	0.55	-0.02	0.72	+0.11	1.57	+0.86	1.12	-0.81	0.66	-2.61	0.74	-3.27	1.35	-1.62	2.02	-0.40	1.03	-1.18	0.27	-1.21	0.46	-0.20	0.28	-0.20	10.77	-10.55
Mayville	0.09	+0.31	1.04	+0.62	0.77	+0.08	0.17	-1.40	1.38	-1.53	1.02	-2.33	0.03	-2.73	0.56	-2.07	1.30	-0.89	0.22	-1.12	0.04	-0.65	0.36	-0.18	6.98	-12.51
Oakes	0.11	......	0.83	......	0.28	......	1.11	......	1.21	.....	2.88	......	0.23	......	0.46	......	0.79	......	0.12	.....	0.48	......	0.64	......	9.14	......
Park River	0.47	+0.08	1.15	+0.75	0.88	+0.26	0.23	-1.05	0.42	-1.64	3.47	+0.08	0.95	-1.55	1.99	-0.43	1.90	-0.34	0.12	-1.16	0.08	-0.61	0.25	-0.18	11.91	-5.79
Pembina	0.55	-0.09	1.03	+0.40	1.01	+0.20	0.12	-1.08	0.63	-1.73	0.74	-2.59	0.74	-1.61	4.44	+2.25	3.57	+1.35	0.83	-0.48	0.29	-0.52	0.42	-0.22	14.37	-4.12
Petersburg	0.30	......	0.96	......	0.51	......	0.16	......	0.11	......	3.13	......	0.24	.....	1.29	......	0.95	......	0.04	......	0.12	......	0.10	......	7.91	......
Sharon	0.84	+0.50	0.82	+0.49	0.51	-0.13	0.31	-1.19	0.14	-2.73	2.34	-1.39	0.32	-1.77	3.85	+1.75	1.74	-0.11	0.23	-1.83	0.31	-0.56	0.29	-0.16	11.70	-7.13
Valley City	0.30	-0.20	1.05	+0.58	0.36	-0.31	0.35	-1.19	1.51	-1.29	0.12	-3.34	1.13	-1.68	1.82	-0.39	0.58	-1.30	0.24	-0.94	0.32	-0.37	0.30	-0.18	8.08	-10.61
Wahpeton	0.37	-0.05	0.45	-0.04	0.63	-0.02	1.52	-0.41	1.71	-0.95	0.77	-2.94	0.67	-2.55	2.21	-0.47	1.34	-1.04	0.19	-1.38	0.47	-0.29	0.61	+0.15	10.94	-9.99
Moorhead, Minn.	0.39	-0.28	1.38	+0.67	1.31	+0.30	0.74	-1.44	1.22	-1.67	0.48	-3.57	0.42	-3.01	0.96	-1.93	0.26	-1.96	0.36	-1.33	0.58	-0.32	0.77	+0.05	8.87	-14.49
Middle Division																										
Ashley	0.21	-0.26	0.72	+0.23	0.77	-0.02	0.81	-0.85	0.42	-2.12	1.02	-2.22	0.27	-2.56	0.70	-1.85	0.45	-1.15	0.00	-1.16	0.91	+0.29	0.32	-0.24	6.60	-11.91
Bismarck	0.36	-0.09	0.59	+0.13	0.88	-0.01	0.37	-1.15	0.12	-2.20	0.47	-2.88	0.10	-2.14	0.62	-1.20	1.66	+0.43	0.14	-0.80	0.45	-0.12	0.21	-0.36	5.97	-10.39
Bottineau	0.57	+0.16	0.81	+0.46	0.42	-0.24	0.09	-0.68	0.73	-1.34	1.76	-1.56	0.75	-1.62	0.98	-1.43	2.21	+0.58	0.34	-0.74	0.13	-0.36	0.82	+0.35	9.61	-6.42
Carrington	0.20	-0.12	0.41	+0.04	0.50	-0.17	0.20	-1.05	T.	-2.57	0.94	-2.58	0.60	-1.98	2.22	+0.06	0.99	-0.52	0.28	-0.70	0.18	-0.40	T.	-0.39	6.52	-10.38
Carson	0.70	+0.36	0.42	-0.02	1.26	+0.51	0.89	-0.35	0.28	-2.17	0.50	-3.00	0.05	-1.98	0.88	-0.92	2.41	+0.81	0.20	-0.77	0.55	-0.02	0.36	-0.15	8.50	-7.70
Dogden Butte	0.53	+0.30	1.00	+0.65	0.95	+0.37	0.10	-1.14	0.96	-2.01	0.88	-2.37	0.29	-2.85	0.96	-0.96	1.85	+0.69	0.13	-1.00	0.32	-0.19	0.32	-0.10	8.29	-8.61
Drake	0.28	......	0.51	......	0.60	......	0.12	......	0.42	......	0.87	.....	1.18	.....	1.58	......	0.67	......	0.15	......	0.16	......	0.27	......	6.81	......
Dunseith	0.27	-0.17	0.63	+0.20	0.28	-0.35	0.02	-0.80	0.81	-1.03	2.53	-0.59	0.25	-2.30	1.84	-0.62	1.24	-0.50	0.18	-0.77	0.08	-0.47	0.12	-0.30	8.25	-7.70
Eckman	0.40	+0.04	0.88	+0.52	0.68	+0.15	0.07	-0.79	0.78	-1.14	2.68	-0.32	0.16	-2.07	0.87	-1.10	1.81	+0.35	0.21	-0.72	0.15	-0.32	0.46	-0.02	9.15	-5.42
Energy	0.88	+0.57	0.70	+0.25	0.86	+0.09	0.20	-0.76	0.20	-1.96	0.60	-2.80	0.20	-2.15	2.28	+0.35	1.55	+0.08	0.15	-0.79	0.55	+0.11	0.13	-0.32	8.30	-7.33
Fessenden	0.78	+0.30	1.34	+0.84	0.88	+0.13	0.09	-1.16	0.04	-2.27	0.92	-2.77	0.95	-1.38	2.62	+0.31	2.04	+0.40	0.29	-0.80	0.25	-0.44	0.35	-0.25	10.55	-7.09
Fort Yates	0.65	+0.24	0.16	-0.33	0.91	+0.06	1.10	-0.18	0.00	-2.30	0.90	-2.56	T	-2.19	0.77	-1.40	T.	-1.52	T.	-1.12	0.30	-0.20	0.35	-0.07	5.14	-11.57
Foxholm (near)	0.31	-0.02	1.13	+0.56	1.19	+0.52	0.07	-1.28	1.29	-0.68	2.38	-0.71	0.34	-1.89	1.15	-0.59	1.97	+0.47	0.11	-0.99	0.47	-0.20	0.65	+0.22	11.06	-4.59
Gackle	0.21	......	0.61	......	0.63	......	0.33	......	0.08	......	0.76	......	0.08	......	2.68	......	0.63	......	0.16	......	0.21	......	0.13	......	6.51	......
Garrison	1.05	+0.71	0.60	+0.07	0.80	-0.05	0.13	-0.96	0.62	-1.71	0.96	-2.58	0.03	-2.43	1.77	-0.24	2.08	+0.53	0.34	-0.60	0.49	+0.04	0.28	-0.21	9.15	-7.43
Granville	0.48	+0.12	0.91	+0.47	0.86	+0.36	T.	-0.81	1.57	-0.37	2.87	-0.35	0.90	-1.27	0.41	-1.49	2.18	+0.57	0.15	-0.78	0.15	-0.41	0.28	-0.19	10.76	-4.15
Hansboro	0.80	+0.14	0.56	+0.01	0.80	-0.14	0.26	-1.00	2.13	+0.04	4.00	+0.62	0.84	-1.62	1.36	-0.94	1.45	-0.53	0.20	-0.91	0.30	-0.29	0.70	+0.11	13.40	-4.51
Leeds	0.93	......	0.86	......	0.59	......	T.	.....	0.71	......	2.55	......	0.49	......	1.15	......	0.97	......	......	......	......	......	......	......	......	......
Linton	0.53	+0.15	0.13	-0.35	0.54	-0.25	0.94	-0.31	0.03	-2.38	0.67	-2.49	0.17	-1.96	1.63	-0.74	0.08	-1.52	0.10	-1.01	0.19	-0.31	0.04	-0.34	5.05	-11.51
McClusky	0.98	+0.57	0.90	+0.36	0.79	-0.01	0.21	-0.99	0.25	-2.23	1.58	-1.79	0.47	-2.06	1.70	-0.24	0.87	-0.56	0.17	-0.86	0.36	-0.21	0.50	-0.02	8.78	-8.04
Maddock	0.55	+0.25	0.98	+0.60	0.30	-0.23	0.38	-0.75	0.09	-2.02	4.73	+1.36	0.86	-1.73	1.85	-0.62	0.65	-1.16	0.22	-0.87	0.15	-0.31	0.34	0.00	11.10	-5.48
Mandan	0.61	+0.26	0.72	+0.36	1.12	+0.27	0.48	-0.69	0.04	-2.40	0.43	-2.86	0.00	-2.38	0.55	-1.17	1.46	-0.03	0.17	-0.82	0.61	+0.10	0.24	-0.23	6.43	-9.59
Manfred	0.42	-0.07	0.73	+0.27	0.80	+0.02	0.06	-1.18	0.02	-2.24	0.86	-2.71	1.59	-0.65	2.72	+0.38	1.89	+0.34	0.26	-0.87	0.25	-0.38	0.21	-0.35	9.81	-7.44
Max	0.50	......	0.60	......	0.90	......	0.26	......	1.19	....	1.34	......	0.34	.....	1.10	......	1.43	......	0.05	......	0.71	......	0.10	......	8.52	......
Minot	0.33	-0.04	0.69	+0.24	0.33	-0.30	0.06	-1.14	1.23	-0.91	1.70	-1.50	0.42	-1.48	0.78	-1.29	1.83	+0.17	0.04	-0.97	0.20	-0.47	0.22	-0.24	7.83	-7.93
Mohall	0.52	+0.21	0.76	+0.45	1.14	+0.50	0.06	-0.84	1.64	-0.21	1.58	-1.31	0.76	-1.58	2.40	+0.47	1.30	-0.26	0.20	-0.97	0.07	-0.47	0.50	+0.08	10.93	-3.93
Napoleon	0.45	+0.12	0.55	+0.15	1.20	+0.37	0.43	-1.11	0.50	-1.93	0.91	-2.38	0.40	-2.10	1.78	-0.62	1.05	-0.43	0.10	-1.00	1.10	+0.53	0.60	+0.15	9.07	-8.25
New Salem	0.60	+0.15	0.91	+0.46	0.74	-0.11	0.68	-0.36	0.64	-1.48	0.42	-3.05	0.04	-2.14	1.18	-0.64	0.29	-1.07	0.13	-0.83	0.68	+0.19	0.24	-0.34	6.55	-9.22
Pettibone	0.33	-0.08	0.76	+0.37	1.87	+1.25	T.	-1.12	0.08	-2.32	0.51	-2.74	0.35	-2.49	2.36	+0.08	0.34	-0.98	0.06	-0.87	0.25	-0.33	0.05	-0.42	6.96	-9.65
Rugby	0.13	......	0.34	......	0.22	......	0.04	......	0.69	......	2.26	......	0.36	......	1.41	......	0.97	.....	0.17	......	0.12	......	0.86	......	7.57	......
Ryder	0.32	......	0.56	......	0.54	......	0.16	......	1.61	.....	1.14	......	1.32	......	1.41	......	1.55	......	0.05	......	0.21	......	0.24	......	9.11	......
Steele	0.18	-0.28	0.14	-0.30	0.50	-0.31	0.02	-1.14	0.12	-2.55	0.50	-3.01	1.43	-1.56	0.92	-1.47	0.70	-0.82	0.11	-1.06	0.11	-0.42	0.13	-0.44	4.86	-13.36
Tagus	0.37	.....	0.61	......	0.80	......	0.27	.....	1.51	......	1.16	......	0.17	......	1.42	......	1.66	......	0.11	......	0.16	......	0.15	......	8.39	......
Towner	0.50	+0.06	0.91	+0.47	1.00	+0.27	0.10	-0.77	0.65	-1.49	3.09	-0.06	0.44	-1.97	1.17	-0.86	2.16	+0.40	0.22	-0.77	0.44	-0.08	0.48	+0.04	11.16	-4.76
Turtle Lake	0.42	+0.05	0.96	+0.46	0.66	-0.22	0.05	-0.98	0.30	-1.93	0.54	-3.10	0.31	-2.24	0.54	-1.58	0.75	-0.63	0.22	-0.69	0.26	-0.16	0.19	-0.32	5.20	-11.34
Tuttle	0.38	-0.07	0.60	+0.22	0.45	-0.34	0.08	-0.89	0.48	-2.03	0.80	-2.54	0.44	-2.08	2.63	+0.71	0.57	-0.89	0.29	-0.47	0.28	-0.14	0.22	-0.19	7.22	-8.71
Velva	0.56	......	1.09	......	0.89	......	0.14	.....	1.61	......	1.11	......	0.53	......	0.39	......	1.65	......	0.12	......	0.19	......	0.29	......	8.57	......
Washburn	0.59	+0.26	0.44	+0.03	0.53	-0.21	0.08	-0.89	0.43	-1.86	0.30	-3.09	0.28	-2.20	1.06	-0.61	1.26	-0.08	0.19	-0.86	0.39	-0.07	0.11	-0.36	5.66	-9.94
Westhope	0.34	+0.02	1.03	+0.82	1.19	+0.66	0.15	-0.65	0.93	-0.90	1.86	-1.17	0.78	-1.39	1.09	-0.91	......	......	......	......	....	......	......	......	......	......
Willow City	0.15	-0.43	1.20	+0.65	0.60	-0.14	0.03	-0.84	1.44	-0.40	2.73	-0.42	0.84	-1.30	0.62	-1.50	1.28	-0.35	0.07	-0.81	0.20	-0.36	0.70	+0.11	9.96	-5.79
Wishek	0.68	+0.18	0.46	+0.11	0.74	+0.03	0.71	-0.64	0.21	-2.63	0.40	-2.60	0.18	-2.35	1.10	-0.81	0.92	-0.27	0.11	-0.67	0.23	-0.12	0.57	-0.07	6.31	-9.84
Zap	0.18	-0.08	0.14	-0.22	0.15	-0.46	0.40	-0.50	0.98	-1.37	0.75	-3.19	0.05	-2.23	0.55	-1.36	1.92	+0.30	0.12	-0.81	0.19	-0.19	0.16	-0.19	5.59	-10.30
Western Division																										
Alpha	0.35	-0.11	0.14	-0.33	0.32	-0.54	0.48	-0.69	0.42	-2.01	0.14	-3.26	0.32	-1.74	1.69	-0.02	0.27	-1.00	0.30	-0.68	0.21	-0.18	0.27	-0.23	4.91	-10.79
Beach	0.49	+0.02	0.40	-0.01	0.72	-0.04	0.34	-0.81	0.56	-1.76	1.27	-2.43	0.30	-1.51	0.83	-0.86	0.18	-1.11	0.45	-0.49	0.47	-0.01	0.49	-0.01	6.50	-9.02
Berthold Agency	0.36	+0.11	0.63	+0.23	0.79	+0.23	0.20	-0.81	0.92	-1.32	1.60	-2.27	1.02	-1.34	0.81	-1.11	0.68	-0.91	T	-0.89	0.09	-0.28	0.17	-0.21	7.27	-8.57
Bowman	0.49	+0.03	0.58	+0.10	0.39	-0.28	1.36	+0.24	0.20	-2.09	1.05	-1.90	0.57	-1.56	1.87	+0.07	0.35	-0.93	0.41	-0.57	0.31	-0.08	0.49	+0.13	8.97	-6.84
Corinth	1.26	......	1.21	......	2.21	......	0.53	......	0.53	......	1.62	......	1.56	......	1.67	......	0.74	......	0.09	......	0.60	......	0.63	......	12.65	.....
Crosby	0.41	0.00	0.34	-0.02	1.25	+0.58	0.42	-0.56	0.55	-1.39	1.53	-1.83	2.02	-0.09	0.60	-1.39	0.32	-1.07	0.12	-0.72	0.40	-0.20	1.10	+0.59	9.06	-6.10
Dickinson	0.55	+0.13	0.42	-0.01	0.59	-0.15	0.21	-0.87	0.61	-1.72	0.92	-2.45	0.29	-1.88	1.23	-0.76	0.23	-1.09	0.39	-0.59	0.49	+0.02	0.79	+0.29	6.72	-9.08
Dunn Center	0.69	+0.30	0.58	+0.08	0.63	-0.20	0.06	-1.20	0.37	-2.02	1.50	-2.37	0.70	-1.53	1.11	-0.60	0.88	-0.56	0.10	-0.81	0.15	-0.31	0.40	-0.06	7.17	-9.28
Epping	0.71	+0.27	0.61	+0.20	1.51	+0.92	0.16	-0.87	0.92	-1.26	1.08	-2.49	1.29	-0.69	1.31	-0.39	0.49	-0.90	0.16	-0.63	0.19	-0.25	0.15	-0.30	8.58	-6.39
Fryburg	0.33	-0.12	0.26	-0.21	0.51	-0.27	0.47	-0.70	0.58	-1.81	0.55	-2.75	0.45	-1.74	1.23	-0.73	0.47	-0.90	0.44	-0.61	0.41	-0.08	0.72	+0.21	6.42	-9.71
Hettinger	0.46	+0.16	0.19	-0.23	0.20	-0.50	1.03	+0.06	0.44	-1.94	0.21	-2.99	T.	-2.36	0.79	-0.84	0.40	-1.00	0.20	-0.57	0.02	-0.40	0.23	-0.17	4.17	-10.78
Howard (near)	2.20	+1.69	0.75	+0.19	2.48	+1.58	0.02	-1.10	1.78	-0.49	1.06	-2.00	2.47	+0.64	1.59	-0.05	0.08	-1.30	0.20	-0.59	0.35	-0.20	0.80	+0.17	13.78	-1.46
Kenmare	0.51	+0.16	1.04	+0.67	1.24	+0.61	0.07	-0.88	1.52	-0.44	1.53	-1.53	1.13	-1.16	1.62	-0.32	0.88	-0.73	0.08	-0.98	0.27	-0.28	0.57	+0.11	10.46	-4.77
Marmarth	0.72	+0.32	0.12	-0.32	0.36	-0.36	0.45	-0.57	0.03	-2.29	1.11	-1.95	0.84	-1.04	1.33	-0.41	0.36	-0.93	0.28	-0.57	0.31	-0.08	0.40	-0.01	6.31	-8.21
Mary	0.49	......	0.31	......	0.87	......	0.12	......	0.47	......	1.78	......	1.62	......	0.29	......	0.94	......	0.52	......	0.10	......	0.24	......	7.75	......
Mott	0.64	0.00	0.51	-0.11	0.67	-0.26	0.98	-0.23	0.27	-2.13	0.59	-2.63	0.25	-1.89	0.83	-1.10	0.67	-0.74	0.14	-0.80	0.30	-0.18	0.26	-0.34	6.11	-10.41
New England	1.05	+0.55	0.61	+0.12	0.56	-0.22	0.78	-0.23	0.49	-1.49	0.61	-2.35	0.15	-1.92	1.41	-0.29	0.35	-1.03	0.26	-0.58	0.56	+0.12	0.44	+0.03	7.27	-7.29
Parshall (near)	0.22	-0.02	0.39	-0.03	0.47	-0.04	0.08	-0.87	0.55	-1.62	2.25	-1.31	1.66	-0.34	1.95	-0.01	1.31	-0.23	0.23	-0.58	0.05	-0.32	0.10	-0.30	9.26	-5.67
Portal	0.40	-0.02	0.60	+0.20	0.96	+0.36	0.16	-0.81	1.78	-0.28	1.30	-1.99	1.35	-0.76	1.78	-0.11	1.55	-0.04	0.03	-0.86	0.17	-0.38	0.53	+0.06	10.61	-4.63
Powers Lake	0.40	-0.11	0.80	+0.34	1.18	+0.49	0.50	-0.71	1.81	-0.37	1.58	-2.02	1.16	-1.43	1.43	-0.34	1.34	-0.17	0.31	-0.91	0.40	-0.09	0.96	+0.40	11.87	-4.92
Richardton	0.83	+0.45	0.30	-0.10	0.84	+0.12	0.48	-0.66	0.46	-2.12	1.01	-2.40	0.06	-2.19	1.08	-0.87	1.02	-0.34	0.16	-0.72	0.79	+0.31	0.14	-0.25	7.17	-8.77
Sanish	1.10	+0.36	0.58	+0.15	1.07	+0.49	0.14	-0.93	0.68	-0.59	2.60	-0.26	1.53	-0.17	0.70	-0.61	1.15	+0.35	0.15	-0.47	0.27	-0.20	0.48	-0.13	10.45	-2.01
Tioga	0.70	......	0.30	......	1.59	......	0.16	.....	0.73	.....	1.08	....	0.86	......	1.32	.....	1.47	......	0.07	......	0.20	......	0.27	......	8.75	....
Trotters	0.68	+0.28	0.44	+0.07	0.59	-0.17	0.24	-0.79	0.96	-1.36	0.88	-2.60	0.66	-0.90	0.46	-1.05	0.53	-0.72	0.32	-0.51	0.33	-0.11	0.46	+0.06	6.55	-7.80
Watford City	0.85	+0.38	0.60	+0.18	1.47	+0.79	0.17	-0.99	0.46	-1.51	2.05	-1.15	1.06	-0.77	0.46	-1.25	0.58	-0.74	0.78	-0.09	0.40	-0.10	0.53	-0.01	9.41	-5.26
Williston	0.71	+0.17	0.61	+0.18	1.51	+0.82	0.12	-1.08	0.62	-1.44	1.47	-1.96	0.87	-1.02	1.01	-0.46	0.46	-0.63	0.29	-0.57	0.38	-0.20	0.45	-0.13	8.50	-6.32

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace

Monthly and Annual Mean Temperatures for the Year 1936, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Eastern Division																										
Amenia	-15.2	-20.1	-14.0	-22.8	24.0	-0.6	36.8	-5.2	63.8	+9.8	64.2	+0.8	82.6	+13.9	68.8	+2.3	61.2	+3.9	38.0	-6.6	21.7	-6.3	14.7	+2.5	37.2	-2.4
Cavalier	-9.7	......	-12.7	......	22.5	......	34.0	......	59.4	......	63.1	......	76.0	......	63.0	......	53.6	......	36.7	......	[b]21.4	......	13.2	......	35.0	......
Cooperstown	-11.8	......	-13.5	......	24.2	......	36.2	......	61.0	......	65.8	......	79.2	......	69.2	......	58.6	......	39.3	......	25.1	......	11.8	......	37.1	......
Devils Lake	-10.5	-12.3	-15.0	-20.1	22.6	+2.8	33.8	-5.0	60.3	+7.7	64.0	+2.1	79.0	+11.6	68.6	+3.8	58.4	+2.5	39.6	-2.8	25.6	+1.1	12.4	+2.9	36.6	-0.4
Edgeley	-5.5	-14.3	-11.0	-23.7	26.4	-0.9	35.8	-6.9	61.5	+7.8	67.0	+4.1	80.4	+11.6	72.0	+5.1	62.7	+5.1	43.2	-2.1	26.1	-3.7	15.2	+0.6	39.5	-1.4
Edmore	-13.0	-14.3	-16.6	-23.8	20.4	-0.6	......	......	......	......	......	......	76.4	+10.0	66.3	+2.6	57.4	+1.9	39.6	-2.6	25.3	+0.5	12.1	+3.2	......	......
Ellendale	-4.9	-15.6	-9.3	-20.0	29.4	+3.8	38.0	-5.6	61.6	+5.9	67.6	+1.6	82.1	+11.4	72.8	+4.0	63.4	+5.0	44.2	-1.4	27.8	+1.7	15.9	-0.9	40.7	-0.9
Fullerton	-4.7	-13.6	-8.7	-20.7	29.2	+2.4	37.8	-5.0	61.6	+7.6	68.0	+4.6	81.4	+12.4	73.0	+5.9	63.5	+6.3	43.8	-1.0	28.2	-1.0	16.4	+2.0	40.8	0.0
Grafton	-9.2	-11.4	-12.0	-18.7	22.4	+1.2	35.8	-4.8	61.8	+8.5	65.2	+2.4	79.2	+11.5	69.8	+4.6	61.0	+4.7	41.4	-0.7	26.4	+1.7	12.6	+3.7	37.8	+0.2
Grand Forks	-10.1	-13.6	-13.0	-20.6	21.1	-1.3	33.8	-7.9	60.9	+7.2	64.2	+1.2	79.2	+11.7	70.0	+4.6	60.2	+3.8	39.0	-4.6	24.4	-1.6	12.2	+1.6	36.8	-1.6
Hankinson	-4.2	......	-7.4	......	27.0	......	36.4	......	61.8	......	66.2	......	80.0	......	71.2	......	62 0	......	40.2	......	25.8	......	17.4	......	39.7	......
Hannah	-12.0	-10.9	-15.6	-18.1	19.8	+1.0	32.2	-5.9	60.8	+10.2	63.2	+3.3	78.2	+13.5	69.8	+6.9	59.8	+5.8	38.8	-1.8	23.1	+2.8	8.7	+1.9	35.6	+0.8
Hillsboro	-7.2	-11.8	-12.0	-22.3	23.0	-2.6	35.8	-7.0	61.8	+7.9	66.2	+2.0	80.1	+10.5	72.0	+4.5	62.4	+3.8	42.0	-3.2	25.4	-2.4	13.3	+2.1	38.6	-1.5
Jamestown	-7.2	-14.2	-12.0	-21.6	26.8	+2.8	35.4	-6.7	61.6	+8.1	67.9	+4.7	82.4	+13.9	71.2	+4.8	59.8	+3.3	39.6	-4.9	25.6	-1.7	14.4	+1.0	38.8	-0.9
Langdon	-13.5	-12.6	-18.6	-23.4	17.8	-1.8	29.4	-8.4	58.2	+7.3	62.2	+2.3	77.2	+12.6	67.0	+4.5	57.6	+5.3	36.6	-4.3	27.2	+3.2	8.6	+0.3	34.1	-1.3
Larimore	-9.2	-12.8	-11.9	-19.2	23.3	+1.0	34.6	-5.8	61.9	+9.3	64.8	+2.4	79.4	+12.4	70.2	+5.2	59.6	+4.3	40.6	-3.3	25.4	-0.4	13.2	+2.2	37.6	-0.4
Lisbon	-5.4	-12.7	-8.4	-19.6	28.2	+1.1	36.4	-6.0	61.2	+7.3	67.0	+3.5	80.3	+11.0	71.5	+4.5	61.6	+4.1	44.4	+0.6	27.6	-1.3	16.8	+2.7	40.1	-0.4
McLeod	-6.4	-14.8	-9.5	-22.8	26.4	-1.3	39.1	-5.1	64.3	+9.8	68.0	+3.5	79.6	+ 9.4	70.8	+2.9	61.8	+2.8	42.7	-3.5	28.4	-1.9	16.9	+2.5	40.2	-1.5
Mayville	-7.2	-13.0	-11.1	-20.6	24.9	+0.4	37.0	-6.0	64.2	+9.5	69.2	+5.2	83.4	+14.4	73.8	+6.8	64.4	+7.0	43.7	-2.2	28.9	+0.7	16.6	+3.7	40.7	+0.5
Oakes	-5.5	......	-9.5	......	29.5	......	38.4	......	62.6	......	69.8	......	82.1	......	73.9	......	64.0	......	44.1	......	27.2	......	16.6	......	41.1	......
Park River	-12.2	-14.9	-14.4	-22.1	20.0	-3.1	32.2	-9.1	59.3	+6.3	62.6	-0.3	74.6	+ 6.7	64.9	-1.3	55.7	-0.9	34.7	-9.1	20.8	-7.0	11.7	+1.2	34.1	-4.5
Pembina	-11.2	- 8.8	-13.7	-16.7	19.3	+1.1	32.0	-6.6	60.9	+8.1	64.4	+1.7	75.2	+ 7.7	67.4	+3.1	57.0	+2.9	37.2	-4.2	23.8	+0.5	11.6	+5.3	35.3	-0.5
Sharon	-9.5	......	-12.8	......	22.6	......	34.3	......	61.0	......	64.0	......	79.4	......	69.6	......	58.6	......	39.8	......	24.7	......	12.4	......	37.0	......
Valley City	-5.6	-11.1	-10.7	-22.2	27.4	+1.4	37.0	-5.6	61.9	+8.4	67.8	+4.7	82.0	+13.3	73.4	+6.6	62.1	+3.9	44.4	-0.2	27.9	-0.1	16.8	+3.1	40.4	+0.2
Wahpeton	-2.3	-10.7	-7.0	-19.0	27.6	+0.1	38.8	-5.6	63 3	+7.7	67.8	+2.7	81.2	+11.4	73.7	+5.8	64.0	+4.8	45.0	-1.6	26.4	-2.4	17.8	+2.5	41.4	-0.3
Moorhead, Minn.	-6.2	-10.0	-9.8	-17.9	24.0	+1.3	35.9	-4.7	62.2	+7.1	65.6	+1.2	80.2	+12.1	71.6	+5.5	62.2	+4.0	41.6	-2.9	25.2	-1.9	14.2	+2.7	38.9	-0.3
Middle Division																										
Ashley	-4.0	-12.6	-9.8	-20.9	28.8	+4.5	37.8	-4.8	61.5	+8.0	68.8	+6.4	82.0	+13.3	72.1	+5.6	62.6	+5.3	44.2	+0.1	28.2	+0.2	16.0	+1.8	40.7	+0.6
Bismarck	-3.8	-11.6	-11.4	-21.7	28.2	+4.0	38.1	-4.0	62.6	+8.1	69.2	+5.5	83.4	+13.6	72.6	+5.3	61.6	+3.5	43.8	-1.1	31.2	+2.7	16.7	+2.0	41.0	+0.5
Bottineau	-9.2	- 9.8	-16.6	-20.8	22.4	+2.3	33.4	-5.7	63.0	+11.7	64.2	+2.9	80.0	+13.4	68.6	+4.5	58.6	+3.7	39.1	-1.9	24.1	+0.5	8.4	+1.0	36.3	+0.1
Carrington	-10.2	-16.9	-14.8	-23.5	24.8	+1.4	34.4	-5.2	59.0	+6.5	68.8	+5.8	77.5	+ 8.8	67.8	+1.0	57.2	+0.6	38.2	-5.6	25.0	-2.8	16.6	+4.9	37.0	-2.1
Carson	-0.9	- 9.9	-12.2	-27.6	27.4	+1.1	36.7	-6.0	59.8	+6.7	68.6	+6.2	83.4	+14.6	69.8	+1.9	59.9	+3.5	44.6	+1.3	31.4	+1.4	16.6	+1.9	40.4	-0.4
Dogden Butte	-5.4	-15.7	-12.2	-30.0	25.4	-1.1	35.6	-6.4	61.4	+7.7	66.1	+3.7	78.6	+ 9.5	68.4	+2.0	60.6	+4.9	43.0	-1.1	28.8	+2.5	15.3	+2.2	38.8	-1.8
Drake	-7.9	......	-14.6	......	23.3	......	33.2	......	59.8	......	65.7	......	78.8	......	68.1	......	58.0	......	39.6	......	26.4	......	13.1	......	37.0	......
Dunseith	8.0	-10.5	-13.8	-20.2	20.2	0.0	32.5	-7.4	60.6	+8.5	62.0	+1.1	78.3	+12.4	68.3	+4.4	57.4	+3.0	38.2	-3.2	24.0	-0.4	10.4	+1.3	35.8	-1.0
Eckman	-13.0	-16.1	-18.2	-25.8	21.6	-1.3	33.2	-7.4	60.6	+9.2	63.0	+1.4	77.4	+10.6	67.0	+2.8	58.7	+3.5	41.4	-0.4	27.3	+1.5	12.7	+3.4	36.0	-1.5
Energy	-4.2	-16.5	-12.6	-31.8	27.0	-2.2	37.8	-6.8	62.1	-6.7	68.4	+4.3	82.2	+11.2	70.6	+3.0	61.5	+4.7	44.0	0.0	30.6	+2.1	17.0	+2.7	40.4	-1.8
Fessenden	-9.7	-14.2	-15.6	-25.7	23.8	+0.4	34.4	-6.3	59.8	+7.8	65.8	+4.1	81.0	+13.0	69.2	+3.3	59.4	+3 7	41.2	-1.8	25.2	-1.9	12.8	+2.2	37.3	-1.3
Fort Yates	-2.8	-12.0	-10.6	-22.4	30.4	+4.1	42.6	-2.3	65.0	+8.9	71.0	+4.8	83.8	+12.1	73.3	+4.0	62.4	+2.6	46.0	-0.4	31.8	+2.0	17.8	-0.6	42.6	+0.1
Foxholm (near)	-9.3	......	-14.8	......	23.2	......	34.6	......	61.2	......	64.5	......	78.4	......	67.8	+2.2	59.8	+5.4	42.3	+0.6	28.8	+3.7	14.7	+2.4	37.6	......
Gackle	-5.0	......	-11.1	......	27.0	......	37.8	......	61.7	......	67.5	......	81.0	......	70.4	......	61.3	......	42.8	......	28.0	......	15.2	......	39.7	......
Garrison	-6.0	-13.6	-14.1	-25.0	25.8	+2.0	34.6	-7.7	61.9	+9.2	67.8	+5.6	81.6	+13.4	69.2	+3.1	59.4	+4.5	41.8	-0.9	26.8	+0.5	16.5	+2.8	38.8	-0.5
Granville	-10.5	-15.1	-17.1	-27.2	24.4	+0.3	34.2	-6.6	61.1	+9.5	63.4	+1.2	79.2	+11.7	68.8	+3.9	60.8	+6.0	42.2	-1.1	27.0	+0.3	16.0	+4.0	37.5	-1.1
Hansboro	-11.1	-11.0	-15.6	-21.4	21.0	+0.4	32.6	-6.3	57.9	+7.2	61.8	+1.4	75.8	+10.6	66.6	+4.2	58.0	+4.5	40.3	-0.4	24.7	+1.2	11.4	+3.4	35.3	-0.5
Leeds	-10.0	......	-13.5	......	24.3	......	37.0	......	62.0	......	66.2	......	78.4	......	68.2	......	60.7	......	......	......	......	......	......	......	......	......
Linton	-4.3	-13.8	-11.9	-26.4	28.8	+1.1	38.6	-4.1	62.6	+8.4	70.7	+6.4	84.8	+13.5	74.2	+5.0	63.0	+4.5	44.2	-0.5	29.8	+0.8	15.9	+2.0	41.4	-0.2
McClusky	-5.8	-14.3	-15.4	-31.9	29.0	+3.0	35.8	-5.8	59.3	+6.5	66.0	+4.2	80.2	+11.4	69.6	+3.5	59.4	+3.8	42.0	-0.3	26.6	+1.1	14.1	+2.2	38.4	-1.4
Maddock	-9.3	-14.1	-14.9	-26.0	24.4	-0.2	35.2	-5.8	61.1	+8.4	64.8	+3.7	77.9	+10.3	68.0	+2.3	60.3	+4.6	41.6	-1.3	27.3	+0.7	13.4	+3.4	37.5	-1.1
Mandan	-5.2	-13.5	-12.9	-25.8	27.4	+0.7	36.8	-5.9	62.0	+8.1	69.6	+6.3	83.2	+12.6	72.2	+4.1	61.2	+3.8	43.5	-0.5	30.3	+1.1	15.8	+2.1	40.3	-0.6
Max	-7.5	......	-15.4	......	22.4	......	32.3	......	58.4	......	65.6	......	79.4	......	68.0	......	57.6	......	41.2	......	24.7	......	11.8	......	36.5	......
Minot	-7.7	-13.9	-15.4	-25.1	24.3	+1.5	32.0	-8.8	59.0	+6.8	64.2	+1.9	79.0	+11.1	67.4	+2.4	57.2	+1.3	42.8	-0.5	28.4	+0.9	16.3	+4.4	37.3	-1.5
Mohall	-9.2	-13.8	-14.0	-21.1	24.4	+3.5	34.3	-6.2	61.8	+9.5	65.2	+4.1	78.2	+11.9	67.8	+3.9	60.7	+6.7	43.0	+1.3	27.0	+2.2	14.2	+3.2	37.8	+0.4
Napoleon	-6.0	-12.4	-13.6	-21.9	26.1	+3.4	36.2	-5.2	61.4	+9.0	68.2	+5.8	83.0	+14.4	71.6	+5.2	61.4	+4.7	42.3	-1.4	27.3	+0.6	14.2	+1.6	39.3	+0.3
New Salem	-1.6	-10.7	-13.0	-26.1	27.6	+1.7	37.0	-5.4	62.1	+9.7	70.0	+7.1	82.0	+12.1	70.2	+3.0	62.0	+4.5	44.5	-0.3	30.4	+0.6	16.2	+0.9	40.6	-0.3
Pettibone	-8.0	-11.0	-14.0	-22.8	24.4	+0.1	35.4	-5.5	60.7	+8.9	66.2	+4.7	80.6	+12.6	69.8	+1.5	58.9	+3.7	39.8	-2.0	24.6	-1.8	12.8	+2.3	37.6	-0.8
Steele	-7.4	-14.7	-14.7	-24.1	24.4	+0.3	34.2	-9.0	60.6	+7.2	67.4	+4.9	81.7	+12.3	71.7	+5.0	61.2	+4.3	42.8	-1.0	28.0	+1.7	14.1	+1.8	38.7	-0.9
Towner	-8.8	-12.6	-16.2	-23.9	22.8	+0.7	34.3	-7.6	60.7	+7.5	64.2	+1.4	79.2	+11.2	70.7	+5.3	61.0	+4.8	41.3	-2.1	26.8	+1.6	14.8	+4.7	37.6	-0.7
Turtle Lake	-9.8	-17.6	-19.4	-31.2	23.1	-1.7	33.6	-7.9	59.5	+6.7	67.8	+6.0	81.0	+12.7	70.8	+4.4	61.6	+5.3	43.2	-0.1	28.4	+0.2	15.7	+4.1	38.0	-1.6
Velva	-7.0	......	-13.4	......	26.0	......	36.0	......	61.9	......	66.1	......	79.0	......	68.1	......	60.3	......	43.0	......	29.2	......	15.6	......	38.7	......
Washburn	-4.4	-11.8	-12.5	-22.0	26.8	+2.4	37.0	-6.8	61.9	+8.1	68.8	+4.7	83.0	+13.5	70.6	+3.2	60.4	+1.9	43.2	-1.3	29.1	-1.2	15.4	+1.4	39.9	-0.7
Westhope	-10.8	-12.1	-16.4	-23.4	21.4	-0.6	32.6	-7.3	61.8	+10.0	63.2	+1.2	77.5	+10.7	68.1	+3.4	......	......	......	......	......	......	......	......	......	......
Willow City	-12.8	-13.7	-18.0	-22.9	20.6	+0.9	31.0	-8.6	60.2	+8.7	62.4	+1.4	77.2	+11.5	66.8	+3.2	58.0	+3.8	39.5	-1.9	25.0	+2.4	11.0	+2.3	35.1	-1.1
Wishek	[d]-4.8	-11.8	-11.8	-20.8	[e]27.8	+1.5	37.3	-4.6	[e]61.2	+10.5	[d]68.4	+6.1	[d]80.8	+12.2	[e]70.8	+5.0	[d]60.4	+4.8	[d]41.6	-2.3	[e]30.0	+0.2	15.2	+2.2	39.7	+0.2
Western Division																										
Beach	5.2	- 5.9	-9.8	-26.0	29.5	+2.3	38.6	-3.4	61.4	+10.0	68.4	+6.7	81.4	+12.9	70.8	+4.4	60.9	+4.5	45.4	+1.8	30.6	-0.4	18.7	+1.7	41.8	+0.8
Berthold Agency	-7.0	-15.6	-16.0	-28.2	24.4	-1.6	30.6	-12.9	58.2	+4.1	68.9	+6.1	78.4	+ 9.2	68.0	+0.3	61.0	+4.1	43.8	-0.8	28.7	+0.2	15.2	-0.2	37.9	-2.9
Bowman	5.6	- 7.4	-8.6	-27.1	30.0	+2.3	38.2	-4.4	60.8	+8.6	68.0	+5.5	80.0	+10.6	70.6	+2.9	59.0	+2.2	45.4	+1.4	32.0	+1.4	17.8	+2.7	41.6	-0.1
Crosby	-6.1	- 9.7	-14.9	-24.3	23.0	-0.5	32.8	-7.4	59.2	+8.0	63.0	+1.9	75.8	+ 9.0	65.9	+1.3	56.2	+2.1	41.8	0.0	30.5	+3.8	13.7	+2.1	36.7	-1.2
Dickinson	0.0	-10.5	-12.2	-25.3	27.6	+2.3	35.4	-6.7	59.6	+7.4	67.4	+5.7	81.4	+13.2	69.4	+3.1	58.7	+2.7	42.1	-1.5	29.6	+1.3	15.0	-1.4	39.5	-0.8
Dunn Center	-2.4	-16.2	-11.0	-25.6	27.4	+1.9	35.8	-6.0	60.6	+7.9	66.8	+4.8	79.6	+11.6	69.8	+3.6	58.6	+2.4	43.7	-0.7	30.8	+2.9	16.8	-0.9	39.7	-1.2
Epping	......	......	......	......	......	......	......	......	......	......	66.8	......	80.4	......	70.0	......	61.4	......	44.6	......	29.2	......	16.1	......	......	......
Fryburg	......	......	......	......	......	......	......	......	......	......	......	......	[a]81.6	......	70.3	......	62.0	......	44.8	......	32.4	......	18.0	......	......	......
Hettinger	4.6	- 8.4	-7.1	-23.6	32.0	+3.4	38.7	-4.1	61.1	+7.5	69.8	+6.9	82.2	+12.1	73.9	+5.1	64.0	+6.4	47.0	+1.4	35.6	+4.0	20.2	+3.4	43.5	+1.2
Howard (near)	-6.8	-11.2	-17.4	-26.4	21.1	-0.8	34.1	-5.0	58.4	+8.6	62.6	+2.4	76.8	+10.8	66.4	+1.5	57.7	+3.4	42.6	+1.0	27.5	+1.2	11.6	0.0	36.2	-1.2
Kenmare	-5.9	......	-12.8	......	25.3	......	35.8	......	62.2	......	65.9	......	78.7	......	68.9	......	61.2	......	44.0	......	29.4	......	15.3	......	39.0	......
Marmarth	5.2	- 7.6	-8.8	-26.5	31.7	+4.0	41.5	-1.5	63.4	+12.2	70.2	+8.2	82.0	+12.6	72.4	+5.1	61.8	+5.3	46.4	+0.9	32.0	+0.6	19.4	+2.6	43.1	+1.3
Mott	3.4	- 5.4	-8.4	-21.9	31.3	+4.4	40.2	-1.6	62.4	+8.9	70.8	+6.4	82.6	+12.3	72.4	+5.3	65.7	+9.1	46.0	+2.7	33.1	+3.9	19.4	+5.6	43.3	+2.5
New England	2.7	-10.7	-8.8	-22.9	30.0	+4.8	38.8	-3.5	64.1	+12.1	71.0	+8.4	84.4	+15.6	72.0	+5.1	62.8	+6.4	45.6	+2.2	32.4	+3.3	17.3	+0.8	42.7	+1.8
Parshall	-7.2	......	-16.2	......	23.0	......	30.6	......	56.6	......	64.4	......	77.8	......	66.8	......	57.7	......	42.4	......	28.4	......	14.2	......	36.5	......
Portal	-8.1	-10.6	-17.2	-22.6	21.0	+3.3	32.0	-9.4	59.0	+8.5	62.4	+3.2	75.6	+ 9.4	65.0	+0.8	56.2	+1.8	39.7	-1.7	26.8	+1.4	11.1	-1.1	35.3	-1.4
Powers Lake	0.1	-10.0	-17.8	-34.3	25.6	+0.5	33.2	-7.6	57.1	+4.4	63.8	+2.8	77.4	+ 7.7	68.4	+4.4	58.0	+3.9	40.0	-3.9	28.4	+3.8	19.2	+5.6	37.8	-1.9
Richardton	0.9	- 9.3	-10.4	-25.6	28.6	+1.5	38.6	-2.5	60.8	+8.2	68.2	+5.6	81.0	+10.9	70.4	+2.3	62.8	+6.0	45.3	+1.9	31.6	+3.3	13.9	-0.1	41.0	+0.2
Sanish	-3.5	- 9.9	-14.6	-26.7	25.5	+1.2	34.6	-7.9	60.0	+5.7	65.5	+2.1	80.5	+11.0	68.8	+2.0	58.8	+2.6	43.2	0.0	29.5	+0.7	15.5	+4.6	38.7	-1.2
Watford City	-1.6	-10.6	-12.1	-26.0	25.9	+0.6	35.6	-5.5	62.3	+9.6	67.8	+6.1	81.5	+12.2	70.5	+3.2	60.8	+4.5	45.3	+2.4	31.8	+3.5	17.2	+4.2	40.4	+0.3
Williston	-2.4	- 8.8	-13.6	-21.9	25.9	+3.0	37.2	-4.8	62.1	+8.1	66.7	+4.0	80.8	+11.9	69.9	+3.8	59.9	+3.3	44.4	+1.0	30.8	+3.6	15.0	+1.2	39.7	+0.4

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49]

AUGUST.—Hot, dry weather prevailed at the beginning of the month, but lower temperatures and beneficial showers occurred in most sections after the 12th. Almost all stations reported readings considerably above normal and the average temperature was exceeded only two times in the past 44 Augusts. However, freezing weather occurred at a few places in the northeastern part of the State on the 26th. Precipitation averaged below normal, except at a few widely scattered stations, mostly in the northeastern part of the State. Crops were mostly poor, but by the end of the month pastures, late sown feed crops, and late potatoes had improved in most sections due to cooler weather and beneficial showers.

SEPTEMBER.—The unusual warmth which persisted throughout the summer, continued during the greater part of September. However, killing frost occurred at all stations near the middle or at the close of the month. At most stations considerable precipitation occurred between the 4th and 15th, with heavy showers in the extreme northeast portion. After the 15th it was dry in all sections. Dust storms occurred on the 3d, 12th, 13th, 17th, 19th, 22d, and 29th. Winter rye seeding and fall plowing were below normal due to dry soil and though pastures and ranges afforded considerable feed in a few sections, many shipments of livestock were made from the west portion.

OCTOBER.—The temperature during the first half of the month was near the normal, but the last half averaged considerably below normal. Practically no precipitation occurred during the first decade, but light, scattered amounts occurred later in the month. There were dust storms at scattered places on the 9th, 10th, 17th, and 28th. On the 30th dust storms were general in all sections. Very little fall plowing was done due to dry soil. Ranges, pastures, and meadows deteriorated considerably and some livestock was shipped from the western part of the State due to lack of feed.

NOVEMBER.—The first decade was deficient in temperature, with precipitation unevenly distributed, heavy snow occurring in the southeast portion, but generally light elsewhere. The second decade was much warmer with practically no precipitation. The third decade was somewhat colder with light scattered snows. Feed shipments into the State were large, and yard feeding of livestock was general. There were also large shipments of livestock from the State. Due to extreme dryness of the soil, winter rye germination was unfavorable. Heavy dust storms occurred on the 20th and 24th.

DECEMBER. The month opened with comparatively low temperature, accompanied by generally light snow, though moderately heavy in some sections, and this condition prevailed during the first 15 days; the second half was much milder with some snow near the close. Much yard feeding of livestock was necessary. Heavy dust storms occurred in all sections on the 19th.

Climatological Summary, 1936

Month	Temperature in degrees Fahrenheit				Precipitation, in inches			Number of days				Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Precip., .01 inch or more	Clear	Pt. cloudy	Cloudy	
January	−5.8	−12.1	43	−44	0.56	+0.11	6.9	7	11	8	12	nw.
February	−12.9	−23.6	43	−60	0.70	+0.23	9.1	6	12	8	9	nw.
March	25.4	+1.1	61	−27	0.81	+0.08	8.1	6	10	11	10	nw.
April	35.6	−6.0	87	−15	0.39	−0.87	0.5	4	14	10	6	nw.
May	61.0	+8.1	100	20	0.80	−1.58	T.	4	19	9	3	se.
June	66.4	+3.9	110	28	1.34	−2.07	0	6	16	10	4	nw.
July	79.9	+11.8	121	38	0.70	−1.72	0	4	22	8	1	se.
August	69.8	+3.6	110	29	1.40	−0.74	0	6	14	11	6	ne.
September	60.3	+4.0	112	12	1.15	−0.51	T.	5	15	10	5	nw.
October	42.3	−1.2	90	−5	0.21	−0.88	1.1	3	14	9	8	nw.
November	28.0	+0.6	69	−28	0.34	−0.24	4.0	4	13	8	9	nw.
December	15.0	+2.3	59	−36	0.43	−0.07	5.5	4	11	8	12	nw.
Annual	38.8	−0.6	121	−60	8.83	−8.26	35.2	59	171	110	85	nw.

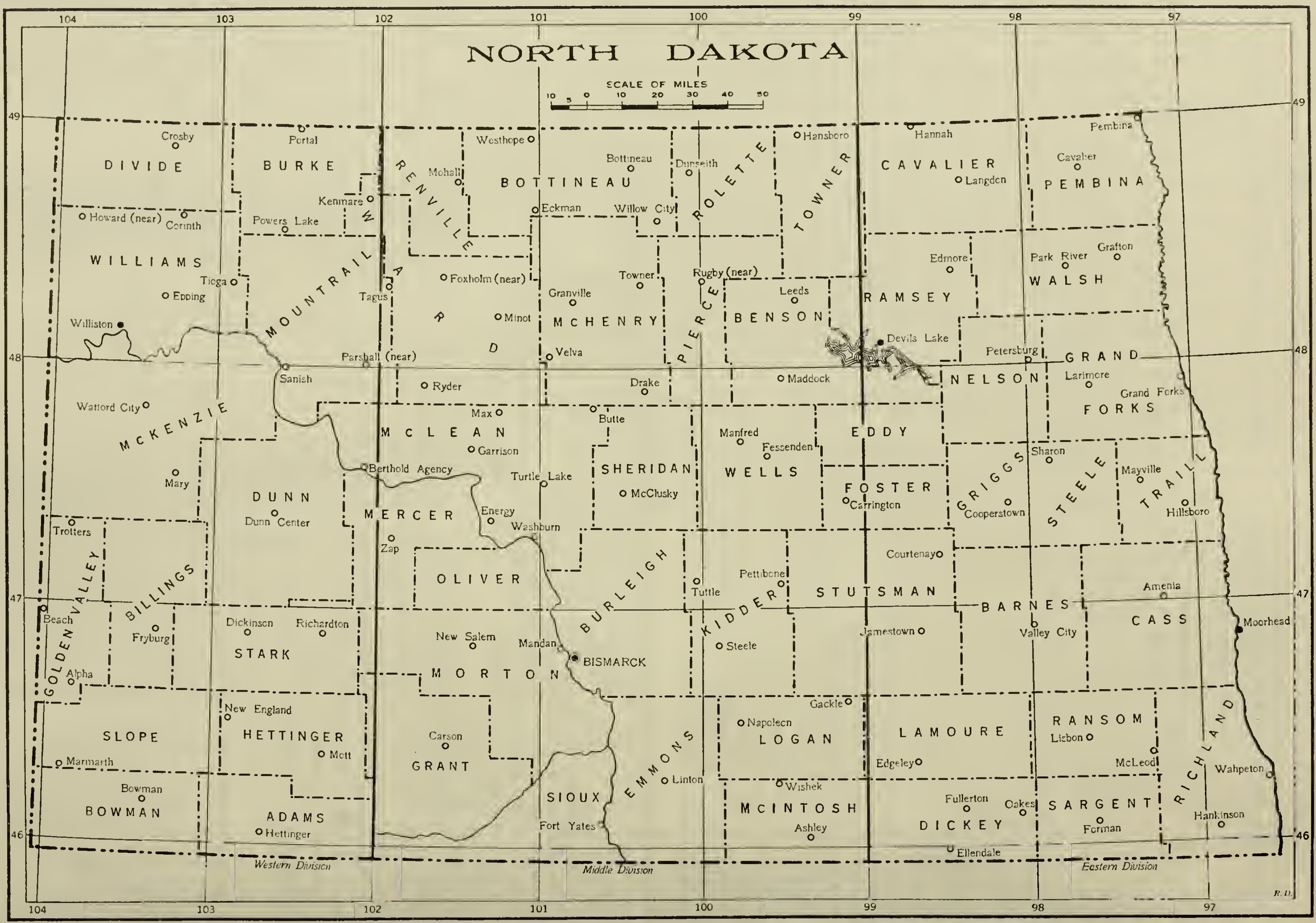
COMPARATIVE DATA FOR YEAR

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	37.8	108	−52	20.24	21.00	13.79	18.34	34.9	70	157	95	114
1893	35.8	112	−54	18.02	16.33	13.19	15.85	46.1	65	154	104	107
1894	40.3	107	−47	17.45	14.55	14.84	15.61	24.6	56	174	100	91
1895	37.7	104	−50	18.41	16.97	16.69	17.36	20.9	63	155	117	93
1896	37.3	107	−42	26.30	21.67	19.97	22.65	48.3	80	143	111	112
1897	37.8	109	−48	18.75	16.04	13.26	16.02	33.9	63	162	105	98
1898	39.2	106	−38	18.97	15.55	13.92	16.15	22.7	57	159	108	98
1899	36.9	109	−48	17.40	19.48	15.98	17.62	26.6	60	161	105	99
1900	40.9	114	−48	21.61	18.70	16.88	19.06	23.2	62	178	97	90
1901	40.4	110	−43	24.35	17.54	16.33	19.41	20.2	63	175	92	98
1902	39.4	106	−39	21.66	18.50	17.89	19.35	29.9	62	160	79	126
1903	38.3	108	−49	20.18	18.27	19.28	19.24	28.8	65	166	81	118
1904	37.6	103	−52	21.59	18.26	13.59	17.81	38.1	68	150	73	143
1905	39.3	107	−46	23.23	19.17	14.34	18.91	29.6	66	152	79	134
1906	39.4	109	−40	21.14	17.68	21.28	20.03	35.4	78	164	93	108
1907	36.9	104	−49	17.17	13.06	12.69	14.31	33.7	63	175	101	89
1908	40.7	104	−41	18.84	17.77	19.05	18.55	43.7	75	164	97	105
1909	38.2	109	−48	21.79	15.89	16.61	18.10	33.5	71	143	110	112
1910	41.1	114	−50	11.88	12.17	13.56	12.54	21.0	52	180	92	93
1911	38.0	108	−43	21.73	18.60	14.94	18.42	36.5	76	160	100	105
1912	38.2	124	−52	22.72	19.73	18.71	20.39	19.3	74	161	102	103
1913	40.0	106	−54	17.85	13.39	12.70	14.65	19.4	64	166	104	95
1914	40.1	109	−47	19.81	19.57	17.53	18.97	30.0	70	155	110	100
1915	39.7	104	−48	21.06	19.06	17.72	19.28	21.2	72	148	101	116
1916	36.2	105	−56	24.11	18.88	16.63	19.87	54.2	70	170	97	99
1917	36.3	114	−48	12.61	10.44	9.20	10.75	40.5	60	154	111	100
1918	40.0	102	−44	18.01	16.00	14.01	16.01	29.7	63	159	104	102
1919	38.6	108	−44	20.55	14.71	11.51	15.59	47.2	60	165	107	93
1920	39.5	108	−44	17.67	14.26	13.92	15.28	27.9	64	166	108	92
1921	42.0	110	−33	23.05	18.96	16.30	19.44	29.4	74	158	111	96
1922	39.7	115	−46	21.97	19.09	18.62	19.89	42.8	75	155	100	110
1923	40.7	103	−40	19.12	16.65	17.60	17.79	30.1	64	160	110	95
1924	38.2	105	−46	20.23	16.39	14.74	17.12	26.1	66	158	101	107
1925	40.6	111	−39	21.91	14.74	13.29	16.65	19.7	64	158	107	100
1926	40.7	108	−36	18.05	14.40	13.65	15.37	23.7	68	151	105	109
1927	38.0	101	−44	22.72	21.25	20.56	21.51	36.2	79	150	102	113
1928	41.1	107	−41	20.03	18.12	15.48	17.88	17.3	59	177	101	88
1929	38.0	109	−44	15.09	13.27	14.57	14.31	41.8	65	171	98	96
1930	41.4	107	−43	17.13	14.19	13.36	14.89	25.0	66	166	101	98
1931	44.9	111	−31	18.48	14.10	12.41	15.00	18.0	56	180	92	93
1932	40.0	108	−34	18.43	16.39	16.71	17.18	34.9	69	156	108	102
1933	41.1	110	−45	14.01	12.74	13.59	13.45	42.2	65	161	104	100
1934	43.4	112	−44	13.33	8.61	6.60	9.51	15.2	54	160	109	96
1935	39.4	110	−44	21.24	17.97	14.91	18.04	33.3	77	137	113	115
1936	38.8	121	−60	10.09	8.21	8.18	8.83	35.2	59	171	110	85
Period	39.3	124	−60	19.35	16.41	15.04	16.93	30.2	66	160	101	104

Killing Frosts

STATIONS	Last in Spring	First in Autumn
Eastern Div.		
Amenia	May 9	Sept. 26
Cavalier	June 2	Aug. 26
Cooperstown	May 13	Sept. 24
Devils Lake	Apr. 29	" 24
Edgeley	May 19	" 24
Ellendale	Apr. 29	" 27
Fullerton	29	" 27
Grafton	May 13	" 29
Grand Forks	Apr. 29	" 29
Hankinson	" 30	" 27
Hannah	May 13	" 16
Hillsboro	Apr. 30	" 29
Jamestown	May 13	" 24
Langdon	" 19	" 16
Larimore	" 19	" 27
Lisbon	Apr. 30	" 24
McLeod	" 29	" 25
Mayville	" 29	" 30
Oakes	May 13	" 24
Pembina	" 13	" 24
Sharon	" 13	" 24
Valley City	" 4	" 16
Wahpeton	Apr. 29	" 27
Moorhead, Minn.	" 29	" 29
Middle Div.		
Ashley	May 13	Sept. 24
Bismarck	Apr. 29	" 27
Bottineau	May 13	" 16
Carrington	" 18	" 23
Carson	" 13	" 16
Dogden Butte	" 19	" 24
Drake	" 19	" 24
Dunseith	" 19	" 17
Eckman	June 2	" 16
Energy	May 13	" 24
Fessenden	" 19	" 24
Fort Yates	" 13	" 30
Foxholm	" 19	" 24
Gackle	May 13	Sept. 27
Garrison	" 13	" 27
Granville	June 2	Aug. 26
Hansboro	May 19	Sept. 24
Linton	" 13	" 16
McClusky	" 19	" 16
Maddock	" 19	" 16
Mandan	Apr. 29	" 27
Max	May 19	" 15
Minot	" 19	" 27
Mohall	" 19	" 16
Napoleon	" 13	" 24
New Salem	" 8	" 16
Pettibone	" 19	" 16
Steele	" 19	" 16
Towner	" 19	" 16
Velva	" 19	" 24
Washburn	Apr. 30	" 27
Willow City	May 19	" 16
Western Div.		
Beach	May 13	Sept. 16
Berthold Agency	" 8	" 16
Bowman	" 13	" 16
Crosby	June 2	" 16
Dickinson	Apr. 30	" 16
Dunn Center	May 13	" 16
Hettinger	" 13	" 16
Howard	" 8	" 16
Kenmare	" 4	" 16
Marmarth	" 12	" 16
Mott	" 13	" 16
New England	Apr. 28	" 15
Parshall	June 4	" 16
Portal	May 19	" 16
Powers Lake	" 17	" 15
Richardton	" 8	" 27
Sanish	" 14	" 16
Watford City	" 8	" 16
Williston	Apr. 29	" 16

CHART SHOWING METEOROLOGICAL STATIONS



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations).

[WBO, Minneapolis, 3-20-37—2000]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVI   BISMARCK, N. D., JANUARY 1937   No. 1

GENERAL SUMMARY

The average temperature for the month was the lowest for January since state-wide records began in 1892, although minimum readings were not unusually low. Many stations reported minimum temperatures below zero every day during the month, while maximum temperatures above freezing were recorded at less than half of the reporting stations. The precipitation was the greatest January amount since 1933, and the snowfall was exceeded only 5 times during January since 1892. The precipitation was well distributed throughout the month. January 1937 was the first month since March 1936 with precipitation above normal. Many side roads were snowblocked, farm work was confined mainly to chores and much feeding of livestock was necessary. No dust storms were reported. At least four freezing fatalities occurred during the month.

TEMPERATURE

The mean temperature for the State was -8.3°, or 14.3° below the 1892-1937 average for January. The mean temperature for the eastern division was -8.0°; for the middle division, -8.8°; and for the western division, -8.0°. The highest mean temperature was -2.0° at Forman, and the lowest, -14.0° at Howard, making a range in mean temperature of 12.0°. The absolute range was 82°, from 38° at three stations on the 3d and 4th, to -44° at three stations on the 7th and 22d. The average daily deficiency in temperature for the State since January 1, 1937, is 14.3°.

PRECIPITATION

The average precipitation for the State was 0.67 inch, or 0.18 inch more than the 1892-1937 average for January. In the eastern division the average amount was 1.04 inches; in the middle division, 0.55 inch; and in the western division, 0.42 inch. The greatest monthly amount reported was 2.41 inches at Fullerton; the least reported was 0.04 inch at Dunn Center. The greatest amount recorded in any 24 consecutive hours was 1.25 inches at Corinth on the 4th. The accumulated excess in precipitation for the State since January 1, 1937, is 0.18 inch. The average snowfall was 9.0 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	1	1	..	..	..	..	1	3	2	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	1	1	1	..	..	1	1	..	..	..	..	5	..	..	..	..	..	2	..	..	..	1	1	..	..	1	..	1	1	..
Lunar halos	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	2	..	..	2	3	6	3	..	3	1	..	..
Solar halos	1	3	3	13	3	12	6	4	2	8	2	2	5	7	3	4	4	2	4	3	4	..	..	..	3	2	2	5	..	1	5
Sleet	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.19	30.69	7	29.15	3	7.7	30	n.	4	76	68	71	48
Devils Lake	30.19	30.70	28	28.98	4	8.5	30	n.	4	85	73	80	70
Grand Forks	30.17	30.68	28	29.26	4	10.7	39	nw.	4	89	....	86	....
Williston	30.19	30.75	7	29.16	3	6.6	30	nw.	3	79	71	75	66
Moorhead, Minn	30.18	30.69	28	29.07	4	9.0	27	nw.	4	91	87	91	64
Averages & ext's	30.18	30.75	7	28.98	4	8.5	39	nw.	4	84	75	81	62

† And other dates.

COMPARATIVE DATA FOR JANUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	3.3	58	−52	0.31	0.41	0.25	0.32	2.8	4	15	8	8
1893	0.8	52	−48	0.93	0.94	1.11	0.99	8.4	7	11	11	9
1894	0.6	60	−47	0.38	0.40	0.88	0.39	3.6	4	13	9	9
1895	−2.9	42	−46	0.53	0.69	0.47	0.56	5.5	5	16	8	7
1896	5.3	58	−42	0.75	0.77	0.80	0.77	6.6	6	9	9	13
1897	3.6	49	−38	0.91	0.64	0.76	0.77	7.5	5	11	9	11
1898	14.6	69	−32	0.14	0.12	0.07	0.11	1.1	2	15	8	8
1899	5.2	55	−41	0.29	0.20	0.26	0.25	2.4	3	13	9	9
1900	15.4	70	−30	0.27	0.27	0.12	0.22	2.0	3	15	9	7
1901	7.7	68	−39	0.29	0.29	0.26	0.28	3.0	4	14	8	9
1902	12.7	51	−40	0.17	0.03	0.28	0.14	1.4	2	17	7	7
1903	9.4	56	−37	0.72	0.58	0.68	0.66	6.7	5	13	8	10
1904	3.6	50	−52	0.41	0.36	0.42	0.40	4.0	5	15	6	10
1905	0.9	48	−40	0.26	0.30	0.41	0.32	2.9	3	15	8	8
1906	12.2	60	−38	0.75	0.72	0.61	0.69	6.9	4	14	6	11
1907	−6.2	45	−45	1.77	1.13	1.05	1.32	14.5	8	12	8	11
1908	17.0	70	−41	0.21	0.16	0.34	0.24	1.9	2	17	8	6
1909	3.5	53	−48	0.60	0.32	0.37	0.43	4.3	4	14	8	9
1910	9.4	49	−35	0.30	0.21	0.59	0.37	4.1	3	16	8	7
1911	−1.0	56	−43	0.86	0.96	0.69	0.84	8.5	6	11	8	12
1912	−4.6	63	−52	0.34	0.34	0.36	0.35	3.6	4	16	6	9
1913	3.2	60	−54	0.51	0.40	0.43	0.45	4.6	5	12	9	10
1914	14.8	62	−38	0.56	0.48	0.40	0.48	4.9	4	12	8	11
1915	5.8	51	−48	0.39	0.24	0.25	0.29	3.4	3	12	9	10
1916	−6.4	49	−56	1.58	1.24	1.26	1.36	15.1	6	13	8	10
1917	1.7	47	−46	0.82	0.69	0.65	0.72	8.6	5	13	8	10
1918	0.5	48	−44	0.41	0.43	0.58	0.47	5.0	5	12	8	11
1919	18.7	66	−44	0.24	0.21	0.10	0.18	1.7	2	17	8	6
1920	2.7	49	−44	1.26	0.96	0.68	0.97	10.0	5	10	9	12
1921	15.9	52	−31	0.29	0.20	0.22	0.24	2.5	2	13	9	9
1922	7.0	55	−46	0.68	0.36	0.42	0.49	5.2	5	12	9	10
1923	10.1	56	−35	0.59	0.43	0.54	0.52	6.0	5	9	9	13
1924	2.6	61	−42	0.30	0.20	0.18	0.23	2.5	3	14	9	8
1925	8.6	52	−35	0.33	0.18	0.22	0.24	2.5	3	11	10	10
1926	16.3	55	−30	0.31	0.34	0.49	0.38	4.1	4	13	8	10
1927	10.1	60	−44	0.50	0.36	0.41	0.42	4.3	4	14	8	9
1928	13.0	50	−41	0.21	0.19	0.19	0.20	2.3	3	14	9	8
1929	−4.8	42	−42	0.76	0.48	0.63	0.62	9.2	6	13	8	10
1930	−1.9	41	−43	0.26	0.22	0.40	0.29	2.7	4	12	9	10
1931	21.4	68	−31	0.15	0.15	0.14	0.15	1.4	2	15	8	8
1932	9.5	50	−34	0.47	0.62	0.59	0.56	6.3	4	12	7	12
1933	11.8	53	−30	0.92	0.70	0.79	0.80	10.0	7	12	7	12
1934	15.8	54	−36	0.29	0.14	0.17	0.20	2.0	3	11	9	11
1935	3.3	60	−44	0.55	0.29	0.39	0.41	4.9	6	8	10	13
1936	−5.8	43	−44	0.51	0.48	0.69	0.56	6.9	7	11	8	12
1937	−8.8	38	−44	1.04	0.55	0.42	0.67	9.0	6	13	8	10
Period	6.0	70	−56	0.55	0.44	0.47	0.49	5.2	4	13	8	10

Climatological Data for January 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	−8.0	−12.9	24	3	−35	19†	44	0.89	+0.43	0.28	10.0	8	3	9	19	nw.	I. Idso.
Cavalier	Pembina	894	27	−10.7	......	17	12	−36	22	41	0.93	+0.26	0.34	13.1	12	12	2	17	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	40	−11.0	−17.6	29	4	−37	19	47	0.52	+0.03	0.21	6.0	7	16	4	11	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	−10.0	−11.8	31	4	−33	22	55	0.47	0.00	0.10	6.3	12	8	12	11	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	−7.4	−16.2	19	10	−31	22	34	1.17	+0.77	0.42	18.0	5	9	13	9	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	13	−10.1	−11.4	26	4	−36	22	43	0.50	−0.14	0.14	5.0	12	9	10	12	nw.	A. G. Braund.
Ellendale	Dickey	1,457	42	−6.8	−17.5	17	13	−31	22	27	0.57	+0.08	0.18	10.0	5	18	3	10	nw.	J. E. Demmer.
Fullerton	Dickey	1,439	39	−6.0	−14.9	34	4	−30	22	44	2.41	+1.62	0.78	24.1	10	11	9	11	nw.	F. O. Alin.
Grafton	Walsh	827	45	−9.7	−11.9	23	4	−35	19†	39	1.24	+0.75	0.47	15.7	4	15	4	12	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	−9.7	−13.2	26	4	−36	22	47	0.94	+0.43	0.33	13.5	12	5	11	15	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	8	−3.6	......	31	3	−29	22	44	1.76	......	0.36	25.0	7	19	4	8	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	45	−13.0	−11.9	20	4	−37	19†	41	0.77	+0.05	0.30	7.7	5	12	10	9	nw.	James Muir.
Hillsboro	Traill	901	31	−8.0	−12.6	20	4	−32	19†	32	0.77	+0.26	0.32	9.0	6	13	6	12	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	−9.6	−16.6	34	3	−35	19†	50	1.29	+0.74	0.45	16.2	6	14	8	9	......	S. Calvelage.
Langdon	Cavalier	1,615	41	−11.6	−10.7	19	23	−35	7†	51	0.72	+0.15	0.16	7.2	14	19	1	11	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	−9.6	−13.2	26	4	−34	19	42	0.73	+0.07	0.22	10.4	7	12	8	11	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	33	−6.8	−14.1	34	4	−35	22	44	1.81	+1.24	0.65	27.0	10	9	12	10	nw.	J. O. Halverson.
McLeod	Ransom	1,075	26	−4.4	−12.8	25	4	−36	22	41	1.16	+0.59	0.48	11.6	6	16	8	7	sw.	J. G. Carlson.
Mayville	Traill	975	41	−5.9	−11.7	27	4	−35	19	40	0.90	+0.50	0.28	12.5	10	18	3	10	n.	H. B. Addicott.
Oakes	Dickey	1,318	8	−7.0	......	34	4	−44	22	45	1.71	......	0.80	21.0	6	18	4	9	nw.	Eugene Naylor.
Park River	Walsh	998	33	−9.6	−12.3	27	3	−31	26	45	0.45	+0.06	0.15	7.0	5	12	9	10	nw.	C. B. Wright.
Pembina	Pembina	1,520	7	−11.8	−9.4	16	12	−40	22	34	1.34	+0.70	0.50	13.5	6	16	0	15	nw.	E. N. Russell.
Sharon	Steele	1,516	13	−9.8	......	15	12	−35	22	32	0.87	......	0.30	9.6	10	11	8	12	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	−6.0	−11.5	25	4	−31	19	35	1.27	+0.77	0.49	21.5	9	16	4	11	nw.	I. C. Robertson.
Wahpeton	Richland	962	45	−3.2	−11.6	33	4	−37	22	42	0.86	+0.44	0.50	18.5	7	12	8	11	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	−6.1	−9.9	33	4	−33	22	51	1.55	+0.88	0.50	27.3	14	3	11	17	n.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	−8.0	−12.5	34	3†	−44	22	55	1.04	+0.49	0.80	13.7	8	13	7	11	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	41	−7.4	−16.0	32	4	−30	19	42	0.85	+0.38	0.40	21.0	7	15	5	11	nw.	H. D. Piper.
Bismarck	Burleigh	1,670	63	−6.0	−13.8	34	3	−37	22	52	0.70	+0.25	0.31	13.8	10	10	10	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	−10.4	−11.0	28	4	−38	22	46	0.60	+0.19	0.21	8.0	8	19	5	7	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	39	−5.8	−12.5	38	3	−33	21	48	0.43	+0.11	0.34	5.5	4	5	18	8	w.	L. A. Swanson.
Carson	Grant	2,500	25	−7.4	−16.4	25	3†	−29	29†	38	0.58	−0.24	0.18	9.5	6	11	11	9	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	−8.0	−18.3	33	4	−32	22	48	0.64	+0.41	0.29	11.5	4	17	5	9	nw.	R. L. Williams.
Drake	McHenry	1,634	8	−10.3	......	29	3	−32	7†	47	0.34	......	0.07	4.8	9	7	11	13	nw.	Peter Anton.
Dunseith	Rolette	1,682	41	−10.2	−12.7	30	4	−33	22	45	0.60	+0.16	0.21	8.0	8	14	6	11	n.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	−12.6	−15.7	34	4	−42	7	56	0.56	+0.20	0.12	9.0	8	10	13	8	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	−6.6	−18.9	35	4	−37	22	46	0.41	+0.10	0.10	6.0	5	16	11	4	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	25	−11.2	−15.7	32	3	−37	22	52	0.91	+0.43	0.27	10.7	9	13	6	12	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	−7.4	−16.6	25	3†	−41	22	41	1.06	+0.65	0.30	19.0	8	13	7	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	−8.0	−17.0	33	4	−31	7	50	0.44	+0.11	0.08	5.8	11	13	8	10	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	7	−7.2	......	32	4	−29	22	44	0.40	......	0.13	6.0	6	14	5	12	nw.	A. H. Haut.
Garrison	McLean	1,901	60	−6.4	−14.0	32	4	−32	22	48	0.41	+0.07	0.15	3.5	7	13	13	5	nw.	E. L. Vorachek.
Granville	McHenry	1,504	30	−9.5	−14.1	32	4	−39	22	51	0.77	+0.41	0.18	16.0	11	15	7	9	nw.	W. A. Christianson.
Hansboro	Towner	1,597	29	−11.2	−11.1	21	3	−35	26	38	0.20	−0.46	0.20	2.0	1	13	7	11	nw.	C. E. Blackorby.
Leeds	Benson	1,515	.....	.....	......	....	....	.....	....	......	.....	......	.....	.....	.....	.....	.....	.....	.....	Ole Semb.
Linton	Emmons	1,711	20	−7.7	−17.2	34	4	−38	22	46	0.16	−0.22	0.05	9.8	7	10	12	9	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	−8.8	−17.3	17	5	−33	22	46	0.60	+0.19	0.30	6.5	6	19	4	8	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	−10.4	−15.2	33	4	−40	22	48	1.05	+0.75	0.21	11.6	12	6	10	15	nw.	A. T. Felland.
Mandan	Morton	1,750	23	−7.0	−15.3	34	3	−31	22	43	0.86	+0.51	0.37	9.7	10	15	9	7	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	−10.5	......	32	3	−34	8	47	0.28	......	0.07	3.5	6	10	5	16	nw.	A. W. Rice.
Minot	Ward	1,557	41	−7.6	−13.8	27	3†	−36	22	44	0.18	−0.19	0.08	1.8	6	13	5	13	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	−11.2	−15.8	34	4	−35	22	48	0.77	+0.46	0.18	6.4	6	12	15	4	nw.	John Behan.
Napoleon	Logan	1,955	45	−9.4	−15.8	32	3	−35	22	47	1.40	+1.07	0.20	14.0	10	16	6	9	nw.	C. J. Hoof.
New Salem	Morton	2,163	33	−9.4	−18.5	35	4	−30	19	50	0.83	+0.38	0.24	8.0	9	15	7	9	nw.	J. Christianson.
Pettibone	Kidder	1,856	28	−10.0	−13.0	32	4	−38	22	51	0.32	−0.09	0.18	5.0	4	9	10	12	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	−11.2	−18.5	33	4	−38	22	52	0.32	−0.14	0.12	5.0	6	13	7	11	nw.	R. S. Armstrong.
Towner	McHenry	1,482	35	−7.1	−10.9	33	4	−37	22	50	0.95	+0.51	0.30	10.2	9	20	4	7	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	−6.0	−13.8	38	4	−37	22	45	0.50	+0.13	0.25	4.0	3	16	2	13	nw.	M. A. Slettum.
Velva	McHenry	1,511	10	−8.8	.....	35	4	−39	22	54	0.60	......	0.23	7.0	5	5	10	16	nw.	Oscar Anderson.
Washburn	McLean	1,731	36	−7.6	−15.0	35	3	−34	22	47	0.34	+0.01	0.17	5.0	4	10	8	13	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	.....	......	....	....	.....	....	......	.....	......	.....	.....	.....	.....	.....	.....	....	D. W. Drake.
Willow City	Bottineau	1,471	45	−12.1	−13.0	33	3†	−44	22	51	0.55	−0.03	0.15	5.5	6	17	11	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	−9.6^{c}	−16.6	36^{c}	3	−32^{c}	22†	34^{c}	0.58	+0.08	0.18	7.0	8	4	2	25	nw.	E. W. Davis.
Average for Middle Division		......	.....	−8.8	−14.7	38	3†	−44	22	56	0.55	+0.11	0.40	7.7	7	13	8	10	nw.	......
Western Division																				
Beach	Golden Valley	2,759	31	−3.9	−15.0	28	12	−33	7	39	0.45	−0.02	0.12	6.0	6	.....	.....	.....	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	−9.0	−17.6	35	4	−43	22	55	0.73	+0.48	0.50	11.0	3	13	5	13	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	.....	......	....	....	.....	....	......	.....	......	.....	.....	.....	.....	.....	.....	.....	George Larsen.
Crosby	Divide	1,954	29	−11.6	−15.2	34	4	−36	7	52	0.54	+0.13	0.20	5.4	6	10	7	14	sw.	J. H. Phelps.
Dickinson	Stark	2,543	45	−6.8	−17.3	32	3	−31	22	52	0.41	−0.01	0.08	5.6	8	11	12	8	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	−7.9	−21.7	28	4	−35	7	44	0.04	−0.35	0.04	0.5	1	15	4	12	nw.	W. F. Moede.
Epping	Williams	2,224	27	−8.0	−16.0	32	4	−38	7	49	0.21	−0.23	0.21	5.0	1	19	3	9	nw.	T. Beachler.
Fryburg	Billings	2,790	19	−4.8	......	31	4	−28	7	35	0.53	+0.08	0.21	5.3	4	13	10	8	nw.	Verne King.
Hettinger	Adams	2,675	30	−4.4	−17.4	38	4	−27	22	46	0.06	−0.24	0.02	0.6	3	22	2	7	nw.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	30	−14.0	−18.4	34	4	−38	21	54	0.22	−0.29	0.22	5.0	1	20	6	5	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	−8.4	......	35	11	−34	7	45	0.63	+0.28	0.15	8.0	10	15	12	4	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	−2.2	−15.0	30	3	−37	21	52	0.55	+0.15	0.23	7.4	5	15	8	8	nw.	S. P. Grane.
Mott	Hettinger	2,424	30	−3.4	−12.2	32	4	−29	21	46	0.60	−0.04	0.16	7.0	4	7	12	12	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	−5.2	−18.6	30	3	−29	20	31	0.46	−0.04	0.22	6.0	3	13	6	12	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	−10.8	......	34	4	−44	7	49	0.08	−0.16	0.05	2.5	2	15	9	7	nw.	C. E. Shubert.
Portal	Burke	1,954	32	−13.6	−16.1	33	3	−37	7	50	0.29	−0.13	0.10	3.0	5	15	9	7	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	−9.2	−19.3	21	12†	−42	7	38	0.43	−0.08	0.19	6.0	3	19	12	0	ne.	Geo. B. Gee.
Richardton	Stark	2,467	21	−6.8	−17.0	25	3†	−26	7	35	0.15	−0.23	0.05	4.5	6	10	4	17	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	−8.8	−15.2	31	4	−42	7	40	0.28	−0.46	0.08	3.5	4	10	11	10	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	24	−6.6	−15.6	30	3†	−35	7	46	0.44	−0.03	0.30	7.0	3	15	13	3	n.	J. C. Zeller.
Williston	Williams	1,878	58	−8.6	−15.0	35	3	−38	7	54	0.50	−0.04	0.14	5.3	10	17	6	8	sw.	U. S. Weather Bureau.
Average for Western Division		......	.....	−8.0	−17.3	38	4	−44	7	55	0.42	−0.05	1.25	5.6	4	14	9	8	nw.	......
Average for the State		......	.....	−8.3	−14.3	38	3†	−44	7†	56	0.67	+0.18	1.25	9.0	6	13	8	10	nw.	......

EXPLANATORY NOTES

The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for January 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red		.15	T.	.03		.15		.10						.10		.03			T.	.28	T.		T.				.05			T.		0.89
Cavalier	do	T.	T.	.10			.34	.09	.03	.04		T.	T.	.06			.01				.12	.02		.01		.05				T	.06		0.93
Cooperstown	Sheyenne		.08				.21	T	T					.10					.02	.02	.08							T.		T.		.01	0.52
Courtenay	James		.30				.40		.10					.10						T.	.40						.05	.10		.20			1.65
Devils Lake ***	Devils Lake.	T.	.04	.07		.04	.06		.09	T			T	.02			T.	T		.02	.06			T.	.01		T.	.02		.02	.02		0.47
Edgeley	James		.19			.40							.07								.42									.09			1.17
Edmore	Devils Lake.	T.	.01	T.	.01		.13	T.	.06	T.		T.	T	T.	.01		T.	T.	T.		.14	.02		T.	.01	.01		.04	.01	.05	T.		0.50
Ellendale	James	T.	.13		T.	T.	.18		.04						T.						.17				T			.05			T.	T.	0.57
Forman	Sheyenne	T	.23				.40		T.					T	.15					.05	.31							.04			T.		1.18
Fullerton	James	.03	.45		.25	.02	.62							T.	.12		T.			T.	.78				.03		T.	.07		T.	T.	.04	2.41
Grafton	Red		T.		.29		.27		T.	T.					.21							.47							T				1.24
Grand Forks ***	do		.14	.02	.05	.02	.18		.06				T.	.02	T.		T.	T.	T.	.08	.33	T.		T.	T			.01		.01	.02		0.94
Hankinson ‖‖	do		*	*	.70		.35		.07					T.	T.					.28	.36										T.		1.76
Hannah	Pembina				.08		.15		.06				T.	T							.30	T.			T.			.18					0.77
Hillsboro	Red		.12		.04		.23		.04						.02						.32							T.					0.77
Jamestown	James		.30				.40			.04											.45							.04		.06			1.29
Langdon ‖‖	Pembina		.02	.02	.05	.04	.16		T.	.03			T	.05			.02				.06	.07		T		.04		.06	.03		.07		0.72
Larimore	Red.		.19				.18		.04					T.	.03						.22					T.		.02			.05		0.73
Lisbon	Sheyenne	T	.30		.14		.42		.06						.06		T.			.06	.65	T.			T.	.06	T.	.03				.03	1.81
McLeod	do			.18			.48		.11						.12	T.						.20							.07				1.16
Mayville	Red		.28	.07	.10				.04					.02						.01	.28				.02			.04		T	.04		0.90
Oakes	James		.30				.40		T.					T	.07					T.	.80	.13						.01				T.	1.71
Park River	Red	.05				.15														.12	.07									.06			0.45
Pembina	do			.35			.15		.10												.50							.04			.20		1.34
Petersburg	do		.14				.09								.02						.30												0.55
Sharon	do		.14	T	.07		.22		.04	T.			T	.04	T.		T.			.02	.30	T.			.02			T.		.01	.01		0.87
Valley City	Sheyenne	T	.35				.20		.08					.05	T.					.03	.49				T.	.02		.01		T.	.04		1.27
Wahpeton	Red.	T.	.08	T.	.03		.18		.02						T.			T		T.	.50	T.			T.	T.		.04	T.		.01	T.	0.86
Moorhead, Minn. ***	do	.04	.24	T.	.07	.13	.38		.08					.02	T.	T.	.01	T.	T.	.10	.41	T.			.01		T.	.04		.01	.01		1.55
Middle Division																																	
Ashley	Missouri	.04	.15		.07	.08	.40								T.					.04	.07							T.		T.			0.85
Bismarck ***	do	.01	.01	.01	T	.12	.09		.08					T.	T.	T	T.		T.	.20	.14				T		T.	.02		.02	T.		0.70
Bottineau	Mouse				.19		.09						.03			.02	T		T.		.04			.01	.01				.21				0.60
Carrington ‖‖	James					.03	.02		T.					.04						.34					T.		T.			T.			0.43
Carson	Heart		.07			.06	.15												.18	.06									.06				0.58
Dogden Butte	Mouse		T		T.		.20							T.						T.	.29				T.			.10	T	.05	T.		0.64
Drake ‖‖	do		.04		.02		.07			.03					.04	T.					.04	.03			T.	T.			.04		.03		0.34
Dunseith	do		.19				.09										.03	.02						.04	.01			.01		.21	T		0.60
Eckman	do				.06		.06			T.			.06	.06			T.				.05				.05			.10		.12			0.56
Energy	Missouri	T.		.10			.08													.08	.10							.05		T.			0.41
Fessenden ‖‖	James		.04		.05		.21		.04						.10						.27	.11				.01					.08		0.91
Fort Yates	Missouri		.10	.10		.30			T.							.09	.09			.20					.09					.09			1.06
Foxholm (near)	Mouse	T.	T.		.04		.08						.08	.02	.02		.01				.08				.03			.02		.02	.04		0.44
Gackle	James	T.	T.			.13	T.		.04						.06					.06	.08							T.		.03			0.40
Garrison ‖‖	Missouri		.02	.08		.04	T.							T.			T.			.04	.15				T.		.07	.01		T.			0.41
Granville	Mouse				.18		.10						.05	.04	.08		T.			T.	.08	.08			.04			.08		.02	.02		0.77
Hansboro	Devils Lake.																											.20					0.20
Leeds	do																																....
Linton	Missouri	.01	.03		.01	T.	.05		.04					T.			T.			.01					T.	T.		.01		T	T.		0.16
McClusky	do				.10	T.			.05					.30						.05	.05							.05					0.60
Maddock	Sheyenne		.07		.15		.21		.15				T.	.18	.07	T.				T.	.08	.04		T	T.	.04		.01	T.	.02	.03		1.05
Mandan ‖‖	Missouri	.03	T.	.02		.26		.06	.01					T.	T.	T	T.	T.	T.	.37	.05				T.		.01	.02	T	.03			0.86
Manfred	James		.01		.02	.08			.02					.04						T.	.08	.06			T.			.02		.03	.03		0.39
Max ‖‖	Missouri		.02				.07													.02	.07					.05		T.		.05			0.28
Minot	Mouse			.08			.04			T			.02		T.	T.	T.	T.		T.	.01				.01				.02	T.			0.18
Mohall	do	T.		.10			.10	T.							.12	T.	T.				T.				.18			.12		.15			0.77
Napoleon ‖‖	Missouri		.20		.20		.20		.10	.10					.10						.20	.10						.10			.10		1.40
New Salem	Heart	T.	.02				.22		T.					T.	.01		T.			.24	.22	.04			.04			.02		.02			0.83
Pettibone	James		T				.18		.04												.06							T.			.04		0.32
Rugby (near)	Mouse								T.									.01			.06				.01			.06		T.			0.14
Ryder	Missouri			.15		.02								T.														.01		.02			0.20
Selfridge	do	.07			T.	.16		T	.03					.07						.21	.30				T.			.03		.07			0.94
Steele	do		T.		.01	T.	.12	.05						T.						.08	.05							T.		.01			0.32
Tagus	Mouse				.03		.03						.01	.02			.01				.04				.01				.01	.01			0.17
Towner	do	.10	T.	T.	.08		.10						T.	.05						T.	.04				.01			.30	.02	.25	T.		0.95
Turtle Lake	Missouri						.25														.22										.03		0.50
Tuttle	do		.04		.05	T.	.09		.07	.01				.02	.01	T.	T.			.03	.14	.01			.01	.01		.01		.03			0.53
Velva	Mouse		T			T	.20	T.						T.	.05	T.					.23	T.			.02	T		.10	T.	T.	T.		0.60
Washburn ‖‖	Missouri		.02		.04	T.	.11			T.											.17								T.	T.			0.34
Westhope	Mouse																																....
Willow City	do						.10						.05	.05							.15				T.			.15	.05	T.			0.55
Wishek ‖‖	Missouri		.02		.15		.03		.06	.02					.05						.07	.18											0.58
Zap	Knife	T.		T.		.03							T.								.07				T.			T					0.10
Western Division																																	
Alpha	Lit. Missouri	.04	.01	.07	T.	.03										T.				.05					T.								0.20
Beach	do	.06			.12	.10								T.			T.			.05					.10			.02					0.45
Berthold Agency	Missouri						.50							T.			T.			T	.18				.05			T.					0.73
Bowman	Grand																																....
Corinth	Missouri				1.25									.50		.04											T.	.07					1.86
Crosby	Mouse						.10						.05	.20		.04									.10					.05			0.54
Dickinson ‖‖	Heart	T.	.05	T.	.08		.07	T							T.	T.		.05	T.	T.	.07	.05			.03	T			T.	.01			0.41
Dunn Center	Knife.				T.	T.								T.						T.					.04					T.			0.04
Epping	Missouri				.21																												0.21
Fryburg	Heart		T.	T.	.15	.21											T.			.14	T.				T.			.03	T.	T	T.		0.53
Hettinger	Grand	.02				.02																							.02				0.06
Howard (near)	Missouri				.22												T.												T.				0.22
Kenmare	Mouse	.03	.03				.15						.05	.03	.04	T.	T				.13		T.					.09	.03	.05			0.63
Marmarth	Lit. Missouri																																....
Mary	do			.11																	.06												0.17
Mott	Cannon Ball					.16														.13				T.				.16				.15	0.60
New England ‖‖	do		.12	.12																.22													0.46
Parshall	Missouri				.05		.03										T.			T.													0.08
Portal ‖‖	Mouse						.10							.05	.02				.02								.10						0.29
Powers Lake	Missouri			.19														.11									.13						0.43
Richardton	Heart	.02	.01		T.	.02	.02								T.	T.	T.			.05	.03				T.			T	T.	T.			0.15
Sanish ‖‖	Missouri															T.						.08			.08				.04	.08			0.28
Tioga	do					.05															.03	T.	T.		.04		T.	T.					0.12
Trotters	Lit. Missouri		T.	.35			.08							T	T.				T.	.04	.07	T.			.07								0.61
Watford City	Missouri			.30	.10		.04																										0.44
Williston ***	do	.01	T.	.14		.07	.03		T.	T				.08	T.		.02			.04	.01				.09			T.	T.	.01			0.50

EXPLANATORY NOTES

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum	8	0	24	20	-9	-8	-15	-15	-10	10	15	19	10	5	6	5	-5	-10	0	0	-2	-18	5	5	0	8	12	4	-4	0	-8	1.7
	Minimum	-14	-14	-20	-14	-29	-24	-29	-28	-29	-15	3	5	0	-16	-24	-20	-20	-26	-35	-4	-24	-35	-22	-5	-24	-20	-2	-14	-12	-14	-20	-17.6
Devils Lake	Maximum	-2	-1	29	31	-11	-8	-15	-9	5	11	15	14	6	-11	-8	-3	-4	-14	-8	-4	-12	1	18	7	-13	-6	1	-5	-2	-8	-12	-0.6
	Minimum	-20	-16	-18	-24	-29	-23	-30	-27	-28	-16	0	3	-11	-24	-24	-16	-21	-24	-30	-12	-29	-33	1	-13	-26	-26	-8	-13	-14	-25	-28	-19.3
Edgeley	Maximum	5	5	11	14	-10	-8	-14	-9	2	19	8	18	12	-4	-5	-2	2	-3	-4	-5	-8	-4	9	6	2	5	10	2	-4	-4	-10	1.2
	Minimum	-11	-12	-10	-12	-23	-14	-27	-20	-15	-15	-8	2	-10	-15	-24	-18	-18	-18	-30	-15	-17	-31	-15	-7	-22	-20	-7	-15	-16	-19	-15	-16.0
Ellendale	Maximum	2	0	11	14	-7	-6	-11	-8	0	6	16	15	17	-8	-9	0	-2	0	-1	-1	-5	-6	6	10	-1	-2	14	-2	-3	-10	-8	0.7
	Minimum	-6	-5	-10	-9	-22	-13	-23	-20	-17	-20	-8	3	-10	-13	-20	-16	-13	-11	-27	-5	-16	-31	-19	-1	-20	-18	-10	-13	-14	-15	-21	-14.3
Fullerton	Maximum	-1	2	20	34	-10	-6	-6	-8	-2	6	16	16	15	6	-9	5	-1	-7	1	4	-6	-9	7	8	4	-3	13	1	-3	-2	-8	2.5
	Minimum	-8	-5	-11	-10	-22	-12	-24	-20	-20	-20	-6	3	-11	-13	-20	-13	-15	-14	-29	-6	-15	-30	-18	-2	-21	-20	-4	-13	-13	-17	-20	-14.5
Grafton	Maximum	-1	-1	7	23	-10	-7	-9	-8	-6	-3	14	17	11	2	-8	2	-1	-7	-12	0	-2	-12	7	4	5	-9	0	-1	-2	-4	-4	-0.5
	Minimum	-19	-10	-25	-16	-29	-19	-22	-22	-29	-24	-9	2	1	-18	-25	-22	-16	-27	-35	-15	-14	-35	-20	-5	-23	-32	-16	-9	-14	-12	-27	-18.9
Grand Forks	Maximum	-3	-1	21	26	-11	-4	-14	-8	-7	1	15	15	14	-4	-9	6	-8	-11	0	6	-6	-9	7	9	-11	-1	8	-4	-2	-4	-6	0.3
	Minimum	-16	-10	-22	-21	-29	-14	-27	-25	-26	-23	-6	4	-4	-24	-27	-18	-22	-28	-31	-8	-26	-36	-22	-11	-27	-29	-6	-18	-15	-14	-29	-19.7
Hillsboro	Maximum	3	0	10	20	-12	-10	-10	-10	-8	0	10	14	15	10	-10	3	3	-10	-7	5	0	-11	4	10	0	0	10	0	-2	-2	-10	0.5
	Minimum	-12	-7	-19	-12	-26	-16	-22	-23	-21	-24	-4	5	0	-16	-22	-21	-17	-24	-32	-12	-16	-32	-22	-6	-19	-27	-6	-11	-14	-11	-24	-16.5
Jamestown	Maximum	-1	11	34	-14	-11	-16	-11	5	12	14	15	8	-4	-12	-5	-8	-9	-6	0	-10	-10	10	4	-2	-5	5	-7	-6	-12	-14	-6	-1.6
	Minimum	-12	-8	-16	-16	-29	-16	-27	-25	-16	-22	-5	1	-10	-18	-21	-17	-22	-21	-35	-10	-22	-35	-17	-2	-25	-22	-7	-12	-14	-21	-28	-17.7
Langdon §	Maximum	-3	-2	18	-4	-4	-6	-8	-12	-7	11	12	4	-4	-3	-7	0	-5	-10	-4	-10	-8	8	19	9	-11	-8	0	1	2	-12	-7	-1.6
	Minimum	-22	-22	-22	-24	-32	-31	-35	-33	-30	-30	-10	-2	-23	-33	-33	-23	-22	-26	-30	-28	-20	-35	-32	-9	-28	-29	-25	-12	-20	-21	-30	-24.9
Larimore	Maximum	-4	0	10	26	-12	-7	-10	-9	4	8	12	15	11	0	-8	1	-2	-10	-8	-3	-4	-10	11	5	1	-10	-2	-3	-3	-5	-11	-0.6
	Minimum	-18	-11	-20	-16	-30	-18	-27	-29	-21	-16	1	6	-5	-19	-25	-19	-18	-27	-34	-15	-17	-32	-19	-7	-23	-31	-15	-14	-18	-13	-25	-18.5
Lisbon §	Maximum	9	4	8	34	-9	-6	-10	-13	-9	10	16	5	12	12	-12	1	1	-2	2	5	0	-13	2	5	-9	0	4	4	-2	-2	-10	1.2
	Minimum	-7	-4	-14	-10	-22	-13	-23	-18	-19	-15	-8	2	-14	-12	-21	-14	-15	-21	-31	0	-15	-35	-18	-9	-18	-22	-3	-14	-11	-10	-22	-14.7
Oakes	Maximum	4	3	10	34	-10	-8	-10	-10	-5	3	10	18	19	12	-12	3	-1	-1	2	4	-3	-12	1	2	16	-4	14	4	-2	-2	-10	2.2
	Minimum	-10	-5	-15	-11	-23	-12	-24	-20	-24	-22	-10	-6	-8	-12	-24	-15	-13	-21	-31	-4	-15	-44	-20	0	-20	-22	-6	-12	-12	-15	-22	-16.1
Sharon	Maximum	-2	1	6	14	-9	-7	-14	-10	-2	5	12	15	10	-2	-8	1	-5	-5	-7	-1	-5	-10	8	6	0	-7	-1	-2	-3	-7	-10	-1.3
	Minimum	-15	-9	-20	-18	-28	-15	-27	-24	-22	-20	-4	-4	-5	-19	-22	-21	-23	-26	-30	-13	-23	-35	-15	-8	-23	-25	-12	-13	-15	-15	-27	-18.3
Valley City	Maximum	6	4	10	25	-8	-5	-9	-7	0	8	14	14	12	11	-10	0	1	-5	-5	3	2	-7	7	12	10	-2	1	5	5	-2	-11	2.6
	Minimum	-10	-6	-16	-10	-20	-13	-24	-22	-13	-18	-5	-5	-4	-15	-20	-16	-18	-18	-31	-6	-17	-29	-14	-1	-20	-22	-4	-9	-11	-10	-23	-14.5
Wahpeton	Maximum	3	5	8	33	-8	4	-9	-9	6	9	14	20	26	25	-4	18	19	-2	14	11	5	-10	13	12	11	3	18	17	9	5	-5	8.4
	Minimum	-12	-1	-19	-9	-28	-13	-23	-21	-22	-20	-9	3	6	-17	-22	-11	-14	-22	-28	2	-17	-37	-22	0	-18	-21	-3	-14	-14	-8	-24	-14.8
Moorhead, Minn.	Maximum	-1	0	12	33	-6	2	-13	-9	-2	3	15	19	19	0	-8	14	-1	-8	5	10	-5	-15	11	9	-6	2	17	-2	1	-1	-5	2.9
	Minimum	-7	-3	-14	-18	-23	-16	-22	-21	-19	-20	-7	6	0	-19	-20	-8	-15	-22	-27	-5	-21	-33	-20	-6	-22	-23	-4	-11	-14	-11	-23	-15.1
Middle Division																																	
Ashley	Maximum	4	1	11	32	-12	-8	-10	-15	0	5	12	13	13	7	-8	-2	10	-9	-3	2	-9	-6	3	9	5	-4	4	4	-3	-4	-10	1.0
	Minimum	-7	-6	-11	-10	-22	-16	-27	-20	-18	-16	-4	-1	-12	-17	-25	-16	-16	-15	-30	-10	-18	-29	-10	-7	-22	-17	-9	-17	-15	-20	-23	-15.7
Bismarck	Maximum	3	4	34	34	-8	-6	-14	-2	8	10	20	19	10	-6	-7	1	-1	-3	-1	-1	-7	5	10	9	-6	1	5	-1	-4	-7	-4	3.1
	Minimum	-5	-6	-4	-18	-20	-16	-22	-18	-12	-17	-6	0	-11	-14	-20	-9	-17	-26	-28	-13	-26	-37	-1	-12	-20	-7	-4	-14	-14	-23	-27	-15.1
Bottineau	Maximum	11	-2	4	28	11	-8	-9	-12	15	10	18	14	11	1	-11	-3	2	-15	-5	-3	-4	-8	18	20	-11	-4	10	5	-7	-17	-18	1.3
	Minimum	-28	-22	-21	-14	-35	-22	-33	-35	-25	-31	-11	3	-4	-23	-24	-14	-17	-29	-32	-11	-27	-38	-11	-19	-31	-25	-6	-10	-22	-33	-32	-22.0
Carson	Maximum	3	5	25	25	-11	-10	-4	10	12	18	16	15	4	-3	-10	5	-5	-5	-4	-12	5	15	3	-5	0	0	-5	-10	-10	-10	-5	1.7
	Minimum	-10	-8	-10	-13	-23	-20	-26	-23	-15	-5	-5	3	-10	-22	-23	-18	-20	-20	-18	-28	-22	-10	-10	-24	-7	-7	-24	-17	-29	-20	-29	-16.5
Drake §	Maximum	-2	6	29	-9	-10	-11	-16	-5	11	16	18	18	5	-14	-7	-3	-5	-13	-4	-6	-12	15	17	6	-11	-3	1	-8	-4	-14	-10	-0.8
	Minimum	-18	-12	-15	-9	-27	-25	-32	-31	-19	-11	0	3	-3	-20	-22	-21	-22	-21	-29	-25	-24	-32	-28	-6	-27	-26	-22	-18	-18	-27	-27	-19.8
Fessenden §	Maximum	-1	5	32	-6	-8	-7	-5	-7	9	15	15	23	8	-11	-6	-2	-3	-10	-4	-5	-11	-12	18	0	-12	-3	2	-5	-4	-15	-9	-0.6
	Minimum	-15	-11	-16	-10	-28	-27	-31	-30	-25	-14	-4	-3	-8	-20	-25	-26	-24	-21	-34	-31	-23	-37	-34	-10	-27	-26	-21	-18	-16	-29	-28	-21.7
Foxholm (near)	Maximum	2	-2	23	33	-13	-9	-14	-11	8	14	17	16	12	-5	-11	-5	-5	-6	-6	-10	-13	2	19	13	-5	-12	-1	-3	-8	-12	-7	0.0
	Minimum	-18	-10	-13	-17	-28	-17	-31	-29	-22	-8	4	4	-5	-23	-26	-15	-19	-25	-26	-15	-27	-30	1	-6	-28	-27	-14	-20	-15	-26	-24	-16.1
Garrison §	Maximum	2	2	24	32	0	-14	-16	-6	0	16	18	18	8	3	-6	-4	-2	-6	0	-6	-8	-2	20	6	-1	-2	2	-2	-2	-8	-6	1.9
	Minimum	-8	-8	-4	-16	-24	-30	-29	-16	-10	-8	0	2	-6	-18	-20	-11	-20	-18	-24	-12	-24	-32	-3	-2	-24	-14	-6	-18	-10	-24	-22	-14.8
Granville	Maximum	0	0	22	32	5	-10	-20	-8	12	15	17	16	12	-3	-8	-8	-4	-7	-8	-6	-9	-1	22	9	-4	-7	-2	-5	-5	-10	-10	1.0
	Minimum	-20	-12	-15	-19	-30	-20	-36	-33	-27	-19	-3	6	-3	-24	-25	-16	-25	-25	-34	-12	-26	-39	-4	-4	-29	-27	-9	-20	-12	-29	-30	-20.0
Hansboro	Maximum	0	-3	21	20	0	0	-10	-6	3	14	10	15	12	-6	-6	2	-10	-11	-3	-5	-12	-10	19	5	-12	-15	-8	-4	5	-10	-5	-0.3
	Minimum	-25	-15	-14	-18	-33	-25	-32	-26	-30	-16	-10	-1	-8	-26	-19	-19	-19	-29	-31	-25	-21	-33	-18	-14	-30	-35	-26	-24	-18	-24	-25	-22.2
Linton	Maximum	4	5	15	34	-10	-4	-10	-9	5	10	18	17	9	2	-8	0	-1	-5	2	1	-8	-5	10	9	6	4	10	0	-5	-5	-8	2.7
	Minimum	-11	-5	-12	-12	-25	-17	-29	-21	-21	-22	-12	-7	-13	-17	-22	-13	-23	-21	-30	-11	-22	-38	-10	-18	-24	-13	-2	-18	-15	-25	-36	-18.1
McClusky	Maximum	1	-1	16	15	17	5	-5	-8	6	9	12	13	8	-4	-11	-4	-6	-6	-4	-5	-10	-8	12	6	-3	-2	1	1	-9	-14	-10	0.4
	Minimum	-10	-9	-16	-19	-29	-19	-25	-29	-19	-10	-4	5	-9	-20	-23	-13	-26	-20	-27	-11	-18	-33	-12	-8	-28	-25	-6	-12	-28	-28	-26	-18.0
Maddock	Maximum	0	-2	12	33	-9	-6	-13	-10	5	9	14	16	11	-3	-10	-2	-3	-8	-8	-4	-8	-5	16	11	3	7	1	-3	-2	-6	-12	0.8
	Minimum	-26	-8	-18	-15	-34	-17	-36	-34	-26	-23	-6	6	-3	-22	-29	-20	-27	-25	-38	-13	-25	-40	-14	-8	-30	-30	-11	-20	-15	-31	-29	-21.5
Minot	Maximum	-5	1	27	27	-12	-11	-16	-9	11	15	19	16	12	-5	-6	-1	-1	-8	-8	-9	-12	4	23	11	-4	-9	2	-4	9	-10	-6	1.1
	Minimum	-17	-12	-15	-17	-24	-17	-34	-31	-16	-12	7	12	-5	-20	-19	-10	-21	-18	-27	-13	-22	-36	2	-4	-24	-24	-9	-18	-10	-27	-24	-16.3
Mohall	Maximum	4	-5	4	34	-10	-15	-9	-20	0	19	16	19	10	0	-11	-8	-3	-2	-11	-3	-11	-11	15	20	4	-9	-4	-3	-9	-4	-12	-0.5
	Minimum	-29	-19	-14	-12	-31	-16	-36	-31	-28	-18	-3	5	-1	-25	-26	-16	-21	-28	-32	-27	-27	-35	-33	-2	-31	-30	-27	-18	-16	-28	-28	-22.0
Napoleon §	Maximum	4	5	32	4	-10	-10	-14	-12	0	13	15	18	7	-12	-11	-2	-3	-10	-2	-4	-12	6	12	6	-5	3	6	-5	-5	-12	-15	-0.4
	Minimum	-15	-7	-15	0	-31	-15	-30	-25	-15	-12	-5	0	-14	-19	-28	-15	-23	-20	-34	-10	-25	-35	-12	-7	-25	-20	-9	-21	-18	-30	-32	-18.3
New Salem	Maximum	0	1	25	35	14	-4	-14	-10	0	18	19	18	-2	-8	-8	-6	-6	-5	-6	-18	-10	-4	8	6	-9	-3	-3	-8	-7	-14	-9	-0.3
	Minimum	-12	-12	-14	-15	-27	-17	-29	-25	-16	-6	-3	-5	-14	-22	-29	-16	-21	-18	-30	-28	-27	-29	0	-10	-26	-19	-9	-22	-20	-28	-28	-18.6
Steele	Maximum	2	-3	12	33	-19	-14	-20	-12	0	7	12	12	5	-2	-10	-4	-4	-9	-5	-5	-17	-11	13	5	-2	-4	4	0	-7	-7	-13	-2.0
	Minimum	-14	-9	-14	-19	-29	-20	-30	-28	-22	-17	-10	-4	-14	-20	-27	-17	-24	-20	-33	-17	-26	-38	-14	-9	-28	-19	-9	-19	-18	-28	-32	-20.3
Towner	Maximum	10	5	17	33	-8	-6	-12	-5	14	18	19	17	13	18	8	3	2	-3	-4	-2	-2	-1	20	12	-2	-2	5	2	2	-6	-5	5.2
	Minimum	-10	-21	-17	-17	-30	-17	-36	-33	-26	-16	-5	8	-4	-4	-24	-16	-24	-26	-32	-10	-26	-37	-4	-10	-30	-28	-9	-21	-18	-29	-30	-19.4
Westhope	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Western Division																																	
Beach	Maximum	2	5	27	27	-8	-11	-8	-8	6	22	18	28	20	-4	4	9	1	4	-3	-11	-1	15	23	17	10	18	13	-6	-5	-5	-4	6.3
	Minimum	-11	-11	-5	-8	-19	-22	-33	-25	-12	2	2	8	-4	-20	-19	-11	-13	-22	-15	-26	-26	-24	0	-10	-19	-2	-7	-24	-12	-25	-23	-14.1
Berthold Agency	Maximum	4	2	34	35	3	-4	-8	-8	14	15	11	23	10	8	8	4	8	4	7	2	-10	5	20	20	10	4	4	-4	0	-10	-3	6.7
	Minimum	-20	-15	-17	-20	-36	-20	-42	-36	-30	-20	-11	-10	-20	-30	-30	-20	-34	-32	-35	-20	-32	-43	-5	-10	-32	-20	-10	-31	-18	-34	-34	-24.7
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Crosby	Maximum	0	-5	28	34	-17	-12	-18	-20	3	12	14	20	8	-6	-1	-5	-7	-7	-14	-14	-17	5	18	8	-10	-10	-5	-5	-10	-12	-6	-1.6
	Minimum	-27	-19	-12	-18	-31	-18	-36	-33	-25	-7	-3	3	-6	-26	-29	-18	-24	-24	-26	-22	-35	-27	-6	-13	-34	-25	-14	-24	-22	-33	-32	-21.5
Dickinson §	Maximum	1	9	32	3	-10	-12	-10	3	12	19	20	27	5	-7	0	-3	1	-3	-5	-15	-5	14	24	11	7	5	0	-5	-6	-8	-2	3.3
	Minimum	-10	-8	-12	1	-20	-16	-29	-30	-18	-6	1	-3	-6	-19	-23	-20	-20	-18	-20	-19	-25	-31	-28	-5	-20	-23	-9	-20	-22	-25	-23	-17.0
Dunn Center	Maximum	-2	-1	27	28	-7	-9	-11	-8	5	12	18	15	5	-2	-6	-8	-4	-7	-4	-4	-7	13	13	7	-6	-2	1	-4	-8	-8	-5	1.0
	Minimum	-16	-8	-6	-12	-24	-17	-35	-25	-18	-5	1	-5	-9	-21	-29	-12	-21	-20	-27	-17	-30	-31	-2	-8	-28	-12	-4	-18	-11	-28	-24	-16.8
Hettinger	Maximum	2	7	27	38	-2	-10	-11	-7	-2	22	22	21	16	6	-2	13	14	-2	-2	-4	-2	14	-7	0	10	-7	0	-3	-4	-3	0	4.6
	Minimum	-12	-7	2	-8	-15	-18	-20	-15	-11	-2	-1	1	-1	-19	-12	-15	-15	-12	-12	-18	-20	-27	-18	-12	-16	-18	-10	-20	-14	-26	-22	-13.3
Howard (near)	Maximum	-5	-4	28	34	-17	-17	-23	-23	4	10	15	15	10	-9	-13	-13	-5	-5	-11	-20	-19	-16	8	8	-14	-3	-1	-10	-9	-14	-11	-4.2
	Minimum	-29	-19	-12	-20	-34	-23	-34	-36	-25	-5	-2	-14	-9	-32	-33	-22	-25	-30	-25	-26	-38	-25	-18	-15	-33	-23	-10	-26	-28	-32	-34	-23.8
Kenmare	Maximum	-11	-5	26	31	-10	-14	-18	-12	6	11	35	30	14	-4	-10	-6	-9	-8	-7	-7	-13	4	22	17	-4	-11	-4	-3	-7	-14	-6	0.4
	Minimum	-22	-11	-11	-14	-30	-18	-34	-33	-16	-16	1	-5	-7	-24	-26	-15	-20	-25	-23	-17	-27	-30	3	-8	-29	-26	-14	-23	-16	-25	-27	-17.2
Marmarth	Maximum	3	11	30	29	-1	-8	-14	-4	15	19	23	26	22	8	17	7	14	5	5	-6	2	20	15	20	13	25	18	-3	-6	0	1	9.9
	Minimum	-5	-10	-6	-1	-12	-15	-35	-18	-12	-4	-7	-3	-8	-17	-22	-6	-15	-20	-16	-26	-37	-32	-4	-10	-16	-3	-5	-24	-12	-24	-22	-14.4
Mott	Maximum	5	7	27	32	-3	-3	-5	-2	16	23	23	24	7	3	0	0	9	3	-4	2	17	19	16	4	10	5	-2	2	-3	-3	2	7.5
	Minimum	-7	-7	-5	-5	-19	-15	-23	-16	-12	-8	-7	-7	-7	-19	-21	-11	-19	-19	-17	-25	-29	-11	-9	-18	-7	-3	-16	-20	-12	-24	-25	-14.3
New England §	Maximum	10	14	30	7	-4	-7	-7	3	12	26	23	22	12	-6	0	6	13	5	-3	-18	-12	6	19	6	6	12	3	0	-1	-2	2	5.7
	Minimum	-9	-7	1	-19	-15	-26	-18	-13	-8	0	-8	-3	-18	-26	-22	-18	-18	-21	-24	-29	-28	-22	-4	-14	-17	-18	-21	-12	-22	-25	-19	-16.1
Watford City	Maximum	-1	4	30	30	-10	-10	-19	-9	11	21	18	24	14	-3	-2	-3	1	-3	-4	-11	-6	15	22	11	0	3	2	-5	-5	-7	-1	3.5
	Minimum	-16	-10	-8	-16	-25	-20	-35	-33	-17	-2	2	3	-8	-20	-23	-12	-18	-20	-25	-20	-28	-29	7	-10	-27	-12	-12	-22	-18	-28	-26	-16.7
Williston	Maximum	-8	1	35	31	-12	-11	-20	-12	10	15	21	21	6	-8	-6	-3	-1	-5	-12	-15	-12	16	19	14	-5	2	1	-10	-8	-12	-3	0.9
	Minimum	-21	-9	-3	-23	-29	-24	-38	-28	-13	0	2	6	-8	-22	-26	-18	-20	-21	-26	-21	-27	-32	5	-19	-26	-14	-10	-22	-20	-26	-26	-18.0

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 3-9-37—1500]

THE LIBRARY OF THE
APR 16 1937
UNIVERSITY OF ILLINOIS

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

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GENERAL SUMMARY

Although the temperature was 2.9° below the normal, it was 19.7° higher than in February 1936. The first and third decades were cold, but temperatures were somewhat higher during the second decade. The precipitation was slightly above normal, but the greatest amounts occurred in the southeastern section, causing deep snowdrifts and many roads were snowblocked. High winds occurred on the 5th, 13th, and 23d, with dust storms at many places on the 23d. Farm work was confined to chores, and much yard feeding of livestock was necessary.

TEMPERATURE

The mean temperature for the State was 6.8°, or 2.9° below the 1892-1937 average for February. The mean temperature for the eastern division was 5.4°; for the middle division, 6.4°; and for the western division, 8.7°. The highest mean temperature was 17.1° at Hettinger, and the lowest, 1.2° at Cooperstown, making a range in mean temperature of 15.9°. The absolute range was 90°, from 55° at Hettinger on the 15th, to -35° at Pembina on the 1st. The average daily deficiency in temperature for the State since January 1, 1937, is 8.6°.

PRECIPITATION

The average precipitation for the State was 0.49 inch, or 0.03 inch more than the 1892–1937 average for February. In the eastern division the average amount was 0.83 inch; in the middle division, 0.40 inch; and in the western division, 0.25 inch. The greatest monthly amount reported was 3.31 inches at Cooperstown; the least reported was 0.02 inch at Hettinger. The greatest amount recorded in any 24 consecutive hours was 1.48 inches at Cooperstown on the 8th. The accumulated excess in precipitation for the State since January 1, 1937, is 0.21 inch. The average snowfall was 6.6 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	1	..	..	..	..	..	..	2	2	..	1	2	..	1	1	..	..	5	..	..	..	..	1	..	..	..	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..	..	..
Fogs	1	3	1	1	..	..	..	..	1	..	..	..	..	..	..	1	..	..	3	6	1	..	..	..	3	5	7	1	..	..	..
Lunar halos	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	1	..	1	..	..	..	..
Solar halos	1	2	5	9	..	5	1	8	2	..	..	..	2	2	2	2	..	..	2	4	3	..	1	4	..	..	..	..	..	..	..
Sleet	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.04	30.70	1	29.45	18	9.3	36	nw.	13	82	68	73	64
Devils Lake	30.01	30.69	1	29.40	18	10.3	33	nw.	13	94	89	93	70
Williston	30.04	30.61	1	29.37	18	8.3	32	nw.	12	84	72	74	68
Moorhead, Minn	30.02	30.74	1	29.50	18	10.0	26	nw.	13	94	84	89	62
Averages & ext's	30.03	30.74	1	29.37	18	9.5	36	nw.	13	88	78	81	66

† And other dates.

COMPARATIVE DATA FOR FEBRUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	10.0	62	−45	0.59	0.77	0.37	0.58	4.9	4	14	7	8
1893	−0.3	52	−41	1.01	0.51	0.22	0.58	5.7	4	12	7	9
1894	8.0	55	−54	0.28	0.23	0.16	0.22	2.3	2	14	9	5
1895	5.9	65	−40	0.33	0.41	0.33	0.36	3.6	4	13	7	8
1896	14.3	64	−50	0.56	0.29	0.38	0.41	4.3	3	12	9	8
1897	6.1	52	−29	1.14	1.05	1.30	1.16	11.5	7	12	7	9
1898	13.3	65	−40	0.46	0.46	0.46	0.46	4.5	3	13	8	7
1899	0.4	60	−34	0.22	0.16	0.22	0.20	1.9	3	14	8	6
1900	1.3	46	−48	0.20	0.55	0.66	0.47	4.5	4	12	9	7
1901	7.1	60	−48	0.32	0.30	0.31	0.31	2.9	3	15	7	6
1902	12.1	51	−31	0.73	1.10	1.12	0.98	6.7	6	10	6	12
1903	3.1	46	−33	0.48	0.25	0.41	0.38	3.7	3	19	4	5
1904	−2.1	52	−49	0.81	0.56	0.69	0.69	7.6	5	13	6	10
1905	8.2	64	−42	0.25	0.31	0.37	0.31	2.9	2	19	4	5
1906	9.8	57	−46	0.20	0.07	0.28	0.18	1.4	2	13	8	7
1907	10.7	58	−38	0.36	0.21	0.42	0.33	2.8	3	15	7	6
1908	13.8	62	−49	1.56	0.68	0.87	1.04	10.1	5	12	7	10
1909	9.6	56	−34	0.28	0.36	0.37	0.34	3.7	4	11	7	10
1910	3.4	56	−34	0.57	0.40	0.81	0.59	5.6	4	14	7	7
1911	7.3	55	−50	0.84	0.74	0.52	0.70	8.0	3	15	8	5
1912	11.8	48	−38	0.19	0.18	0.09	0.15	1.7	2	10	9	10
1913	8.5	64	−33	0.08	0.09	0.09	0.09	1.0	2	12	9	7
1914	1.0	57	−44	0.34	0.28	0.40	0.34	3.8	3	12	8	8
1915	17.4	50	−47	1.32	0.27	0.26	0.62	6.1	3	9	5	14
1916	6.4	55	−20	0.41	0.45	0.58	0.48	4.8	4	14	8	7
1917	−0.7	61	−39	0.84	0.58	0.55	0.66	7.1	5	10	8	10
1918	10.8	60	−48	0.20	0.16	0.29	0.22	2.3	3	13	9	6
1919	7.7	58	−41	0.68	0.73	0.44	0.62	6.5	5	10	8	10
1920	12.5	53	−40	0.38	0.25	0.28	0.30	3.2	3	11	9	9
1921	19.9	64	−36	0.52	0.39	0.25	0.39	3.8	3	11	10	7
1922	0.7	45	−33	1.41	1.17	1.00	1.19	12.8	5	13	6	9
1923	4.1	48	−39	0.78	0.64	0.51	0.64	7.2	4	13	7	8
1924	20.3	67	−40	0.39	0.43	0.35	0.39	4.2	3	14	6	9
1925	16.5	62	−27	0.48	0.30	0.08	0.29	3.6	3	10	9	9
1926	22.3	58	−39	0.47	0.44	0.31	0.41	3.7	4	9	9	10
1927	13.3	50	−19	0.49	0.31	0.27	0.36	3.1	4	12	7	9
1928	18.8	59	−31	0.13	0.06	0.15	0.11	1.2	2	14	8	7
1929	2.8	44	−19	0.30	0.28	0.30	0.29	3.3	4	12	8	8
1930	21.7	63	−44	1.41	1.15	0.97	1.18	11.7	6	11	8	9
1931	28.0	62	−30	0.34	0.20	0.31	0.28	2.9	2	14	6	8
1932	13.6	69	−31	0.30	0.37	0.30	0.32	4.3	3	12	9	8
1933	7.9	58	−45	0.25	0.26	0.34	0.28	3.3	3	13	8	7
1934	19.5	61	−30	0.08	0.04	0.07	0.06	0.7	1	13	8	7
1935	24.0	63	−25	0.21	0.24	0.15	0.20	1.9	2	13	7	8
1936	−12.9	43	−60	0.90	0.70	0.50	0.70	9.1	6	12	8	9
1937	6.8	55	−35	0.83	0.40	0.25	0.49	6.6	4	12	9	7
Period	9.7	69	−60	0.54	0.43	0.42	0.46	4.7	4	13	7	8

Climatological Data for February 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	5.6	−3.2	36	18	−31	10	46	1.45	+0.95	0.85	16.0	5	1	10	17	nw.	I. Idso.
Cavalier	Pembina	894	27	6.4	......	39	17	−29	1	37	0.33	−0.19	0.11	4.2	7	17	1	10	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	40	1.2	−8.2	40	13	−30	1	37	3.31	+2.91	1.48	36.0	7	19	2	7	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	4.6	−0.5	35	16	−25	1	36	0.46	−0.04	0.28	5.1	7	8	12	8	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	7.0	−5.7	40	18	−22	9	36	0.73	+0.40	0.45	10.8	6	11	13	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	13	3.0	−4.2	33	19	−30	1	36	0.46	+0.07	0.20	4.6	8	6	10	12	nw.	A. G. Braund.
Ellendale	Dickey	1,457	42	7.4	−3.3	37	18	−21	9	43	0.49	−0.05	0.24	6.4	4	14	7	7	nw.	J. E. Demmer.
Forman	Sargent	1,249	44	7.4	−5.7	34	12†	−26	1	32	0.66	+0.12	0.35	6.5	8	15	0	13	nw.	Helge Dyste.
Fullerton	Dickey	1,439	39	8.0	−4.0	38	19	−21	1	39	1.58	+0.65	0.82	15.8	7	11	12	5	nw.	F. O. Alin.
Grafton	Walsh	827	45	5.2	−1.5	36	18	−33	1	33	0.58	+0.04	0.31	8.0	3	12	10	6	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	3.1	−4.5	35	18	−29	1	36	0.74	+0.18	0.44	8.6	8	7	12	9	nw.	H. E. Simpson.
Hankinson	Richland	1,068	8	7.9	......	39	18	−35	10	58	1.12	....	0.84	16.0	4	15	10	3	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	45	2.5	0.0	32	18	−30	1	39	0.86	+0.27	0.23	8.6	5	13	4	11	nw.	James Muir.
Hillsboro	Traill	901	31	6.0	−4.3	35	17	−29	10	45	0.66	+0.08	0.36	7.0	6	12	9	7	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	1.4	−8.2	33	16†	−30	9	43	0.98	+0.39	0.50	16.2	6	15	5	8	nw.	S. Calvelage.
Langdon	Cavalier	1,615	41	3.0	−1.8	34	18	−28	1	34	0.98	+0.36	0.24	9.8	13	14	8	6	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	5.4	−1.9	35	18	−25	2	37	0.63	+0.05	0.35	9.5	6	14	2	12	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	33	8.4	−2.8	38	18†	−22	1†	39	1.23	+0.61	0.75	16.0	6	11	7	10	nw.	J. O. Halverson.
McHenry	Eddy	1,509	15	4.4	−1.4	33	18	−27	1	36	0.53	−0.18	0.14	9.2	6	13	8	7	nw.	C. E. Blasky.
McLeod	Ransom	1,075	26	8.3	−5.0	39	19	−25	1	38	0.52	−0.09	0.12	6.4	6	19	3	6	sw.	J. G. Carlson.
Mayville	Traill	975	41	7.2	−2.3	35	13†	−25	1	33	0.32	−0.10	0.07	4.6	9	15	5	8	nw.	H. B. Addicott.
Oakes	Dickey	1,318	8	6.0	......	35	17	−24	10	42	0.77	....	0.45	9.3	3	13	10	5	nw.	Eugene Naylor.
Park River	Walsh	998	33	5.2	−2.5	35	18	−25	2	36	0.36	−0.04	0.14	11.5	5	8	1	19	nw.	C. B. Wright.
Pembina	Pembina	1,520	7	2.6	−0.4	33	18	−35	1	34	0.90	+0.27	0.25	8.0	7	18	1	9	nw.	E. N. Russell.
Sharon	Steele	1,516	13	3.6	−7.8	33	18	−27	1	39	0.78	+0.45	0.35	11.1	8	9	11	8	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	7.4	−4.1	36	19	−23	10	47	0.74	+0.27	0.32	16.0	8	15	5	8	nw.	I. C. Robertson.
Wahpeton	Richland	962	45	8.3	−3.7	38	18	−26	1†	48	0.53	+0.04	0.37	12.6	6	8	12	8	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	5.6	−2.5	36	18	−27	9	34	0.77	+0.08	0.43	15.7	8	1	14	13	nw.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	5.4	−3.2	40	13†	−35	1	58	0.83	+0.29	1.48	11.0	6	12	7	9	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	41	7.2	−3.9	36	18	−23	1	35	0.11	−0.38	0.06	4.0	2	17	7	4	nw.	H. D. Piper.
Bismarck	Burleigh	1,670	63	8.6	−1.7	40	16	−27	1	40	0.39	−0.05	0.34	5.8	4	13	11	4	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	5.6	+1.4	32	17†	−29	1	47	0.37	+0.02	0.18	4.0	5	18	3	7	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	39	7.8	−0.9	44	12	−24	8	42	0.80	+0.43	0.38	9.0	4	7	12	9	nw.	L. A. Swanson.
Carson	Grant	2,500	25	9.6	−5.8	49	16	−27	9	33	0.29	−0.15	0.22	4.0	2	9	16	3	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	8.6	−9.2	39	16	−25	1	39	0.35	0.00	0.35	6.0	1	14	8	6	nw.	R. L. Williams.
Drake	McHenry	1,634	8	5.0	......	38	16	−25	1†	48	0.37	....	0.12	4.6	9	9	10	9	nw.	Peter Anton.
Dunseith	Rolette	1,682	41	3.6	−2.8	35	19	−28	1	28	0.47	+0.04	0.28	6.5	4	10	10	8	n.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	3.8	−3.8	39	16	−33	1	42	0.21	−0.15	0.10	4.0	3	9	15	4	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	8.8	−10.4	44	16	−30	1	38	0.32	−0.13	0.24	4.0	2	10	18	0	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	25	3.4	−6.7	35	12†	−28	9	46	0.81	+0.31	0.43	8.9	7	16	2	10	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	10.6	−1.2	45	11	−32	1	47	0.70	+0.21	0.55	12.0	3	15	7	6	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	7.8	−8.7	39	16	−25	8	32	0.24	−0.33	0.18	3.2	2	7	15	6	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	7	7.1	......	33	13	−21	9	33	0.36	... .	0.13	4.2	6	13	4	11	nw.	A. H. Haut.
Garrison	McLean	1,901	60	9.0	−1.9	44	17†	−24	9	38	0.29	−0.24	0.13	3.0	3	9	13	6	nw.	E. L. Vorachek.
Granville	McHenry	1,504	30	7.2	−2.9	41	16	−28	1	45	0.48	+0.04	0.33	6.5	4	8	15	5	nw.	W. A. Christianson.
Hansboro	Towner	1,597	29	5.4	−0.4	34	18	−27	8	44	0.70	+0.15	0.42	10.0	2	17	3	8	nw.	C. E. Blackorby.
Leeds	Benson	1,515	.....	......	......	....	....	.....	....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	Ole Semb.
Linton	Emmons	1,711	20	8.0	−6.5	40	12	−31	1	47	0.15	−0.33	0.14	2.2	2	13	12	3	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	5.7	−10.8	34	13	−30	9	35	0.40	−0.14	0.28	5.5	4	16	7	5	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	4.6	−6.5	36	16	−28	1	43	0.34	−0.04	0.12	4.0	5	6	11	11	nw.	A. T. Felland.
Mandan	Morton	1,750	23	7.6	−5.3	42	16	−23	1	48	0.49	+0.13	0.23	6.8	5	11	9	8	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	3.7	......	39	15	−29	9†	53	0.20	....	0.20	2.5	1	11	5	12	nw.	A. W. Rice.
Minot	Ward	1,557	41	9.8	+0.1	44	16	−24	9	30	0.10	−0.35	0.07	1.0	2	11	5	12	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	4.4	−2.7	40	17	−27	9	38	0.20	−0.11	0.20	2.0	1	4	21	3	nw.	John Behan.
Napoleon	Logan	1,955	45	4.2	−4.1	39	12	−32	9	42	0.95	+0.55	0.75	10.0	3	17	9	2	nw.	C. J. Hoof.
New Salem	Morton	2,163	33	6.8	−6.3	44	13	−28	9	37	0.53	+0.08	0.40	5.0	7	16	9	3	nw.	J. Christianson.
Pettibone	Kidder	1,856	28	3.0	−5.8	35	12	−32	1†	34	0.26	−0.13	0.15	3.8	2	9	12	7	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	4.0	−5.4	37	16	−30	1	41	0.47	+0.03	0.40	7.0	5	10	12	6	nw.	R. S. Armstrong.
Towner	McHenry	1,482	35	6.6	−1.1	39	16	−29	1	42	0.65	+0.21	0.25	8.0	4	12	11	5	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	7.0	−4.8	37	13†	−30	9	37	0.20	−0.30	0.20	2.2	1	21	0	7	nw.	M. A. Slettum.
Velva	McHenry	1,511	10	9.0	......	44	16	−27	1	33	0.32	−0.05	0.26	4.5	2	6	15	7	w.	Oscar Anderson.
Washburn	McLean	1,731	36	6.6	−2.9	40	12†	−25	9†	53	0.38	−0.03	0.24	3.0	3	6	9	13	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	......	......	....	....	.....	....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	D. W. Drake.
Willow City	Bottineau	1,471	45	2.0	−2.9	36	11	−34	1	42	0.57	+0.02	0.25	5.7	4	15	8	5	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	.....	......	....	....	.....	....	.....	1.11	+0.76	0.49	14.0	4	7	0	21	nw.	E. W. Davis.
Average for Middle Division		......	.....	6.4	−3.8	49	16	−34	1	53	0.40	−0.03	0.75	5.3	4	12	9	7	nw.	....
Western Division																				
Beach	Golden Valley	2,759	31	10.6	−5.6	42	12	−28	1†	37	0.20	−0.21	0.08	3.0	3	.....	......	......	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	6.8	−5.4	47	16	−34	9	55	0.08	−0.32	0.05	4.0	2	15	2	11	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	......	......	....	....	.....	....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	George Larsen.
Crosby	Divide	1,954	29	5.0	−3.5	35	12†	−26	6†	41	0.25	−0.11	0.20	2.5	2	6	11	11	sw.	J. H. Phelps.
Dickinson	Stark	2,543	45	8.3	−4.8	48	16	−27	10	56	0.39	−0.04	0.14	4.8	7	8	15	5	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	9.4	−5.2	44	16	−23	1	36	0.52	+0.02	0.52	5.0	1	15	10	3	nw.	W. F. Moede.
Epping	Williams	2,224	27	6.4	−4.4	41	12†	−32	9	35	0.54	+0.13	0.30	10.0	2	15	8	5	nw.	T. Beachler.
Fryburg	Billings	2,790	19	10.8	......	43	12†	−26	9	33	0.25	−0.22	0.07	3.3	5	9	15	4	nw.	Verne King.
Hettinger	Adams	2,675	30	17.1	+0.6	55	15	−20	7	36	0.02	−0.40	0.02	0.2	1	27	0	1	nw.	Glenn Brokaw.
Howard ‡‡ (near)	Williams	2,275	30	3.8	−5.2	37	12†	−32	9	37	0.40	−0.16	0.20	4.0	3	14	11	3	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	9.4	......	41	16	−19	1	39	0.42	+0.05	0.16	5.0	6	15	10	3	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	13.2	−4.5	47	16	−32	9	47	0.13	−0.31	0.10	2.6	3	13	8	7	nw.	S. P. Grane.
Mott	Hettinger	2,424	30	12.7	−0.8	51	16	−25	9	38	0.23	−0.39	0.13	3.0	2	10	17	1	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	12.8	−1.3	50	16	−26	8	33	0.27	−0.22	0.13	2.6	3	12	11	5	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	6.0	......	43	17	−30	9	37	0.19	−0.23	0.16	3.0	2	14	10	4	nw.	C. E. Shubert.
Portal	Burke	1,954	32	3.0	−2.4	38	16	−32	1†	52	0.10	−0.30	0.10	1.0	1	14	8	6	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	4.8	−11.7	41	16	−32	7	45	0.44	−0.02	0.21	5.0	3	18	8	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	21	10.6	−4.6	41	12†	−25	9	33	0.40	0.00	0.38	4.5	2	10	3	15	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	6.0	−6.1	46	17	−34	9	42	0.45	+0.02	0.22	6.5	4	3	22	3	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	24	10.0	−3.9	42	12†	−28	9	41	0.10	−0.32	0.05	2.0	2	14	14	0	nw.	J. C. Zeller.
Williston	Williams	1,878	58	7.2	−0.9	40	12	−26	9	35	0.20	−0.21	0.08	2.5	7	12	12	4	nw.	U. S. Weather Bureau.
Average for Western Division		......	.....	8.7	−4.6	55	15	−34	9	56	0.25	−0.17	0.52	3.4	3	13	10	5	nw.	....
Average for the State		......	.....	6.8	−2.9	55	15	−35	1	58	0.49	+0.03	1.48	6.6	4	12	9	7	nw.	....

Notes explanatory of symbols used in this table printed on last page.

Daily Precipitation for February 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red			T		.15		.85					T.	.25							.10		.10	T.	T.	T.	T.						1.45
Cavalier	do		T	.03		.07	.04	.11	.04						.02	.02			T.				T.	T	T.								0.33
Cooperstown	Sheyenne			T.			.22	.52	1.48					.17		.17								.35	.40		T.	T.					3.31
Courtenay	James					.07		.50						.15	.05				.05	.05					T.			T.					0.87
Devils Lake ***	Devils Lake		T.	T.	T.	.02	T.	.28	T.	T.			.03	.01	.08	.02			T				T.	.02	T.	T	T.	T.					0.46
Edgeley	James					.08		.45							.06					.05				.05			.04						0.73
Edmore	Devils Lake			T.		.05	.01	.20	.02					.08	T.	.08							T	.01	.01	T.	T	T.					0.46
Ellendale	James			.02		T		.24								.20											.03						0.49
Forman	Sheyenne			.04		.02	.03	.35						.09		.08				T.				.03	.02		T.	T.					0.66
Fullerton	James		T.	.20		.19		.82							T.	.27								.03	.04		.03	T.					1.58
Grafton	Red			T.	.18	T.	.09		.31					T.										T.	T.		T.						0.58
Grand Forks ***	do		T.	.02		T.	T.	.44						.02		.02			T.				.09	.13		T.	.01	.01					0.74
Hankinson ‖‖	do			T.	.07	T.	.07	.84								.14								T.	T	T.	T.	T.					1.12
Hannah	Pembina			T.		.20		.15						.11		.17							T.	.23									0.86
Hillsboro	Red			.04			.08		.36					.05		.10							.03		T.		T.	T.					0.66
Jamestown	James			.03		.25		.50						T.	.15										.03		.02						0.98
Langdon ‖‖	Pembina			.02		.08	.02	.24	.02					.15		.15							.08	.06	.04	.04	.05	.03					0.98
Larimore	Red			.02		T.		.35	.07					T.		.13			T.				.03	T.	.03		T.	T.					0.63
Lisbon	Sheyenne			.08	T.	.16	T.	.75						T.		.16		T.	T.		T.		T.	.04	T.	T.	T.	.04					1.23
McHenry	James			.01		T.		.14						.09		.10			T.				T.	.11	.08		T.	T.					0.53
McLeod	Sheyenne				.10		.08		.12					.05		.10										.07	T	T					0.52
Mayville	Red			.07		.05	.03	.04	.01											.06			.02	.03			T.	.01					0.32
Oakes	James			.10		T.		.45								.22									T.								0.77
Park River	Red		T				.07	.14					.04		.07								.04										0.36
Pembina	do					.25		.20						.05		.05								.15	.15		.05						0.90
Petersburg	do							.40						T		.07								T.			T.						0.47
Sharon	do			.01		.02	T.	.35	T.					.02		.27			.04				T.	.06	.01		T.	T.					0.78
Valley City	Sheyenne			.02	.01	.16		.32		.02				T.		.18								.02			T.	.01					0.74
Wahpeton	Red			.01		T.	.04	.37	T					.03	T.	.05			T.					.03	T.	T.	T.	T.					0.53
Moorhead, Minn. ***	do		T.	.01	T	.07		.43	T.	T				.06		.17		T	T.				.01	.01	T.	T.	.01	T.					0.77
Middle Division																																	
Ashley	Missouri					T.		.06							.05												T.						0.11
Bismarck ***	do		T.	T.		.04	.06	.28	T				T.		T	.01			T.		T.			T.	T.	T.	T.	T.					0.39
Bottineau	Mouse		.02			.02		.18						.01	.14																		0.37
Carrington ‖‖	James			T.		T	.38	.08	T.					T.	.25								T.	T.	.09								0.80
Carson	Heart							.22								.07																	0.29
Dogden Butte	Mouse					T.	T	.35		T.				T	T.	T									T.		T.	T.					0.35
Drake ‖‖	do			T.			.02	.12	.12					.01	.01	.04									.03	T.	.01	.01					0.37
Dunseith	do					T.	.05	.03	.11					T.		.28								T.	T.		T.	T.					0.47
Eckman	do				T.	.05		.10						T.		.06								T.			T.						0.21
Energy	Missouri			T.		.08		.24																									0.32
Fessenden ‖‖	James						.05		.43	.02				.04	.05	.18									.04								0.81
Fort Yates	Missouri							.55							.15						T.				T.								0.70
Foxholm (near)	Mouse			T.		.06		.18													T.				T.	T	T.						0.24
Gackle	James	T.		.06		.10		.13						.03	T.								T.	.02	.02								0.36
Garrison ‖‖	Missouri			T		.10	.06	.13								T.								T.	T	T.	T.						0.29
Granville	Mouse					.07	.07	.33		T.				T.		.01					T.	T.		T.			T.	T					0.48
Hansboro	Devils Lake					T.		.28								.42																	0.70
Leeds	do																																.....
Linton	Missouri			T.		.01		.14						T.	T.	T									T		T.						0.15
McClusky	do					.28		.04																.04		T	.04	T.					0.40
Maddock	Sheyenne			T.		T.	.03	.12	.01					.10	T	.08							T.	T.	T.		T.	T.					0.34
Mandan ‖‖	Missouri		T.	T.		.06	.23	.17	T.				T		T				T.					.02		.01	T.						0.49
Manfred	James			.01		.04		.20						.02		.08								.01			.02						0.38
Max ‖‖	Missouri			T.				.20						T.													T	T.					0.20
Minot	Mouse					.03	.07	T.	T.												T.			T.		T.	T.						0.10
Mohall	do	T.		T.	T.	.20																				T	T.						0.20
Napoleon ‖‖	Missouri						.10		.75																.10								0.95
New Salem	Heart			.01		.06	.01	.40						.01		.03			T.	T.	T.				.01			T.					0.53
Pettibone	James			T.		T.		.15		T.				T.		.11						T.		T.			T.						0.26
Rugby (near)	Mouse			T.		T.						.01	.01		T.			T.	.30			T.	T.	T.		T	T.	T.					0.32
Ryder	Missouri					.02		.03					.01											.01	.02		.01						0.10
Selfridge	do			T.		.10		.21					T.		T	.08			T.		T.				T.		T.						0.39
Steele	do					.03		.40						T.	T.	.02			.01						.01								0.47
Tagus	Mouse			.01		.03		.04	T.					.01							T.				.02								0.11
Towner	do		T.	T.		.25	.05	.25							.10										T.			T.					0.65
Turtle Lake	Missouri					T.		.20																									0.20
Tuttle	do			.02		.03		.21						.02		.10				.03		.01			T.	T.							0.42
Velva	Mouse					.06	T.	.26	T.	T.				T		T.					T.			T	T.		T.						0.32
Washburn ‖‖	Missouri						.08	.24	.06					T		T.									T.		T.	T.					0.38
Westhope	Mouse																																.....
Willow City	do					.20		.25							.10									.02			T.						0.57
Wishek ‖‖	Missouri						.10		.49							.32												.20					1.11
Zap	Knife			T.			.04								T.						T					T.							0.04
Western Division																																	
Alpha	Lit. Missouri					.07		.05						.03								T.											0.15
Beach	do					.06		.06	T.				T.		T.	.08			T.				T.		T.								0.20
Berthold Agency	Missouri					.03		.05	T.					T																			0.08
Bowman	Grand																																.....
Corinth	Missouri				T			.20							.08				T.					T.									0.28
Crosby	Mouse			.05		.20																			T.								0.25
Dickinson ‖‖	Heart			T.	T.		.14	.09	.05	.01				.06		.02				.02			T.		T.	T.							0.39
Dunn Center	Knife							.52																									0.52
Epping	Missouri							.30	.24																								0.54
Fryburg	Heart			T.		.06		.07	T.				.03			.07			.02			T.			T.								0.25
Hettinger	Grand						.02							T.																			0.02
Howard (near)	Missouri					.20	.10	.10						T.					T.		T.												0.40
Kenmare	Mouse					.16	.04	.08	.01	.01				.12											T.	T.	T.						0.42
Marmarth	Lit. Missouri					T.		.10	T					.02		T.			.01			T.			T.								0.13
Mary	do						T.	.04					.03			T.																	0.07
Mott	Cannon Ball					.10		.13																									0.23
New England ‖‖	do					.06	.13	T.					.08																				0.27
Parshall	Missouri					.16		.03																			T.						0.19
Portal ‖‖	Mouse					.10																											0.10
Powers Lake	Missouri					.21												.07								.16							0.44
Richardton	Heart					.02		.38						T.		T.				T							T.						0.40
Sanish ‖‖	Missouri			.04		.15		.22	.04																		T.						0.45
Tioga	do					.06			.02						T.		T.																0.08
Trotters	Lit. Missouri					.12		.04																									0.16
Watford City	Missouri					.05		.05																									0.10
Williston ***	do			.01		.08		.07	.01				.01	T.	.01				T.		.01	T				T.							0.20

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for February 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum...	-6	14	14	0	-2	-5	0	0	-8	8	15	16	18	20	30	32	34	36	24	20	18	20	22	24	26	26	28	30	....	....	....	16.2
	Minimum...	-30	-10	-4	-6	-10	-8	-6	-10	-15	-31	-5	0	0	-5	-2	10	10	-10	-10	-5	-10	0	-3	-2	0	0	10	12				-5.0
Devils Lake	Maximum...	-3	1	2	-1	5	-3	1	-3	-8	18	32	25	32	14	18	35	31	32	32	15	-1	3	9	12	18	19	19	23	....	....	....	13.5
	Minimum...	-25	-16	-6	-12	-10	-22	-5	-16	-20	-18	9	12	4	-1	5	7	9	15	13	-4	-18	-17	-3	-4	-8	1	5	3	....	....	....	-4.4
Edgeley	Maximum...	-2	13	9	0	8	6	3	2	-1	20	35	30	24	18	16	15	33	40	38	30	6	7	20	18	18	20	15	31	....	....	....	16.9
	Minimum...	-21	-16	-4	-15	-10	-19	-6	-12	-22	-16	13	14	16	-5	9	-4	9	11	11	5	-11	-14	-3	2	-6	2	2	5	....	....	....	-3.0
Fullerton	Maximum...	-3	21	14	4	15	2	5	5	-5	22	28	31	36	18	21	25	34	36	38	28	5	9	20	19	16	19	19	33	....	....	....	18.4
	Minimum...	-21	-14	-2	-13	-7	-17	-5	-9	-20	-17	8	13	18	-3	5	0	10	13	13	5	-11	-12	-9	3	-4	2	7	2	....	....	....	-2.3
Grafton	Maximum...	-6	4	4	-1	6	5	6	4	0	6	24	26	33	15	19	26	35	36	32	28	12	10	11	12	22	21	21	28	....	....	....	15.7
	Minimum...	-33	-25	-3	-10	-14	-16	-13	-9	-11	-26	-7	6	14	-4	5	-7	9	8	4	-3	-13	-11	5	-3	-3	11	-4	1	....	....	....	-5.4
Grand Forks	Maximum...	-10	14	15	-2	8	-1	5	2	-1	4	23	25	34	11	18	23	34	35	29	12	1	8	10	11	19	20	22	27	....	....	....	14.1
	Minimum...	-29	-22	-6	-13	-10	-15	-12	-18	-24	-27	-7	3	11	-6	-5	-7	12	8	2	-9	-21	-16	2	-3	-7	2	0	-5	....	....	....	-7.9
Hillsboro	Maximum...	-10	8	8	0	8	10	15	15	15	16	20	28	23	17	19	22	35	31	29	28	10	6	10	10	18	21	20	25	....	....	....	16.3
	Minimum...	-25	-21	0	-10	-15	-15	-7	-4	-4	-29	-5	5	12	-3	6	-12	12	10	3	2	-14	-14	1	-1	-3	10	7	-4	....	....	....	-4.2
Jamestown	Maximum...	-6	5	2	-3	6	-8	-4	-11	-16	15	32	27	28	9	16	33	32	32	33	14	-3	3	14	4	10	12	15	27	....	....	....	11.4
	Minimum...	-27	-14	-7	-15	-9	-20	-11	-20	-30	-28	0	2	9	-10	1	-6	7	5	-1	-3	-17	-20	-10	-5	-11	0	4	-8	....	....	....	-8.7
Langdon §	Maximum...	-4	-5	3	4	2	0	1	-1	-2	12	23	20	18	16	14	24	33	34	27	21	0	14	11	13	23	25	23	23	....	....	....	13.3
	Minimum...	-28	-17	-8	-14	-12	-24	-17	-15	-22	-20	-1	1	13	-8	2	-2	8	17	5	-3	-24	-19	1	-9	-11	5	-3	-2	....	....	....	-7.4
Larimore	Maximum...	-3	4	4	-2	8	4	5	2	-8	15	34	25	34	17	16	29	31	35	35	21	5	6	10	14	17	21	23	25	....	....	....	15.2
	Minimum...	-24	-25	-3	-13	-17	-17	-11	-10	-14	-22	7	16	13	-4	4	-1	9	11	6	5	-17	-14	0	-5	-6	8	0	4	....	....	....	-4.3
Lisbon §	Maximum...	-7	17	19	4	11	10	6	11	-8	17	28	33	36	20	23	31	35	38	38	32	13	10	16	14	19	23	23	30	....	....	....	19.4
	Minimum...	-22	-14	4	-9	-10	-14	-5	-8	-18	-22	-4	10	9	-2	10	-7	8	13	14	9	-12	-15	1	-1	-5	4	14	-1	....	....	....	-2.6
Oakes	Maximum...	-8	19	2	6	10	10	5	5	2	18	21	24	23	19	19	26	35	32	30	30	-4	7	15	15	12	19	18	28	....	....	....	15.6
	Minimum...	-22	-12	0	-12	-10	-16	-6	-9	-21	-24	-4	4	11	-5	10	-5	12	10	10	-5	-15	-12	5	2	-5	2	11	5	....	....	....	-3.6
Sharon	Maximum...	-2	2	3	1	6	2	0	-1	-9	15	25	25	16	13	17	27	31	33	28	13	0	2	9	11	18	21	19	25	....	....	....	12.5
	Minimum...	-27	-20	-2	-13	-15	-20	-10	-12	-19	-24	3	8	13	-3	5	-3	12	11	3	0	-14	-15	-2	-3	-10	7	5	-5	....	....	....	-5.4
Valley City	Maximum...	-4	10	10	4	9	8	5	2	-8	24	29	31	34	22	21	30	34	35	36	30	12	7	13	13	14	19	21	29	....	....	....	17.5
	Minimum...	-22	-13	2	-12	-9	-17	-6	-10	-18	-23	-3	12	14	1	8	-5	13	16	7	7	-14	-14	0	0	-6	5	13	0	....	....	....	-2.6
Wahpeton	Maximum...	-4	22	22	6	14	15	8	7	-3	15	31	35	35	17	19	26	35	38	36	33	13	12	12	11	15	21	22	30	....	....	....	19.4
	Minimum...	-26	-26	4	-10	-14	-15	-7	-5	-22	-25	3	5	16	0	10	-5	19	20	17	7	-15	-16	0	0	-4	-1	11	0	....	....	....	-2.8
Moorhead, Minn.	Maximum...	-7	20	18	-3	10	-1	8	7	-6	7	24	31	35	12	17	23	34	36	33	20	1	6	11	10	16	21	20	26	....	....	....	15.3
	Minimum...	-21	-13	-5	-10	-10	-13	-7	-12	-27	-27	-5	5	12	0	-4	-9	18	15	9	1	-11	-13	1	0	-3	12	6	-6	....	....	....	-4.2
Middle Division																																	
Ashley	Maximum...	-6	14	14	1	12	9	4	3	-9	20	25	35	35	21	18	25	30	36	32	31	13	11	20	19	12	21	18	24	....	....	....	17.4
	Minimum...	-23	-11	-7	-16	-8	-18	-5	-15	-14	-15	-8	18	18	-6	12	4	18	15	11	8	-11	-15	-1	0	-8	-3	-3	3	....	....	....	-2.9
Bismarck	Maximum...	0	6	4	0	14	1	4	-4	-4	29	37	40	36	20	30	40	37	35	35	20	7	12	23	11	18	19	24	33	....	....	....	18.8
	Minimum...	-27	-7	-8	-14	-7	-15	-4	-18	-21	-11	16	13	6	2	13	16	16	18	10	4	-14	-10	3	2	-6	3	-2	1	....	....	....	-1.5
Bottineau	Maximum...	18	8	11	2	4	4	4	8	0	19	19	29	27	20	23	31	32	32	28	20	-2	20	10	11	20	20	21	23	....	....	....	16.5
	Minimum...	-29	-12	-3	-14	-6	-25	-24	-24	-24	-18	0	14	11	3	0	9	18	18	11	-10	-20	-20	-8	-1	-5	2	3	4	....	....	....	-5.4
Carson	Maximum...	0	12	-3	-3	5	0	0	-4	-1	20	36	46	36	25	34	49	39	34	36	28	20	18	22	14	21	22	31	37	....	....	....	20.5
	Minimum...	-20	-7	-10	-19	-7	-20	-6	-25	-27	-5	14	20	9	3	3	16	15	24	12	10	0	-12	0	1	-11	0	0	6	....	....	....	-1.3
Fessenden §	Maximum...	1	3	3	5	9	-1	1	-10	2	20	30	35	20	16	24	35	32	35	29	14	0	8	15	11	20	20	21	28	....	....	....	15.2
	Minimum..	-27	-25	-13	-23	-19	-21	-21	-26	-28	-26	-1	5	14	-7	-3	2	4	12	10	-1	-10	-7	-12	-1	-12	-4	6	-4	....	....	....	-8.5
Foxholm (near)	Maximum...	-3	-3	1	-1	7	-1	1	-2	-7	24	34	32	36	21	27	39	37	33	31	29	9	5	16	12	19	18	23	26	....	....	....	16.5
	Minimum...	-21	-16	-7	-13	-6	-17	-8	-25	-23	-7	18	16	13	2	5	21	24	22	15	-3	-11	-17	-5	3	-2	10	0	7	....	....	....	-0.9
Garrison §	Maximum...	0	8	2	0	10	-2	2	-1	-4	30	36	40	36	22	20	30	44	32	44	31	14	8	16	14	20	24	26	30	....	....	....	19.0
	Minimum...	-20	-8	-4	-16	-6	-22	-2	-22	-24	-8	14	12	16	4	4	6	18	22	12	4	-10	-14	0	4	-4	7	4	2	....	....	....	-1.1
Granville	Maximum...	-10	0	2	4	11	1	2	2	-4	30	34	29	35	19	27	41	34	33	36	30	10	7	17	15	22	25	25	30	....	....	....	18.1
	Minimum...	-28	-15	-6	-16	-4	-23	-5	-25	-27	-15	12	7	2	4	4	11	24	17	15	-3	-13	-19	-5	-2	-3	12	1	0	....	....	....	-3.6
Hansboro	Maximum...	3	2	0	1	2	3	2	-5	4	23	31	28	23	16	23	30	32	34	26	20	16	13	10	12	20	19	28	28	....	....	....	15.9
	Minimum...	-26	-21	-9	-14	-7	-21	-12	-27	-22	-21	5	6	2	-4	1	12	10	12	10	2	5	-23	0	-6	-3	5	3	1	....	....	....	-5.1
Linton	Maximum...	2	14	8	1	14	5	5	2	-2	29	37	40	31	20	28	34	36	35	39	30	23	17	22	20	16	18	21	33	....	....	....	20.6
	Minimum...	-31	-7	-5	-16	-5	-21	-2	-17	-26	-18	4	4	-5	-10	11	12	15	19	8	6	-7	-14	10	4	-14	-9	-6	-7	....	....	....	-4.5
McClusky	Maximum...	-5	5	0	0	9	-2	1	-1	-10	21	30	30	34	20	23	33	30	31	28	18	10	6	17	13	17	19	18	24	....	....	....	15.0
	Minimum..	-24	-11	-9	-10	-8	-24	-6	-22	-30	-14	10	14	15	-4	8	12	10	17	9	-1	-6	-18	-5	2	-11	8	-8	-1	....	....	....	-3.6
Maddock	Maximum...	-5	1	3	0	6	4	1	1	-8	20	31	29	32	18	17	36	34	32	32	29	10	4	12	12	20	19	22	25	....	....	....	15.6
	Minimum...	-28	-16	-8	-22	-14	-24	-9	-20	-26	-23	9	8	14	-8	-1	2	7	10	11	-2	-14	-18	-6	-2	-11	2	9	-2	...	....	....	-6.5
Minot	Maximum...	5	-1	3	6	10	4	3	-1	-2	27	36	39	24	25	30	44	37	34	35	20	11	11	19	14	22	19	28	30	....	....	....	19.0
	Minimum...	-23	-15	-5	-13	-4	-19	-18	-19	-24	-3	19	16	3	3	11	23	30	25	17	3	-9	-13	-4	4	-2	12	11	12	....	....	....	0.6
Mohall	Maximum...	-8	-3	1	2	0	5	0	1	-6	7	26	24	37	20	19	31	40	34	32	33	12	2	5	14	13	23	18	26	....	....	....	14.6
	Minimum...	-22	-20	-14	-14	-7	-23	-22	-26	-27	-26	6	9	14	-2	3	4	24	17	11	-5	-17	-18	-15	3	2	10	-6	-5	....	....	....	-5.9
Napoleon §	Maximum...	0	13	2	4	11	0	3	-10	-13	22	28	39	21	19	20	36	31	34	84	11	3	7	17	7	11	16	17	26	....	....	....	14.6
	Minimum...	-26	-11	-10	-21	-8	-21	-5	-18	-32	-20	13	17	13	-10	9	8	15	15	6	0	-16	-24	-5	-6	-15	-10	-11	2	....	....	....	-6.1
New Salem	Maximum...	-8	4	7	-8	-4	-7	-3	-7	-7	29	36	40	44	21	29	41	36	34	36	34	5	10	19	12	10	15	27	33	....	....	....	17.1
	Minimum...	-26	-15	-10	-21	-10	-22	-7	-24	-28	-8	14	18	13	14	8	18	17	11	1	2	-11	-16	-4	-1	-12	-5	-4	6	....	....	....	-3.6
Steele	Maximum...	0	5	3	0	10	-3	1	-2	-13	21	26	36	35	21	24	37	32	32	30	15	5	3	19	11	18	14	15	25	....	....	....	15.0
	Minimum...	-30	-11	-11	-20	-9	-25	-5	-20	-28	-20	5	10	16	-2	5	5	7	10	6	-2	-19	-20	-4	0	-12	-2	-14	-8	....	....	....	-7.1
Towner	Maximum...	-1	4	3	4	7	4	3	3	-2	25	36	29	31	24	26	39	33	34	35	31	9	8	13	14	25	24	27	29	....	....	....	18.5
	Minimum...	-29	-15	-7	-15	-9	-24	-6	-25	-28	-17	7	10	14	3	-8	6	18	15	10	-4	-13	-16	-6	1	-7	-6	5	-1	....	....	....	-5.2
Westhope	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Western Division																																	
Beach	Maximum...	9	18	-3	9	14	11	9	-10	7	28	37	42	33	33	33	41	40	37	32	26	20	17	20	15	16	23	26	30	....	....	....	21.9
	Minimum...	-28	-3	-13	-17	-8	-19	-9	-25	-28	-5	19	23	16	11	8	23	25	20	12	1	4	-8	-1	2	-15	-8	-4	9	....	....	....	-0.6
Berthold Agency	Maximum...	0	3	0	0	0	0	0	0	0	33	42	44	36	30	40	47	40	38	38	35	8	10	20	15	18	22	30	32	....	....	....	20.8
	Minimum...	-32	-15	-10	-23	-13	-28	-8	-32	-34	-22	0	5	5	-8	0	5	20	22	8	8	-12	-12	-5	-2	-2	-4	-2	-7	....	....	....	-7.1
Bowman	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Crosby	Maximum...	3	-3	-5	2	5	0	-5	-11	29	22	33	35	35	23	25	35	35	33	84	27	0	3	17	15	15	18	15	26	....	....	....	16.5
	Minimum...	-23	-13	-8	-17	-8	-26	-14	-26	-11	-8	-8	10	12	-1	-5	22	22	22	18	-7	-18	-18	-5	0	0	-8	-10	-4	....	....	....	-4.7
Dickinson §	Maximum...	5	14	-1	5	13	5	3	-3	12	29	36	40	25	27	35	48	38	33	35	26	15	15	22	11	20	19	28	33	....	....	....	21.0
	Minimum...	-23	-16	-9	-16	-16	-19	-21	-22	-25	-27	9	10	17	3	10	10	21	24	9	6	-2	-8	-4	1	-10	-10	-7	-7	....	....	....	-4.4
Dunn Center	Maximum...	1	3	-2	1	13	1	2	-2	3	28	35	41	37	23	34	44	36	32	29	27	6	12	20	17	18	17	29	33	....	....	....	19.2
	Minimum...	-23	-9	-6	-12	-11	-19	-2	-21	-22	-4	11	7	21	5	10	14	26	28	11	6	-4	-9	6	5	-6	-3	-7	0	....	....	....	-0.3
Hettinger	Maximum...	5	25	10	5	24	0	5	12	30	31	40	50	30	35	55	41	35	34	30	35	28	30	22	19	24	30	32	35	....	....	....	26.9
	Minimum...	-19	-10	-6	-15	-4	-10	-20	-10	-3	1	19	25	15	10	19	24	21	24	24	18	12	18	5	-5	11	18	20	22	....	....	....	7.3
Kenmare	Maximum...	-1	-1	-2	-1	12	6	0	-3	-5	27	34	36	34	30	31	41	36	29	37	24	12	5	24	28	31	36	32	34	....	....	....	20.2
	Minimum...	-19	-15	-17	-12	-5	-21	-9	-27	-23	-7	22	15	16	6	6	26	22	23	14	1	-15	-17	-7	3	-2	1	-7	7	....	....	....	-1.5
Marmarth	Maximum...	12	15	5	12	17	14	10	0	15	33	44	43	39	35	37	47	41	38	38	28	25	22	25	20	18	24	31	32	....	....	...	25.7
	Minimum...	-24	-10	-10	-12	0	-15	-6	-30	-32	-3	13	15	16	7	16	10	24	25	15	10	10	0	10	4	-12	-5	-7	10	....	....	....	0.7
Mott	Maximum...	5	9	3	4	16	5	3	1	9	31	43	49	42	26	38	51	42	37	40	34	21	19	24	15	23	21	32	40	....	....	...	24.2
	Minimum...	-22	-6	-9	-16	-3	-15	0	-21	-25	-6	11	11	17	6	13	15	26	30	17	13	4	-4	4	6	-9	-3	-4	5	....	....	....	1.2
New England §	Maximum...	5	19	1	13	12	7	5	1	16	30	40	50	24	30	36	50	39	38	39	33	21	19	23	13	26	21	36	29	....	....	....	24.1
	Minimum...	-9	-9	-17	-10	-17	-6	-23	-26	-15	16	15	17	4	4	13	24	29	22	11	5	-4	3	5	-8	-3	-4	5	17	....	....	....	1.6
Watford City	Maximum...	11	4	1	7	11	2	3	-2	9	29	38	42	38	28	34	42	42	36	38	27	11	11	20	14	19	26	32	31	....	....	....	21.6
	Minimum...	-21	-7	-8	-17	-4	-20	-7	-25	-28	-4	20	12	15	9	8	20	24	26	13	1	-8	-14	-4	4	-9	-10	-9	2	....	....	....	-1.5
Williston	Maximum...	5	1	-2	5	9	1	-3	-8	0	30	39	40	25	28	34	40	38	37	30	15	1	9	20	11	14	16	25	25	....	....	....	17.3
	Minimum...	-20	-6	-12	-20	-14	-21	-18	-25	-26	-4	20	15	11	11	9	22	24	23	13	-2	-12	-14	-2	-3	-6	-11	-10	0	....	....	....	-2.8

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

NOTES EXPLANATORY FOR PAGE 6. —— The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, [b] represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. †† Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

[WBO, Minneapolis, 4-12-37—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVI Bismarck, N. D., March 1937 No. 3

GENERAL SUMMARY

Temperatures were somewhat above normal during the first week, but readings were near the seasonal average during the remainder of the month. The central and western divisions were somewhat warmer than the eastern division. Many stations recorded sub-zero temperatures on the 25th. The precipitation was very light throughout the northern half of the State, but heavy snowfalls were reported at most southern stations on the 16th–17th and 23d–24th. This snow melted slowly and there was little run-off. Practically no spring work was accomplished due to the snow and cold weather near the close of the month. Livestock was mostly yard fed. No severe storms were reported, but dust storms occurred at many stations in the western and central parts of the State on the 15th and 23d.

TEMPERATURE

The mean temperature for the State was 24.8°, or 1.2° above the 1892–1937 average for March. The mean temperature for the eastern division was 22.5°; for the middle division, 25.4°; and for the western division, 26.5°. The highest mean temperature was 31.4° at Fort Yates, and the lowest, 17.9° at Pembina, making a rang in mean temperature of 13.5°. The absolute range was 92°, from 72° at Carson on the 6th, to −20° at Pembina on the 10th. The average daily deficiency in temperature for the State since January 1, 1937, is 5.3°.

PRECIPITATION

The average precipitation for the State was 0.39 inch, or 0.38 inch less than the 1892–1937 average for March. In the eastern division the average amount was 0.42 inch; in the middle division, 0.34 inch; and in the western division, 0.42 inch. The greatest monthly amount reported was 1.99 inches at Fullerton; there was none reported at Sanish. The greatest amount recorded in any 24 consecutive hours was 1.35 inches at New England on the 23d. The accumulated deficiency in precipitation for the State since January 1, 1937, is 0.17 inch. The average snowfall was 4.3 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	8	1	1	..	6	2	..	..	1	..	..	..	7	8	6	..	1	1	..	..	..	1	..	..	..	..	..	..	2	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	10	..	..	..	..	..	..	..	..
Fogs	..	12	3	..	..	5	3	..	..	4	..	..	..	..	..	..	1	1	1	1	..	1	..	..	2	..	..	..	..	3	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	1	1	1	..	..	..	..	..
Solar halos	..	..	..	1	..	..	..	3	1	..	..	..	..	..	2	5	1	..	..	..	2	1	..	1	2	..	..	..	..	1	..
Sleet	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.18	30.64	13	29.59	16	8.7	30	ne.	23	84	62	62	48
Devils Lake	30.21	30.69	13	29.63	17	9.3	27	ne.	23	95	72	74	66
Williston	30.19	30.63	13	29.66	16	8.4	24	s.	15	83	57	54	69
Moorhead, Minn	30.21	30.64	14	29.66	14	8.4	25	ne.	24	88	71	74	63
Averages & ext's	30.20	30.69	13	29.59	16	8.7	30	ne.	23	88	66	66	62

† And other dates.

COMPARATIVE DATA FOR MARCH

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	24.2	66	−35	0.87	0.98	0.65	0.83	1.9	4	12	8	11
1893	13.9	68	−35	1.10	1.30	0.46	0.95	10.0	5	13	7	11
1894	24.8	69	−22	1.20	1.71	1.43	1.45	10.1	5	12	9	10
1895	23.2	75	−35	0.07	0.21	0.24	0.17	1.0	2	16	10	5
1896	15.7	70	−35	1.19	1.15	1.06	1.13	8.0	8	12	10	9
1897	11.9	58	−48	1.15	1.04	1.90	1.36	8.0	7	15	7	9
1898	21.3	79	−24	0.77	0.80	0.80	0.79	6.7	5	13	8	10
1899	7.5	72	−30	1.23	0.96	0.68	0.96	10.0	5	12	10	9
1900	20.3	77	−24	0.96	0.96	1.11	1.01	8.5	5	14	7	10
1901	25.3	85	−32	0.95	0.85	0.78	0.86	5.2	5	15	8	8
1902	27.4	65	−25	2.75	2.90	2.55	2.73	11.7	8	10	6	15
1903	22.1	80	−24	0.78	0.44	0.42	0.55	5.1	3	12	6	13
1904	18.2	64	−26	1.26	1.33	1.64	1.41	11.5	5	11	6	14
1905	32.5	81	−25	1.09	0.85	0.32	0.75	2.3	4	11	8	12
1906	18.5	67	−34	0.31	0.39	0.44	0.38	3.1	3	15	6	10
1907	23.1	83	−20	0.57	0.58	1.00	0.72	5.1	4	14	9	8
1908	21.1	68	−31	1.17	0.94	1.53	1.21	12.1	8	10	9	12
1909	24.0	61	−24	0.34	0.40	0.26	0.33	2.7	4	10	9	12
1910	41.3	90	− 7	0.83	0.93	1.08	0.94	0.3	3	18	8	5
1911	30.6	78	−18	0.14	0.26	0.29	0.23	1.6	2	16	10	5
1912	15.4	65	−28	0.28	0.32	0.52	0.37	3.6	3	17	8	6
1913	17.2	70	−31	0.82	0.73	1.00	0.85	8.2	6	12	9	10
1914	25.5	76	−20	0.83	1.06	0.75	0.88	9.2	5	10	9	12
1915	22.9	63	−23	0.38	0.20	0.07	0.22	2.0	2	16	6	9
1916	20.3	69	−45	1.43	1.82	1.00	1.42	13.5	6	11	9	11
1917	22.2	67	−39	0.44	0.33	0.37	0.38	3.9	3	13	10	8
1918	35.0	82	−15	0.32	0.46	0.42	0.40	2.9	2	16	8	7
1919	17.8	67	−35	0.63	0.93	0.78	0.78	6.2	4	12	9	10
1920	22.4	67	−32	0.46	0.83	1.20	0.83	7.1	4	15	8	8
1921	25.2	75	−22	1.07	1.02	0.81	0.97	9.1	6	9	12	10
1922	25.8	60	−30	0.96	0.67	0.50	0.71	6.4	4	12	7	12
1923	18.3	65	−35	0.34	0.44	0.35	0.38	4.8	4	10	10	11
1924	25.5	58	−20	0.32	0.36	0.75	0.48	4.4	4	10	9	12
1925	27.4	75	−26	0.74	0.56	0.75	0.68	6.0	4	14	9	8
1926	25.8	83	−23	0.35	0.19	0.17	0.24	1.8	3	13	10	8
1927	30.4	77	−10	0.90	0.78	0.47	0.72	6.5	5	13	8	10
1928	28.1	85	−17	0.69	0.55	0.31	0.52	4.8	3	15	8	8
1929	30.5	77	−15	0.68	0.65	1.02	0.78	5.3	5	12	8	11
1930	26.1	62	−17	0.17	0.05	0.05	0.09	0.9	1	17	8	6
1931	25.7	63	−24	0.99	0.85	0.99	0.94	4.8	5	11	8	12
1932	18.9	64	−30	0.52	0.60	0.80	0.64	6.0	6	10	11	10
1933	28.5	70	−14	0.46	0.41	0.49	0.45	3.7	3	14	10	7
1934	26.3	74	−12	0.43	0.34	0.71	0.49	3.6	4	11	11	9
1935	26.3	75	−37	2.00	0.89	0.90	1.26	7.0	5	9	11	11
1936	25.4	61	−27	0.73	0.75	0.94	0.81	8.1	6	10	11	10
1937	24.8	72	−20	0.42	0.34	0.42	0.39	4.3	3	12	11	8
Period	23.6	90	−48	0.79	0.76	0.76	0.77	5.8	4	13	8	10

Climatological Data for March 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	23.6	−1.0	42	4	8	18†	26	T.	−0.49	T	T.	0	9	10	12	nw.	I. Idso.
Cavalier	Pembina	894	27	21.6	......	50	6	−11	10	35	0.05	−0.66	0.05	1.0	1	18	3	10	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	40	19.2	−4.2	43	6	−5	2†	40	0.26	−0.37	0.25	3.0	2	27	3	1	ne.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	21.8	+2.0	50	5	1	13	26	0.15	−0.63	0.06	1.8	7	5	14	12	ne.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	24.7	−2.6	57	6	1	25	31	0.50	−0.21	0.45	8.0	2	6	20	5	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	13	20.8	−0.2	43	5	−2	2†	30	0.23	−0.23	0.10	2.8	5	5	14	12	n.	A. G. Braund.
Ellendale	Dickey	1,457	42	26.6	+1.0	56	5	0	25	25	0.75	−0.16	0.50	9.8	5	13	7	11	ne.	J. E. Demmer.
Forman	Sargent	1,249	44	24.2	−3.4	45	6†	1	14	26	0.92	+0.18	0.50	10.0	5	21	4	6	ne.	Helge Dyste.
Fullerton	Dickey	1,439	39	25.9	−0.9	52	5	3	25	24	1.99	+0.79	0.90	19.9	7	6	15	10	ne.	F. O. Alin.
Grafton	Walsh	827	45	22.1	+0.9	49	5	−10	10	40	0.07	−0.58	0.07	1.0	1	13	10	8	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	20.2	−2.2	45	5	−5	9†	35	0.29	−0.45	0.22	3.2	3	5	17	9	nw.	H. E. Simpson.
Hankinson	Richland	1,068	8	24.4	......	49	5	−1	9†	31	0.82	....	0.80	6.2	2	14	12	5	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	45	18.5	−0.3	42	5	−7	10	33	T.	−0.69	T	T.	0	10	18	3	nw.	James Muir.
Hillsboro	Traill	901	31	22.3	−3.3	42	7†	−4	9	33	0.14	−0.61	0.08	2.0	3	9	16	6	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	19.2	−4.8	49	4	−6	13	37	0.68	−0.19	0.30	9.5	6	11	16	4	n.	S. Calvelage.
Langdon	Cavalier	1,615	41	20.4	+0.4	42	5	−7	9	34	0.30	−0.50	0.08	3.0	6	12	8	11	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	22.2	−0.1	45	5	−8	10	34	0.34	−0.43	0.25	4.0	3	13	8	10	ne.	Mabel Walsh.
Lisbon	Ransom	1,091	33	26.1	−1.0	48	5	1	2†	27	0.73	+0.09	0.28	9.0	6	9	14	8	ne.	J. O. Halverson.
McHenry	Eddy	1,509	15	21.8	−1.4	44	5	−4	13	31	0.22	−0.36	0.12	2.8	6	10	11	10	nw.	C. E. Blasky.
McLeod	Ransom	1,075	26	26.0	−1.7	45	6	−2	9	35	0.16	−0.55	0.07	2.0	3	22	5	4	sw.	J. G. Carlson.
Mayville	Traill	975	41	22.8	−1.7	47	5†	−3	9	39	0.17	−0.52	0.08	1.2	4	13	10	8	n.	H. B. Addicott.
Oakes	Dickey	1,318	8	24.2	......	42	5†	1	2	28	1.44	....	0.92	14.8	2	17	10	4	nw.	F. H. Murray.
Park River	Walsh	998	33	21.0	−2.1	42	6	−5	10	35	0.15	−0.47	0.06	3.0	3	7	12	12	nw.	E. J. Taintor.
Pembina	Pembina	1,520	7	17.9	−0.3	44	5	−20	10	39	0.60	−0.21	0.25	3.0	3	17	5	9	nw.	E. N. Russell.
Sharon	Steele	1,516	13	21.6	−3.0	45	6	−3	9	33	0.29	−0.35	0.20	3.6	3	6	13	12	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	24.5	−1.5	48	6	−4	2	29	0.38	−0.29	0.20	3.0	6	14	9	8	ne.	I. C. Robertson.
Wahpeton	Richland	962	45	24.2	−3.3	43	5	−4	9	30	0.23	−0.42	0.16	3.3	4	7	19	5	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	22.4	−0.3	46	5	−4	9	30	0.30	−0.71	0.13	2.1	4	4	14	13	n.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	22.5	−1.1	57	6	−20	10	40	0.42	−0.37	0.92	4.7	4	12	11	8	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	41	26.0	+1.7	56	6†	−2	25	26	1.20	+0.41	0.70	10.0	4	16	6	9	ne.	R. C. Miles.
Bismarck	Burleigh	1,670	63	28.6	+4.4	66	6	4	25	33	0.58	−0.31	0.41	7.1	4	8	14	9	ne.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	22.6	+2.5	47	6	1	21	27	0.17	−0.49	0.09	2.0	2	24	1	6	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	39	25.6	+2.2	53	6	−4	12	41	0.19	−0.48	0.15	1.3	2	3	19	9	n.	L. A. Swanson.
Carson	Grant	2,500	25	28.2	+1.9	72	6	−10	25	40	0.89	+0.14	0.56	12.5	6	9	18	4	ne.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	25.6	−0.9	63	6	−5	21	36	0.12	−0.46	0.05	1.5	4	15	9	7	n.	R. L. Williams.
Drake	McHenry	1,634	8	24.8	......	64	5	1	21	36	0.17	....	0.05	1.3	6	8	10	13	nw.	Peter Anton.
Dunseith	Rolette	1,682	41	20.4	+0.2	55	6	−4	21	40	0.17	−0.46	0.08	2.0	4	10	16	5	n.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	24.4	+1.5	56	6	−2	21	32	0.18	−0.35	0.10	2.5	4	4	21	6	ne.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	28.6	−0.6	65	6	1	25	36	T.	−0.77	T.	T.	0	9	20	2	se.	H. S. Solenberger.
Fessenden	Wells	1,610	25	23.8	+0.4	52	6	1	1†	33	0.19	−0.56	0.10	1.0	5	18	3	10	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	31.4	+5.1	69	5†	5	25	44	0.50	−0.35	0.30	4.5	2	19	8	4	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	25.2	−0.2	59	6	−1	25	30	0.11	−0.56	0.09	1.3	3	10	11	10	ne.	E. C. Bierbaum.
Gackle	Logan	1,951	7	24.2	......	49	6†	1	13†	27	0.42	....	0.19	4.5	4	11	10	10	ne.	A. H. Haut.
Garrison	McLean	1,901	60	27.2	+3.4	64	6	2	25	35	T.	−0.85	T.	T.	0	9	15	7	ne.	E. L. Vorachek.
Granville	McHenry	1,504	30	26.0	+1.9	60	6	0	21	34	0.06	−0.44	0.06	1.0	1	8	17	6	ne.	W. A. Christianson.
Hansboro	Towner	1,597	29	21.1	+0.5	52	5	−14	10	37	0.75	−0.19	0.50	6.0	2	13	8	10	nw.	C. E. Blackorby.
Linton	Emmons	1,711	20	28.2	+0.5	61	5	1	25	34	0.43	−0.36	0.30	6.0	5	12	15	4	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	24.8	−1.2	59	6†	−1	13	31	0.40	−0.40	0.20	4.0	4	18	3	10	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	24.6	0.0	59	7	−2	13	32	0.03	−0.50	0.02	0.3	2	8	12	11	nw.	A. T. Felland.
Mandan	Morton	1,750	23	27.8	+1.1	67	6	2	25	34	0.48	−0.37	0.20	3.8	3	11	11	9	e.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	23.2	......	62	6	−2	1†	36	0.02	....	0.01	0.2	2	15	1	15	ne.	A. W. Rice.
Minot	Ward	1,557	41	27.8	+5.0	63	6	1	13	35	0.02	−0.61	0.02	1.0	1	8	9	14	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	23.4	+2.5	59	7	−1	25	39	0.20	−0.44	0.10	3.0	3	6	21	4	se.	John Behan.
Napoleon	Logan	1,955	45	24.4	+1.7	54	6	−4	25	36	1.05	+0.22	0.50	10.5	5	17	8	6	se.	C. J. Hoof.
New Salem	Morton	2,163	33	26.2	+0.3	69	6	−8	25	38	0.58	−0.27	0.40	6.0	4	20	7	4	se.	J. Christianson.
Pettibone	Kidder	1,856	28	22.8	−1.5	51	6	−3	13	28	0.26	−0.36	0.16	3.2	2	4	11	16	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	26.8	+2.7	50	5†	−6	1	41	0.34	−0.47	0.24	4.0	2	8	14	9	ne.	R. S. Armstrong.
Towner	McHenry	1,482	35	25.3	+3.2	55	5	1	12†	33	0.15	−0.58	0.15	1.0	1	14	7	10	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	26.6	+1.8	61	6	1	13	30	0.02	−0.86	0.02	1.0	1	24	0	7	ne.	M. A. Slettum.
Velva	McHenry	1,511	10	25.9	......	64	6	0	25	38	0.01	−0.52	0.01	0.5	1	8	16	7	nw.	Oscar Anderson.
Washburn	McLean	1,731	36	27.2	+2.8	64	6	3	25	36	0.12	−0.62	0.08	1.0	3	10	13	8	e.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	23.9	+1.9	49	5	−1	25	40	0.08	−0.45	0 04	1.2	2	12	9	10	ne.	D. W. Drake.
Willow City	Bottineau	1,471	45	22.4	+2.7	48	5	−1	13	30	0.27	−0.47	0.15	2.8	3	15	13	3	ne.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	25.5[d]	−0.8	59[d]	6	−1[d]	25	35[d]	0.93	+0.22	0.71	12.0	3	10	3	18	ne.	E. W. Davis.
Average for Middle Division		......	.....	25.4	+1.4	72	6	−14	10	44	0.34	−0.42	0.71	3.7	3	12	11	8	ne.	....
Western Division																				
Beach	Golden Valley	2,759	31	27.2	0.0	60	5	−14	26	41	0.95	+0.19	0.76	11.0	4	14	6	11	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	26.6	+0.6	64	6	−4	13†	41	T.	−0.56	T.	T.	0	22	8	1	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	......	......	....	....	......	....	......	......	....	.....	......	......	......	......	.....	......	George Larsen.
Crosby	Divide	1,954	29	24.3	+0.8	59	6	−4	25	39	0.53	−0.14	0.50	4.3	2	13	10	8	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	25.5	+0.2	62	6	−11	25	38	0.61	−0.13	0.45	7.3	8	9	15	7	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	28.6	+3.1	63	5†	3	13	30	0.09	−0.74	0.09	1.0	1	17	7	7	e.	W. F. Moede.
Epping	Williams	2,224	27	26.2	+2.2	59	7	0	25	33	0.17	−0.42	0.17	2.0	1	19	4	8	se.	T. Beachler.
Fryburg	Billings	2,790	19	26.6	......	60	6	−3	25	37	0.80	+0.02	0.45	7.8	5	12	14	5	ne.	Verne King.
Hettinger	Adams	2,675	30	25.4	−3.2	68	6	−10	22†	38	0.71	+0.01	0.54	8.0	3	22	5	4	nw.	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	23.7	+1.8	59	6	−7	21	37	0.40	−0.50	0.40	4.0	1	15	8	8	ne.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	28.0	......	62	6	−1	25	37	0.05	−0.58	0.02	0.8	3	16	12	3	ne.	Synthia M. Costello.
Marmarth	Slope	2,714	28	28.8	+1.1	64	6	−15	25	38	1.06	+0.34	0.90	10.9	3	12	6	13	nw.	S. P. Grane.
Mott	Hettinger	2,424	30	28.4	+1.5	69	6	−7	25	42	0.55	−0.38	0.35	5.5	3	7	22	2	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	28.0	+2.8	68	6	−9	24	39	1.54	+0.76	1.35	11.0	5	13	6	12	se.	F. S. Sleight.
Parshall	Mountrail	1,929	22	26.0	......	60	6	−2	13	34	0.01	−0.50	0.01	0.2	1	9	18	4	se.	C. E. Shubert.
Portal	Burke	1,954	32	20.6	+2.9	58	6	−11	21	48	0.60	0.00	0.50	6.0	2	17	4	10	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	24.2	−0.9	51	28	0	24	31	0.24	−0.45	0.23	4.4	2	20	6	5	w.	Geo. B. Gee.
Richardton	Stark	2,467	21	28.2	+1.1	64	6	−2	25	30	0.50	−0.22	0.42	5.0	7	8	4	19	ne.	Assumption Abbey.
Sanish	Mountrail	1,835	12	25.4	+1.1	62	5†	−1	24†	37	0.00	−0.58	0.00	0.0	0	6	19	6	se.	H. J. Bugge.
Watford City	McKenzie	2,084	24	30.2	+4.9	62	5	4	25	34	0.12	−0.56	0.12	2.0	1	17	13	1	e.	J. C. Zeller.
Williston	Williams	1,878	58	27.4	+4.5	59	6	3	25	29	0.15	−0.54	0.15	1.6	1	16	10	5	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	26.5	+2.2	69	6	−15	25	48	0.42	−0.34	1.35	4.5	3	14	10	7	se.	....
Average for the State		......	.....	24.8	+1.2	72	6	−20	10	48	0.39	−0.38	1.35	4.3	3	12	11	8	nw.	....

Notes explanatory of symbols used in this table printed on last page.

Daily Precipitation for March 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red												T.			T.							T.	T.						T.	T		T.
Cavalier	do							T.	T.	T.	T.	T.	T.					.05			T										T.	T	0.05
Cooperstown	Sheyenne								T		T.	T.	T.					.25													T	.0[illegible]	0.26
Courtenay	James								T.			.05						.30												T	.02	.05	0.42
Devils Lake ***	Devils Lake		T.	T.				T	.01	.01	T.	.02	.01			T.		.06		T.	T.									T.	.02	.02	0.15
Edgeley	James								T.		T.		T.				.05							.45								T.	0.50
Edmore	Devils Lake								T.		.03	T.				.06					.01	T.								T.	.03	.10	0.23
Ellendale	James										T.		T.	T.				T.				.03		.50	.10						.03	.09	0.75
Forman	Sheyenne			T.				T.	T.		T.	T.	.07					.08						.50	.24						.03	T	0.92
Fullerton	James			T.					.04		T.		T.					.03			.02			.90	.70		T.		T.		.06	.24	1.99
Grafton	Red											T.						T.			T.										T	.07	0.07
Grand Forks ***	do			T.					T.	T.	T.	T				T.		.22	T.											T	.01	.06	0.29
Hankinson ||||	do								T.		T.							.02						.80		T.					T.	T	0.82
Hannah	Pembina									T.		T	T.					T.			T.										T.	T.	T.
Hillsboro	Red			T								T.						.08													.02	.04	0.14
Jamestown	James								.03		.07		.10				.30														.03	.15	0.68
Langdon ||||	Pembina										.06	.08	.05					.05													.04	.02	0.30
Larimore	Red										.02	T.	T.					.25													T.	.07	0.34
Lisbon	Sheyenne			T	T.				T.	T.	.07	T.	.08	T.				.16			T.	T.		.07	.28		T.			T.	T.	.07	0.73
McHenry	James								.02		.01	T.	.03					.12			T.	.02								T.		.02	0.22
McLeod	Sheyenne										.03	T.	T.					T.							.07	T.						.06	0.16
Mayville	Red							T.			.03	T.	T.			T.		.08												T.	.05	.01	0.17
Oakes	James								T.		T.							T.				T.		.92	.52						T.	T.	1.44
Park River	Red									.03							.06													T.	.06		0.15
Pembina	do										.25	.25						.10															0.60
Petersburg	do								T		.02							.10														.03	0.15
Sharon	do			T.					T.		.01	T.	T	T.		T.		.20			T.									T.	T.	.08	0.29
Valley City	Sheyenne			T.							.02	T.	.02					.20		.01					.02							.11	0.38
Wahpeton	Red										T.	T.	T.	T.	T.			.16						.03	.03	T					.01		0.23
Moorhead, Minn. ***	do			.13			T.	T.	T.		T.	T.	T.	T.	T.	T		.10			T.			T.		T.				T.	.01	.06	0.30
Middle Division																																	
Ashley	Missouri													T.				.07						.35	.70							.08	1.20
Bismarck ***	do			T.				T.	T.	T.	T.		T	T.	T.			.12			T.			.22	.19		T.	T.		T.	T.	.05	0.58
Bottineau	Mouse										T.	T.						.08														.09	0.17
Carrington ||||	James								T.		T.	T.	T.				.15													T.	.04	T	0.19
Carson	Heart												.02	.02				.07						.14	.56					T.		.08	0.89
Dogden Butte	Mouse								T.		T.		.05	T.	T.			T.			.03	.02								T.	.02	T.	0.12
Drake ||||	do								.02		T.	T	.05	.02	T.			.03				.03									.02	T.	0.17
Dunseith	do											T	.02					.06			T.	.01								T.		.08	0.17
Eckman	do								T.		T.		.02					.03			.10											.03	0.18
Euergy	Missouri												T.								T.											T.	T
Fessenden ||||	James								.03				.03					.02				.01										.10	0.19
Fort Yates	Missouri														T			.30						.20									0.50
Foxholm (near)	Mouse								T.		T.		.01					.09			T.									T		.01	0.11
Gackle	James												T.					.19			T			.05	.10					T.		.08	0.42
Garrison ||||	Missouri										T.		T.								T.									T.		T	T.
Granville	Mouse								T	T.	T.		T.	T.				T.			.06									T.	T.	T.	0.06
Hansboro	Devils Lake										T.	T.	.25																		.50		0.75
Linton	Missouri			.01					T.					T				.30						.03	.01					T.		.08	0.43
McClusky	do												.05	T.							.10									.05		.20	0.40
Maddock	Sheyenne								T.		T.	T.	.02	T.				.01			T										T.	T.	0.03
Mandan ||||	Missouri		T.					T.	T.	T.		T.	T.	T.			.20				T.			.20					T.	T.	.08	T.	0.48
Manfred	James								.02	T.			.08					.04			.05										.01	.10	0.30
Max ||||	Missouri								T.		T.		.01					.01			T.										T.		0.02
Minot	Mouse			T.				T.	T.		T.		T	T.				T.			.02									T.		T.	0.02
Mohall	do								T.		T.	.04		T				.06														.10	0.20
Napoleon ||||	Missouri								T.					.05				.40							.50						.05	.05	1.05
New Salem	Heart												T.	T.				.12			T.			.04	.40					T		.02	0.58
Pettibone	James							T.		T.	T.			T.				.16			T.	T.			T.					T.	T.	.10	0.26
Rugby (near)	Mouse		T.										T.						.10									.05		.10			0.25
Ryder	Missouri							T.	.01		.02	T.	.01			T.					T.									.01	T.		0.05
Selfridge	do			T					T.				T.	T.				.17						.70	.20		T.			T.		.03	1.10
Steele	do			T					T.		T		T.				.24				T								T.		.10	T.	0.34
Tagus	Mouse										T.		.01		T.			.01			T.									T.			0.02
Towner	do												T	T.				.15			T.												0.15
Turtle Lake	Missouri																															.02	0.02
Tuttle	do			.04				T		.01			.02					.23			.01			T.	.04					.01	.04	.12	0.52
Velva	Mouse								T.		T.		.01	T.				T.			T.	T								T.		T.	0.01
Washburn ||||	Missouri																	.02							T.						.02	.08	0.12
Westhope	Mouse												.04																			.04	0.08
Willow City	do										T.	T.		T				.05			.07											.15	0.27
Wishek ||||	Missouri																	.15							.71	T.						.07	0.93
Zap	Knife											T.	T.								T.				.13								0.13
Western Division																																	
Alpha	Lit. Missouri			.03					T.				T.					.07				.02		.13	.10					T.	T.	.09	0.44
Beach	do							T.					T.					.08			T.	.01		.10	.76					T.		T.	0.95
Berthold Agency	Missouri												T.	T.							T.									T.			T.
Bowman	Grand																																....
Corinth	Missouri								.03				.03	T.			.28				.06												0.40
Crosby	Mouse																.50			T.												.03	0.53
Dickinson ||||	Heart								.02					.02	T.			.05			T	.01	.02		.45			T.		T.	.02	.02	0.61
Dunn Center	Knife												T											T.	.09								0.09
Epping	Missouri																	.17															0.17
Fryburg	Heart												.02	T.				.04			T.	T.		.24	.45							.05	0.80
Hettinger	Grand																						.15	.54							.02		0.71
Howard (near)	Missouri										T.		T.			T.	.40				T.			T.						T.		T	0.40
Kenmare	Mouse												.02								.02									T.		.01	0.05
Marmarth	Lit. Missouri							T.					T.									.05			.90					T.		.11	1.06
Mary	do																		T.				.02	.01									0.03
Mott	Cannon Ball												T.					.11						.35								.09	0.55
New England ||||	do												.02				.04					T.		1.35							.06	.07	1.54
Parshall	Missouri												T.					.01			T.									T.		T.	0.01
Portal ||||	Mouse																T.	.50			T.										.10		0.60
Powers Lake	Missouri					.01											.23														T.		0.24
Richardton	Heart												T.	.01				.01			.01	T.		.02	.42					T.	.01	.02	0.50
Sanish ||||	Missouri																																0.00
Tioga	do								T.	T.	T.				T.	.03	.07														T.		0.10
Trotters	Lit. Missouri																	.07			T.	T.		.37								.06	0.50
Watford City	Missouri												T.					.12							T.					T.			0.12
Williston ***	do										T.		T.				.15				T.			T.						T.		T	0.15

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ||||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for March 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum	36	36	38	42	40	36	35	30	28	28	26	28	30	29	28	28	26	24	26	28	30	31	32	34	32	32	34	36	34	36	36	31.9
	Minimum	10	15	18	20	28	22	20	18	15	18	12	10	12	14	10	12	10	8	8	10	12	11	14	10	12	15	20	22	20	24	22	15.2
Devils Lake	Maximum	24	21	29	41	50	46	40	18	23	20	27	19	20	24	28	34	34	32	35	29	31	36	32	25	24	29	34	41	34	40	30	30.6
	Minimum	8	2	18	18	33	27	18	5	1	3	14	4	1	3	9	21	22	20	26	11	5	10	18	8	3	6	12	16	21	19	22	13.0
Edgeley	Maximum	32	30	35	40	50	57	44	38	21	20	28	26	21	22	21	44	40	32	34	32	34	38	38	24	25	26	31	30	30	40	38	32.9
	Minimum	15	15	21	20	35	32	32	11	6	12	14	16	3	3	7	13	26	20	22	20	11	16	20	18	1	11	16	20	16	22	16	16.5
Fullerton	Maximum	33	26	37	44	52	48	46	36	21	21	29	29	23	24	34	43	39	37	36	36	32	38	29	26	24	24	29	34	35	40	36	33.6
	Minimum	16	6	21	24	33	33	34	13	5	15	14	16	5	5	10	21	30	23	25	22	13	19	22	16	3	4	19	24	27	21	26	18.2
Grafton	Maximum	26	23	30	41	49	45	40	25	11	15	26	24	24	28	29	36	37	34	34	34	31	37	36	28	25	28	35	39	38	40	39	31.8
	Minimum	7	-2	15	1	30	26	23	-3	-5	-10	11	6	2	5	3	15	29	19	25	21	3	11	15	14	5	9	17	20	22	25	24	12.4
Grand Forks	Maximum	24	22	29	38	45	36	40	17	11	15	25	21	22	26	27	35	37	32	31	29	32	35	28	24	23	26	33	38	35	42	30	29.3
	Minimum	3	-4	9	3	24	22	17	0	-5	-5	11	4	-2	0	16	18	19	17	22	11	1	12	17	11	5	7	15	18	27	28	20	11.0
Hillsboro	Maximum	30	21	33	38	40	40	42	20	15	15	28	27	26	25	30	40	40	34	36	32	30	37	35	28	21	27	34	40	35	42	40	31.6
	Minimum	8	-2	13	5	24	25	20	4	-4	-1	10	10	0	3	15	18	29	19	28	20	2	8	16	17	6	8	17	15	16	28	27	13.0
Jamestown	Maximum	23	29	39	49	44	41	26	15	12	20	18	16	17	26	38	34	33	34	33	30	30	21	23	21	19	32	33	33	35	34	32	28.7
	Minimum	5	-3	8	12	23	22	26	2	-2	1	8	9	-6	-4	7	10	20	10	14	16	2	12	13	13	-1	1	14	13	22	12	21	9.7
Langdon §	Maximum	33	24	31	37	42	39	36	26	19	16	22	24	24	28	27	34	35	32	35	33	30	35	32	25	27	28	34	40	37	38	39	31.0
	Minimum	-1	-3	14	5	26	19	26	-1	-7	-4	9	9	10	-3	1	16	15	16	24	19	-3	5	12	11	3	4	10	14	12	18	17	9.8
Larimore	Maximum	26	22	33	38	45	43	42	31	19	18	27	25	23	28	31	35	38	36	34	29	29	35	34	26	24	27	35	42	39	42	34	31.9
	Minimum	10	-4	15	4	33	26	31	4	-4	-8	10	10	-2	0	6	18	28	17	26	16	0	10	13	15	4	6	13	16	22	26	25	12.5
Lisbon §	Maximum	32	27	34	40	48	46	46	39	22	20	29	27	25	26	32	43	42	37	36	36	35	40	38	28	25	27	36	37	35	45	42	34.7
	Minimum	11	1	9	15	29	31	29	12	1	12	9	17	4	3	19	21	31	22	25	25	12	19	22	22	7	10	21	18	29	27	30	17.5
Oakes	Maximum	32	22	37	35	42	42	40	38	19	18	29	29	21	20	34	37	38	35	34	35	35	37	37	26	20	22	30	33	30	37	37	31.6
	Minimum	4	1	18	15	24	29	29	11	4	14	13	19	4	3	11	22	28	23	25	24	13	20	22	19	4	4	19	18	27	22	28	16.7
Sharon	Maximum	25	26	29	38	43	45	40	29	19	16	26	21	24	26	27	32	35	33	33	30	28	37	27	25	24	26	34	37	34	39	34	30.4
	Minimum	6	0	12	5	30	27	29	4	-3	0	11	11	1	4	11	18	25	12	24	20	0	6	16	16	3	6	12	18	25	23	25	12.8
Valley City	Maximum	28	23	34	42	47	48	46	38	21	20	26	26	23	26	31	41	39	35	34	33	32	36	34	30	27	28	35	35	35	43	41	33.5
	Minimum	10	-4	14	14	31	29	29	9	1	7	12	16	4	4	14	21	29	16	21	18	7	7	19	19	6	11	19	18	28	23	29	15.5
Wahpeton	Maximum	30	28	36	37	43	41	42	34	18	21	26	27	25	25	31	39	39	36	32	33	31	36	34	30	29	25	31	34	34	41	41	32.5
	Minimum	8	-2	18	8	28	23	25	7	-4	11	10	16	7	0	16	21	31	18	23	19	7	19	22	23	9	7	21	21	26	28	30	16.0
Moorhead, Minn.	Maximum	22	24	34	38	46	37	42	20	13	16	25	21	21	24	28	36	36	32	33	31	29	36	31	30	19	24	32	36	35	43	40	30.1
	Minimum	11	-1	12	8	24	26	20	1	-4	7	13	12	3	3	21	21	28	23	23	17	5	20	21	13	7	7	18	21	28	27	23	14.8
Middle Division																																	
Ashley	Maximum	35	35	36	43	49	56	56	37	27	27	29	29	22	23	31	44	44	36	36	40	38	34	35	23	24	24	30	32	32	38	38	34.9
	Minimum	10	9	22	20	32	32	33	14	9	14	12	20	2	5	8	19	30	21	22	20	17	17	20	17	-2	2	18	17	23	21	28	17.2
Bismarck	Maximum	40	31	34	54	62	66	45	32	37	27	35	29	22	25	38	48	41	40	33	35	33	40	30	30	29	28	33	37	35	45	35	37.1
	Minimum	18	13	24	23	35	33	31	17	16	17	14	13	9	16	14	23	26	20	22	23	18	19	22	15	4	12	22	26	27	23	26	20.0
Bottineau	Maximum	28	22	18	31	39	47	44	29	22	30	22	30	18	20	24	39	41	39	43	37	28	30	36	34	27	27	33	38	41	38	40	32.1
	Minimum	4	11	10	20	26	25	29	4	5	7	8	11	5	11	9	12	16	19	21	21	1	6	11	15	3	11	9	14	25	19	19	13.1
Carson	Maximum	43	43	39	55	64	72	56	54	38	28	36	29	23	25	39	49	43	43	39	47	35	43	35	28	20	26	34	34	33	43	33	39.6
	Minimum	16	19	20	24	36	32	30	20	14	18	10	20	0	10	14	20	20	19	14	18	16	16	20	12	-10	-3	17	20	21	14	26	16.9
Fessenden §	Maximum	21	34	36	42	48	52	42	20	30	20	29	23	20	21	34	41	37	38	46	34	31	38	33	28	27	30	31	44	34	43	31	33.5
	Minimum	1	1	10	16	28	28	30	6	5	8	7	15	0	7	7	18	29	19	20	27	8	10	20	17	2	7	12	16	20	17	24	14.0
Foxholm (near)	Maximum	32	29	32	46	55	59	48	32	36	34	31	30	17	25	36	44	40	34	32	30	31	36	34	29	27	28	34	41	38	43	36	35.5
	Minimum	15	9	17	18	37	29	31	11	12	6	12	13	2	13	10	24	16	17	19	24	3	8	17	12	-1	5	11	16	21	19	18	15.0
Garrison §	Maximum	37	33	32	50	60	64	42	32	38	24	33	25	18	26	37	46	39	40	34	34	34	41	33	32	30	32	39	42	34	47	37	36.9
	Minimum	10	11	22	26	32	29	32	13	14	16	12	18	4	14	12	23	20	12	25	24	7	13	24	18	2	10	20	17	24	19	24	17.6
Granville	Maximum	30	28	30	47	56	60	57	37	38	35	32	30	20	25	36	44	41	37	36	33	34	38	36	30	28	32	38	44	38	43	36	37.1
	Minimum	7	3	20	20	32	27	30	11	11	10	14	14	2	15	10	22	18	17	18	25	0	8	15	14	2	6	8	15	23	19	24	14.8
Hansboro	Maximum	29	21	28	45	52	50	40	30	26	23	26	19	24	29	27	40	32	33	31	28	30	33	28	28	20	27	38	39	37	40	33	31.8
	Minimum	2	5	14	21	24	25	29	3	-5	-14	11	2	-4	-3	2	21	20	16	26	6	0	12	14	16	0	-1	15	19	20	10	17	10.4
Linton	Maximum	40	36	35	51	61	60	57	41	35	34	34	33	25	25	36	49	47	36	32	38	36	40	37	28	27	26	32	35	33	44	41	38.2
	Minimum	6	9	24	24	30	27	36	15	14	17	11	22	7	12	11	21	26	12	19	18	20	16	22	18	1	9	20	26	25	19	29	18.3
McClusky	Maximum	30	25	31	41	52	59	59	36	31	31	30	27	18	30	32	40	40	36	32	31	30	38	33	28	30	32	36	40	35	37	37	35.1
	Minimum	10	3	20	20	32	28	28	9	12	13	11	15	-1	12	10	21	21	16	20	24	1	12	24	1	4	6	7	9	20	13	24	14.4
Maddock	Maximum	28	27	30	44	59	57	49	36	28	28	31	28	20	25	30	39	38	35	35	34	31	38	37	31	29	30	34	42	39	43	42	35.4
	Minimum	6	7	19	20	30	25	31	4	5	5	12	8	-2	6	7	20	27	28	22	15	4	9	15	15	1	5	10	14	18	15	23	13.7
Minot	Maximum	37	33	33	49	58	63	55	34	39	37	33	23	19	29	37	46	43	37	34	32	35	40	36	31	28	31	38	45	41	45	43	38.2
	Minimum	29	11	23	26	40	28	33	12	15	14	13	15	1	14	12	26	20	12	25	24	2	7	20	14	2	7	14	14	21	19	22	17.3
Mohall	Maximum	26	32	26	31	47	54	59	37	26	42	27	33	22	20	27	27	43	34	36	32	30	32	28	32	28	28	30	38	45	38	43	34.0
	Minimum	11	3	17	17	30	28	28	11	11	3	4	14	4	6	11	14	12	15	21	25	1	5	13	11	-1	3	9	15	21	20	15	12.8
Napoleon §	Maximum	36	36	34	41	45	54	43	21	31	25	31	26	20	26	34	45	35	34	32	35	34	40	26	25	25	24	31	39	35	42	37	33.6
	Minimum	9	0	21	20	32	27	32	11	8	12	10	18	-2	0	7	19	30	12	15	19	10	14	25	16	-4	0	19	20	25	15	27	15.1
New Salem	Maximum	40	36	40	54	64	69	51	43	34	34	33	29	25	24	39	40	37	39	33	35	33	32	30	29	26	25	32	35	34	43	39	37.3
	Minimum	14	14	22	20	33	31	29	13	10	11	8	17	0	8	5	30	17	12	13	16	13	18	20	13	-8	-2	11	19	20	15	22	15.0
Steele	Maximum	35	32	34	42	50	50	40	32	32	27	30	28	22	23	32	45	38	35	31	35	33	40	30	31	30	28	32	38	35	45	35	36.1
	Minimum	-6	4	22	20	27	29	32	10	12	13	11	18	0	15	10	20	25	15	15	23	18	19	28	16	5	12	22	26	27	25	26	17.4
Towner	Maximum	31	25	29	46	55	51	49	36	37	34	33	30	26	27	34	43	39	40	38	31	34	40	37	30	28	30	37	43	35	44	42	36.6
	Minimum	6	8	20	21	32	25	30	7	8	9	9	1	1	14	10	22	21	18	20	19	1	8	18	15	1	9	8	16	18	17	23	14.0
Westhope	Maximum	28	27	30	42	49	47	42	32	24	32	22	20	24	29	36	45	42	40	34	36	24	46	37	34	26	27	35	43	37	38	35	34.3
	Minimum	6	9	18	18	30	20	24	7	8	3	8	12	1	13	10	20	14	21	24	22	3	6	12	15	-1	11	7	15	28	18	15	13.5
Western Division																																	
Beach	Maximum	41	49	41	52	60	54	54	41	45	39	32	28	22	27	47	56	39	45	34	40	36	36	32	27	20	27	27	26	30	37	35	38.0
	Minimum	16	20	28	32	37	34	30	23	19	21	11	19	4	0	11	27	18	21	19	25	20	16	10	16	-12	-14	2	6	15	7	26	16.4
Berthold Agency	Maximum	40	40	36	55	62	64	54	50	42	31	36	30	20	28	48	50	40	34	37	35	35	42	36	33	32	30	38	40	35	48	40	40.0
	Minimum	8	10	22	20	25	23	27	10	10	18	8	10	-4	10	8	20	12	10	12	18	10	6	22	15	-4	2	18	20	20	10	20	13.3
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Crosby	Maximum	35	38	35	44	55	59	52	32	48	38	29	25	22	29	39	39	33	36	34	30	32	33	34	26	24	27	37	41	36	43	39	36.3
	Minimum	4	6	14	24	32	30	30	14	14	11	11	15	0	10	15	28	9	-3	6	25	5	0	11	6	-4	0	1	20	18	18	12	12.3
Dickinson §	Maximum	42	46	40	53	61	62	44	33	42	27	33	25	16	25	42	52	40	41	30	40	30	41	27	27	24	24	31	31	30	39	32	36.5
	Minimum	7	15	20	28	31	31	30	22	17	17	11	12	-1	0	11	14	22	17	17	21	19	16	17	17	-11	-8	-1	14	16	14	15	14.5
Dunn Center	Maximum	43	45	43	55	63	63	51	35	41	35	34	29	18	28	41	53	43	41	36	30	30	42	35	28	25	26	24	31	30	44	37	38.0
	Minimum	17	18	35	29	41	32	29	19	15	17	11	18	3	14	13	24	18	15	18	24	16	12	28	18	8	10	6	14	24	22	25	19.1
Hettinger	Maximum	48	55	46	58	67	68	51	43	30	25	30	27	20	25	30	35	40	46	35	42	31	20	27	30	25	22	25	30	25	30	38	36.3
	Minimum	19	19	32	28	35	30	35	20	18	12	14	12	0	9	18	21	28	30	21	25	10	-10	1	-1	-5	-10	-1	-3	19	19	7	14.6
Kenmare	Maximum	38	40	30	51	57	62	54	43	45	43	35	29	24	35	39	46	48	42	34	37	35	42	37	36	36	37	42	48	47	45	46	41.4
	Minimum	12	8	16	21	37	30	31	13	14	6	11	14	6	13	10	27	14	15	15	22	1	6	16	11	-1	6	11	12	22	19	17	14.7
Marmarth	Maximum	44	51	44	55	62	64	55	46	52	43	38	30	22	27	47	57	39	50	53	52	36	34	34	24	21	25	23	28	30	37	35	40.6
	Minimum	10	22	30	30	34	27	32	27	20	19	12	17	5	10	15	29	18	20	24	26	23	24	20	18	-15	-13	-10	2	21	3	31	17.1
Mott	Maximum	42	49	42	58	67	69	62	41	34	31	35	34	23	25	46	52	48	44	38	48	35	40	37	28	26	25	31	30	32	40	34	40.2
	Minimum	9	11	32	27	31	27	32	22	19	17	9	8	-4	13	12	12	21	17	19	20	19	25	22	17	-7	-3	10	12	22	14	27	16.5
New England §	Maximum	46	51	49	58	64	68	49	42	43	26	35	28	26	24	42	53	42	46	38	51	31	44	27	29	27	29	30	32	33	44	34	40.0
	Minimum	19	30	31	34	28	29	24	17	15	8	14	-1	4	5	17	22	20	18	22	20	23	23	16	-9	-6	9	3	4	11	28	22	16.1
Watford City	Maximum	41	47	42	53	62	61	51	34	46	36	35	32	24	29	45	51	39	48	35	38	36	44	37	36	36	36	39	40	38	48	42	41.3
	Minimum	14	13	24	31	35	33	30	21	16	19	12	18	7	12	15	27	13	17	19	21	16	14	27	18	4	10	22	23	23	17	24	19.2
Williston	Maximum	36	43	39	50	58	59	41	32	45	28	35	28	19	28	43	41	37	39	34	33	29	40	32	33	30	31	36	37	33	45	34	37.0
	Minimum	13	17	23	31	34	33	29	21	18	17	12	11	7	11	18	25	8	10	21	21	6	14	24	14	3	10	21	21	22	18	23	17.9

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§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

NOTES EXPLANATORY FOR PAGE 10. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, [b] represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

[WBO, Minneapolis, 5-11-37—1500]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVI BISMARCK, N. D., APRIL 1937 No. 4

GENERAL SUMMARY

The outstanding feature of the weather during the month was the heavy snowfall in the central and southern parts of the State on the 3d–4th and in the southeastern section on the 24th–25th. Highways were blocked at times and some stations reported the heaviest snowfall of record during the storm on the 3d–4th. The precipitation for the month was considerably above the April average in the eastern division, slightly above in the central division, and slightly below in the western division. The temperature was below the 1892–1937 April average, although no unusually low readings were reported. Pastures improved somewhat near the close of the month, but they were still backward due to the dryness during 1936 and the present cool spring. Plowing and seeding were delayed considerably in the southeastern part of the State due to wet weather, but spring wheat seeding was nearly completed in the central and western sections. Many dust storms were reported during the second and third decades.

TEMPERATURE

The mean temperature for the State was 40.7°, or 0.7° below the 1892-1937 average for April. The mean temperature for the eastern division was 39.4°; for the middle division, 40.8°; and for the western division, 41.8°. The highest mean temperature was 45.8° at Hettinger, and the lowest, 36.3° at Cavalier, making a range in mean temperature of 9.5°. The absolute range was 76°, from 79° at Sanish on the 15th and New England on the 18th, to 3° at Parshall on the 3d. The average daily deficiency in temperature for the State since January 1, 1937, is 4.2°.

PRECIPITATION

The average precipitation for the State was 2.02 inches, or 0.59 inch more than the 1892–1937 average for April. In the eastern division the average amount was 3.44 inches; in the middle division, 1.56 inches; and in the western division, 1.06 inches. The greatest monthly amount reported was 5.53 inches at Forman and Hankinson; the least reported was 0.32 inch at Crosby. The greatest amount recorded in any 24 consecutive hours was 1.83 inches at Forman on the 30th. The accumulated deficiency in precipitation for the State since January 1, 1937, is 0.42 inch. The average snowfall was 5.8 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	2	1	..	1	..	..	..	..	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	4	9	5	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	1	13	13	1	12	15	2	1	1	10	1	1	2	3	16	12	..	8	..	..	..	..
Fogs	..	..	..	4	1	..	..	..	1	9	2	1	1	..	3	1	..	..	..	..	1	1	..	..	..	2	14	2	5	6	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..
Solar halos	..	..	..	..	1	2	..	..	..	1	1	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..
Hail	..	1	..	..	..	1	..	..	2	..	..	..	..	1	..	..	1	..	..	1	..	..	2	1	1	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	2	..	..	..	..	1	2	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.92	30.38	8	29.38	21	11.7	35	nw.	12	83	54	52	41
Devils Lake	29.95	30.41	8	29.50	14	11.2	37	n.	24	93	69	68	49
Williston	29.93	30.36	8	29.43	21	9.6	30	w.	15	82	48	45	53
Moorhead, Minn	29.93	30.35	8	29.56	14	10.5	31	n.	25	88	70	69	51
Averages & ext's	29.93	30.41	8	29.38	21	10.8	37	n.	24	86	60	58	48

† And other dates.

COMPARATIVE DATA FOR APRIL

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	37.6	75	− 2	2.58	3.09	2.29	2.65	6.3	7	10	6	14
1893	34.3	77	− 8	2.45	1.56	1.09	1.70	7.8	6	7	9	14
1894	42.8	92	12	3.66	2.93	2.50	3.03	4.4	9	8	10	12
1895	49.6	87	10	2.10	2.38	2.20	2.23	0.0	5	13	8	9
1896	40.1	92	2	5.50	3.73	2.18	3.80	5.1	9	9	8	13
1897	40.8	93	7	0.80	1.20	1.24	1.08	1.1	5	12	8	10
1898	41.9	87	− 4	1.38	1.36	1.40	1.38	0.5	5	14	9	7
1899	38.0	86	−22	1.46	1.31	1.31	1.36	6.3	6	12	10	8
1900	49.3	93	11	0.75	0.75	1.05	0.85	T.	3	20	6	4
1901	44.5	92	10	1.40	0.72	0.82	0.98	0.3	4	12	9	9
1902	40.2	87	− 2	1.35	0.88	0.95	1.06	2.9	3	12	8	10
1903	42.5	83	8	1.67	1.10	0.92	1.23	2.7	5	16	6	8
1904	37.4	91	2	2.22	1.21	0.72	1.38	8.1	5	13	5	12
1905	40.2	83	3	1.04	0.38	0.11	0.51	3.7	3	15	8	7
1906	46.7	88	8	1.96	1.06	1.48	1.50	1.3	5	14	7	9
1907	31.9	80	− 6	0.77	0.36	0.44	0.52	4.2	4	10	9	11
1908	43.9	91	−19	1.12	1.53	1.91	1.52	5.9	5	16	6	8
1909	34.2	80	3	0.95	0.71	0.64	0.77	5.1	6	10	9	11
1910	48.0	96	4	1.52	1.03	1.56	1.37	2.9	4	16	8	6
1911	41.5	90	− 5	2.12	0.80	0.64	1.19	6.3	5	15	6	9
1912	44.4	88	2	2.61	2.32	2.22	2.35	1.7	7	14	8	8
1913	46.8	94	11	1.00	0.70	0.23	0.64	2.4	4	16	6	8
1914	40.9	84	2	2.49	1.31	0.58	1.46	2.8	6	9	10	11
1915	50.3	99	5	1.42	0.98	0.68	1.03	T	5	15	8	7
1916	39.2	79	− 6	1.70	1.07	1.54	1.44	2.9	5	10	10	10
1917	37.2	73	5	1.89	1.67	1.49	1.68	5.6	7	9	9	12
1918	41.4	81	0	2.38	1.87	2.28	2.18	3.0	7	12	8	10
1919	42.3	79	6	1.45	1.40	1.72	1.52	6.2	6	11	9	10
1920	32.1	63	−11	0.73	0.67	1.12	0.84	2.1	5	13	8	9
1921	41.1	91	1	1.84	2.07	1.40	1.77	3.8	7	14	7	9
1922	42.3	89	− 2	1.17	0.79	0.79	0.92	2.3	6	10	9	11
1923	38.7	89	−15	1.22	1.63	1.51	1.45	7.2	5	13	8	9
1924	39.3	84	6	3.94	2.31	1.35	2.53	7.5	9	8	9	13
1925	47.8	85	10	2.21	1.37	1.22	1.60	T.	6	11	10	9
1926	42.8	98	− 4	0.17	0.34	0.32	0.28	0.9	3	17	8	5
1927	41.4	95	7	2.05	1.46	1.67	1.73	2.3	7	10	8	12
1928	35.9	84	− 6	0.92	0.88	0.92	0.91	5.0	5	12	10	8
1929	41.5	85	− 9	1.68	1.36	0.88	1.31	3.4	6	12	9	9
1930	47.3	86	8	1.16	1.14	1.45	1.25	0.5	6	14	7	9
1931	44.1	87	3	0.75	0.37	0.18	0.43	0.7	2	18	8	4
1932	44.1	79	0	2.50	2.09	1.84	2.14	0.7	8	9	9	12
1933	40.0	84	2	1.44	1.20	1.35	1.33	7.3	5	11	9	10
1934	43.7	95	7	0.75	0.34	0.24	0.44	1.9	3	15	8	7
1935	38.4	83	0	2.62	1.75	1.42	1.93	3.6	8	9	9	12
1936	35.6	87	−15	0.53	0.26	0.37	0.39	0.5	4	14	10	6
1937	40.7	79	2	3.44	1.56	1.06	2.02	5.8	8	8	9	13
Period	41.4	99	−22	1.76	1.33	1.20	1.43	3.4	6	12	8	10

Climatological Data for April 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	39.6	−2.4	60	11	20	1	30	4.85	+3.18	0.95	11.0	11	1	6	23	ne.	I. Idso.
Cavalier	Pembina	894	27	36.3	...	64	11	20	1†	34	3.66	+2.31	0.96	4.0	8	13	3	14	ne.	E. W. Kibler.
Cooperstown	Griggs	1,428	40	37.4	−3.3	65	17	5	5	47	2.03	+0.64	0.57	1.7	10	18	3	9	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	38.2	−0.6	63	11	15	4	31	1.23	−0.29	0.42	2.8	13	6	6	18	e.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	40.4	−2.3	68	13	10	5	35	2.13	+0.36	0.96	6.0	5	6	13	11	se.	O. A. Thompson.
Edmore	Ramsey	1,524	13	38.2	−2.4	62	11	15	1†	31	1.51	+0.40	0.40	0.4	12	3	11	16	ne.	A. G. Braund.
Ellendale	Dickey	1,457	42	41.2	−2.4	67	19	14	5	35	2.70	+0.91	0.79	11.7	9	11	6	13	nw.	J. E. Demmer.
Forman	Sargent	1,249	44	40.5	−3.7	65	13	15	5	32	5.53	+3.66	1.83	10.0	11	16	1	13	nw.	Helge Dyste.
Fullerton	Dickey	1,439	39	41.1	−1.7	65	13†	13	5	32	4.39	+2.25	1.33	15.9	8	3	14	13	n.	F. O. Alin.
Grafton	Walsh	827	45	40.6	0.0	65	11	19	2	36	4.12	+2.91	0.89	9.4	9	7	7	16	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	39.6	−2.1	63	11	17	1	33	4.62	+3.00	1.21	9.6	13	3	10	17	se.	H. E. Simpson.
Hankinson	Richland	1,068	8	41.0	...	67	18	16	5	37	5.53	...	1.68	14.0	12	12	7	11	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	45	36.8	−1.3	60	11	13	2	28	2.36	+1.32	0.58	3.3	12	5	11	14	se.	James Muir.
Hillsboro	Traill	901	31	40.8	−2.0	64	11	18	1	35	4.38	+2.54	1.35	2.0	14	7	8	15	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	36.6	−5.5	65	12	8	5	38	3.74	+2.16	0.93	12.5	9	6	14	10	ne.	S. Calvelage.
Langdon	Cavalier	1,615	41	38.1	+0.3	62	11	12	2	30	2.88	+1.73	0.86	2.0	13	6	9	15	se.	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	38.6	−1.8	63	11	15	1†	35	3.69	+2.09	0.79	8.0	13	5	4	21	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	33	40.5	−1.9	66	13	13	5	36	4.43	+2.62	0.72	20.0	13	4	11	15	ne.	J. O. Halverson.
McHenry	Eddy	1,509	15	38.2	−3.0	62	17	10	5	31	1.71	−0.21	0.41	5.3	12	5	9	16	e.	C. E. Blasky.
McLeod	Ransom	1,075	26	40.4	−3.8	65	13	20	3†	33	3.98	+2.05	1.59	1.5	9	17	2	11	n.	J. G. Carlson.
Mayville	Traill	975	41	41.3	−1.7	65	12	12	1	35	4.29	+2.72	0.70	13.0	15	4	11	15	n.	H. B. Addicott.
Oakes	Dickey	1,318	8	38.6	...	67	13	12	5	35	3.09	...	0.64	5.2	11	12	3	15	nw.	F. H. Murray.
Park River	Walsh	998	33	37.6	−3.7	65	11	16	2	43	3.04	+1.76	0.53	3.5	12	7	3	20	nw.	E. J. Taintor.
Pembina	Pembina	1,520	7	38.6	0.0	61	16	13	2	30	4.57	+3.37	1.05	6.5	14	11	6	13	ne.	E. N. Russell.
Sharon	Steele	1,516	13	38.0	−1.9	62	11†	12	1	30	3.28	+1.78	0.67	6.8	13	5	7	18	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	41.0	−1.6	68	17	10	5	38	2.78	+1.24	0.74	9.0	11	14	2	14	ne.	I. C. Robertson.
Wahpeton	Richland	962	45	42.0	−2.4	64	13†	10	5	31	4.00	+2.07	1.38	8.2	12	9	9	12	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	40.8	+0.2	62	17	21	1	30	4.69	+2.51	1.36	16.7	10	2	11	17	n.	U. S. Weather Bureau.
Average for Eastern Division		...	...	39.4	−2.1	68	13†	5	5	47	3.44	+1.68	1.83	7.5	11	8	7	15	nw.	...
Middle Division																				
Ashley	McIntosh	2,001	41	39.5^{j}	−3.1	62^{j}	22	13^{j}	5	30^{j}	1.34	−0.32	0.60	6.0	4	9	8	13	nw.	R. C. Miles.
Bismarck	Burleigh	1,670	63	42.8	+0.7	73	21	15	4	38	1.43	−0.09	0.88	12.4	5	6	12	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	39.2	+0.1	67	12	14	1	33	1.78	+1.01	0.71	0.6	10	11	3	16	nw.	N. D. School of Forestry.
Carrington	Foster	1,579	39	40.6	+1.0	67	21	19	1†	35	1.45	+0.20	0.62	4.0	12	4	11	15	se.	L. A. Swanson.
Carson	Grant	2,500	25	42.8	+0.1	75	21	10	4	45	1.35	+0.11	0.80	7.0	5	7	15	8	se.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	40.9	−1.1	69	21	9	1	37	2.03	+0.79	0.98	12.0	6	6	11	13	nw.	R. L. Williams.
Drake	McHenry	1,634	8	39.6	...	69	21	12	1	37	0.98	...	0.33	4.0	7	3	9	18	se.	Peter Anton.
Dunseith	Rolette	1,682	41	37.6	−2.3	68	14	10	1	34	1.44	+0.62	0.73	T.	10	7	8	15	n.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	40.4	−0.2	68	11	10	4	39	2.52	+1.66	1.05	2.0	9	4	16	10	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	43.4	−1.2	74	21	11	5	40	1.07	+0.11	0.45	8.0	5	3	21	6	n.	H. S. Solenberger.
Fessenden	Wells	1,610	25	39.4	−1.3	70	21	12	1	38	0.84	−0.41	0.29	2.5	6	6	8	16	se.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	45.6	+0.7	73	18	15	5	39	0.97	−0.31	0.50	5.0	3	14	7	9	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	40.2	−1.3	68	15	11	1	39	2.56	+1.21	0.98	5.0	10	5	9	16	se.	E. C. Bierbaum.
Gackle	Logan	1,951	7	39.8	...	68	22	12	5	34	1.13	...	0.87	2.1	6	7	11	12	nw.	A. H. Haut.
Garrison	McLean	1,901	60	41.7	−0.6	70	21	14	1†	36	1.81	+0.72	0.58	8.0	8	6	14	10	n.	E. L. Vorachek.
Granville	McHenry	1,504	30	40.8	0.0	68	21	11	1	41	2.19	+1.38	1.21	2.0	7	6	6	18	se.	W. A. Christianson.
Hansboro	Towner	1,597	29	38.6	−0.3	64	11	10	2	38	2.85	+1.59	0.75	9.0	7	7	11	12	se.	C. E. Blackorby.
Linton	Emmons	1,711	20	42.6	−0.1	73	21	17	5	47	0.48	−0.77	0.28	3.5	4	4	18	8	n.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	40.2	−1.4	69	21	11	2	35	1.42	+0.22	0.85	8.5	4	11	10	9	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	39.8	−1.2	64	11	9	4	35	1.14	+0.01	0.48	1.0	8	4	8	18	nw.	A. T. Felland.
Mandan	Morton	1,750	23	42.4	−0.3	73	21	12	5	41	1.38	+0.21	0.72	12.0	7	6	7	17	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	39.7	...	70	21	11	1	39	1.30	...	0.87	2.0	6	...	...	...	se.	A. W. Rice.
Minot	Ward	1,557	41	41.2	+0.4	70	21	11	1	38	2.16	+0.96	1.19	4.0	7	7	4	19	se.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	39.5	−1.0	65	16	13	1	33	3.04	+2.14	1.25	3.0	10	4	17	9	ne.	John Behan.
Napoleon	Logan	1,955	45	40.5	−0.9	73	21	9	5	43	1.24	−0.30	0.60	11.0	8	5	3	22	se.	C. J. Hoof.
New Salem	Morton	2,163	33	40.9	−1.5	75	21	4	5	52	1.60	+0.56	0.79	9.0	5	11	13	6	nw.	J. Christianson.
Pettibone	Kidder	1,856	28	38.7	−2.2	69	21	8	1	39	0.57	−0.55	0.37	4.0	4	5	11	14	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	39.8	−3.4	63	12	12	5	33	2.00	+0.84	0.60	11.0	4	8	5	17	ne.	R. S. Armstrong.
Towner	McHenry	1,482	35	41.6	−0.3	66	11	13	2	38	2.59	+1.72	1.35	2.0	8	5	14	11	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	41.3	−0.2	71	21	12	1	38	0.86	−0.17	0.35	6.0	5	16	5	9	se.	M. A. Slettum.
Velva	McHenry	1,511	10	41.8	...	69	21	10	1	36	2.22	+1.31	1.46	6.0	6	5	14	11	nw.	Oscar Anderson.
Washburn	McLean	1,731	36	41.9	−1.9	69	13	16	5	37	1.16	+0.19	0.65	10.0	5	2	14	14	e.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	39.6	−0.3	64	13	4	2	39	2.11	+1.31	0.85	0.5	9	8	11	11	ne.	D. W. Drake.
Willow City	Bottineau	1,471	45	39.2	−0.4	67	11	14	2	36	2.34	+1.47	1.29	2.2	7	5	17	8	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	42.0^{d}	+0.1	74^{d}	21	12^{d}	5	42^{d}	0.91	−0.44	0.55	3.0	3	...	...	...	nw.	E. W. Davis.
Average for Middle Division		...	...	40.8	−0.7	75	21	4	2†	52	1.56	+0.23	1.46	5.2	7	6	11	13	nw.	...
Western Division																				
Beach	Golden Valley	2,759	31	41.4	−0.6	78	15	7	2	39	0.62	−0.53	0.19	3.0	7	9	12	9	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	41.3	−2.2	76	16	8	5	46	1.07	+0.06	0.37	4.0	6	11	3	16	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	George Larsen.
Crosby	Divide	1,954	29	41.2	+1.0	68	15	10	2	37	0.32	−0.66	0.20	2.0	4	8	12	10	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	40.7	−1.4	78	15	10	5	43	0.84	−0.24	0.43	5.8	9	9	7	14	se.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	41.6	−0.2	78	15	11	5	44	0.70	−0.56	0.28	7.0	6	7	9	14	se.	W. F. Moede.
Epping	Williams	2,224	27	41.5	−0.7	75	16	9	4	38	1.05	+0.02	0.46	3.0	6	10	7	13	se.	T. Beachler.
Fryburg	Billings	2,790	19	41.1	...	78	15	10	4	40	1.11	−0.06	0.40	5.7	7	9	13	8	se.	Verne King.
Hettinger	Adams	2,675	30	45.8	+3.0	78	22	14	3	41	0.69	−0.28	0.25	3.7	8	16	6	8	nw.	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	39.2	+0.1	70	15	10	4	35	0.92	−0.20	0.80	8.2	2	14	9	7	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	...	...	...	...	9	1†	...	1.87	+0.92	0.51	2.5	9	13	9	8	e.	Synthia M. Costello.
Marmarth	Slope	2,714	28	43.2	+0.2	78	15	11	4	39	0.93	−0.09	0.40	4.2	8	11	8	11	nw.	S. P. Grane.
Mott	Hettinger	2,424	30	42.6	+0.8	77	15	19	3	42	0.89	−0.32	0.45	6.5	5	8	14	8	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	42.8	+0.5	79	18	13	4	47	0.95	−0.06	0.85	8.0	5	8	10	12	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	38.0	...	70	15	3	3	42	1.08	+0.13	0.36	2.5	8	7	17	6	se.	C. E. Shubert.
Portal	Burke	1,954	32	39.8	−1.6	70	15	12	1	40	1.22	+0.25	0.50	2.0	8	11	1	18	se.	R. G. Wegener.
Powers Lake	Burke	2,205	32	42.8	+2.0	70	15	14	1	32	1.34	+0.13	0.61	5.0	4	13	14	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	21	41.2	+0.1	75	15	14	5	44	1.88	+0.74	1.30	9.8	7	3	4	23	w.	Assumption Abbey.
Sanish	Mountrail	1,835	12	41.6	−0.9	79	15	9	3	46	1.36	+0.29	0.50	6.0	11	6	9	15	se.	H. J. Bugge.
Watford City	McKenzie	2,084	24	43.6	+2.5	78	15	11	4	45	1.23	+0.07	0.48	4.5	8	5	22	3	e.	J. C. Zeller.
Williston	Williams	1,878	58	43.2	+1.2	77	15	10	4	33	0.93	−0.27	0.38	5.5	8	11	9	10	se.	U. S. Weather Bureau.
Average for Western Division		...	...	41.8	0.0	79	15†	3	3	47	1.06	−0.14	1.30	4.7	7	10	9	11	se.	...
Average for the State		...	...	40.7	−0.7	79	15†	3	3	52	2.02	+0.59	1.83	5.8	8	8	9	13	nw.	...

Notes explanatory of symbols used in this table printed on last page.

Daily Precipitation for April 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red			.95	.15					.15			.45							.05	T.			.75	.75	.45	.05			.20	.90		4.85
Cavalier	do			T.			.02	.02					.42		.77						.77	.28				.42					.96		3.66
Cooperstown	Sheyenne			.17									.57		.16		T.				.26		T	.18	.15	.05	.03			.04	.42		2.03
Courtenay	James			.90						.02			.42		.03					.09	.02			.12	.04	.06	.09		T.	.06	.41		2.26
Devils Lake ***	Devils Lake	T.		.12	T.		.03			.01		T	.25	T.	.10		.01	T.		.04	.12	T.	.05	T.	T.	.01	.05		T	.02	.42		1.23
Edgeley	James			.49									T.												.38	.20				.10	.96		2.13
Edmore	Devils Lake	T.		.01	.02		.08	T.		T.			.40		.10		.02	T.			.38	T.	.03		T.	.01	.04	T.		.04	.38		1.51
Ellendale	James		T.	.43						.08			.06		.02									.56	.28	.39				.09	.79		2.70
Forman	Sheyenne			.38	T.			T.		.11			.95		T.						.09			.93	.64	.38	.02	T.	.05	.15	1.83		5.53
Fullerton	James			1.04						.05			.12					T.			T.			.62	.27	.82			T.	.14	1.33		4.39
Grafton	Red				T.		.18						.44		.40						.89		.03	.20	.84	.35				T.	.79		4.12
Grand Forks ***	do	T.		.15	.01					T.			.40	.01	.09		.07	T.	T.	T.	.46		T.	.64	1.08	.31	.02	T.		.17	1.21		4.62
Hankinson ‖‖	do			.30	.59					.04			.64		.12						.05		.02	.45	1.05	.32			T.	.24	1.68		5.53
Hannah	Pembina			T.	.03		.17	.04					.23		.42		.08	.02			.58		.20		T	.09				.08	.42		2.36
Hillsboro	Red			.12	.06					.02			.55	.10	.17		.07				.15			.31	1.00	.03	.20			.25	1.35		4.38
Jamestown	James		.55	.70					T.			T.	.35		.07									.31		.20	.45			.18	.93		3.74
Langdon ‖‖	Pembina			T.	.05		.06	.09					.27	.06	.50			T.			.86		.06		.05	.14	T.	.04		.22	.48		2.88
Larimore	Red			.06	.09					.03			.67		.22		.09				.39			.37	.50	.18	.21		T.	.09	.79		3.69
Lisbon	Sheyenne	T.		.20	.72			T.			.12		.20	.58	.02	T.					.02		T	.39	.71	.40	.33			.11	.63		4.43
McHenry	James			.41	.01					.02			.37		.08	.03					.25	.01			.02	T.	.09			.04	.38		1.71
McLeod	Sheyenne				.15					.17			.73		.08						.06				1.59	.07				.16	.97		3.98
Mayville	Red			.70	.11					.01			.40	.23	.21	.02	.05				.16			.20	.70	.30	.20			.30	.70		4.29
Oakes	James			.21	.36						.19		.30		T.						T.			.45	.56	.03	.23		.02	.10	.64		3.09
Park River	Red			.10			.10					.19	.16	.17	T.	T.				.53	.33	T.		.14	.08	.31				.43	.50		3.04
Pembina	do						.26						.47		.72		.02	.07			.52	.06	.01	.16	.65	.07	.11			.40	1.05		4.57
Petersburg	do			.09			T.					.52			.09		T.				.42		.01	.01	.24	.15	.15			.01	.67		2.36
Sharon	do			.37	.08		T.			.02			.58		.24		.02	T	T		.33		T.	.32	.44	.09	.05		T.	.07	.67		3.28
Valley City	Sheyenne			.24	T.					.02			.60		.02		.01				.03			.34	.43	.29				.06	.74		2.78
Wahpeton	Red	T.		.48	.01					.01	.01		.53	.01	.07	T.					.11			.86	.25	T.	T.			.28	1.38		4.00
Moorhead, Minn. ***	do	T.		.49	T.			T.		.06			.64		.12		T.		T.	T.	.07		T.	.93	.68	.29		T.	T.	.27	1.14		4.69
Middle Division																																	
Ashley	Missouri			.46									T.																.13	.60	.15		1.34
Bismarck ***	do		.36	.56									T.	T.	T.	T.		T.				T.	.05		T		T.		T	.10	.36		1.43
Bottineau	Mouse			.06	T.		.08								.11	.10	.12				.71	.22	.17	.20	.01								1.78
Carrington ‖‖	James		.15	.20									.15	.04	T.	.08				.03	.01	T.			T.	.03	.02		.02	.10	.62		1.45
Carson	Heart		.30	.80																			.02						T.	.12	.11		1.35
Dogden Butte	Mouse			.98	T.								.02								.44		.19						T.	.11	.29		2.03
Drake ‖‖	do			.07	.16			T.						.05	T.		T.				.33	.07		.24			T.				.06		0.98
Dunseith	do			T.	T.		.05	T.		T.			.06		.06	.03	.11		T.		.73	.17	.07	.13				T.			.03		1.44
Eckman	do			.05	T.		.10						.21		.03		.27				1.05	.01	.34								.46		2.52
Energy	Missouri			.45																	.15		.17						T.	.05	.25		1.07
Fessenden ‖‖	James			.29	.27										T.							.08	.02				.06				.12		0.84
Fort Yates	Missouri		.50																											.01	.46		0.97
Foxholm (near)	Mouse			.53	.01		.06					T.	.14		.04		.19	T.			.98	T.	.40							.03	.18		2.56
Gackle	James			.14	.02										.02										T	.05	T			.03	.87		1.13
Garrison ‖‖	Missouri			.53	.21											.04				.58		T.	.12						.06	.05	.22		1.81
Granville	Mouse			.17			.05					T.	.12	T.	T.		T.				1.21		.31							.06	.27		2.19
Hansboro	Devils Lake				.23		.62						.10		.33						.75		.52								.30		2.85
Linton	Missouri		T.	.16	T.										.02			T.									T		T.	.02	.28		0.48
McClusky	do			.85																			.12							.10	.35		1.42
Maddock	Sheyenne			.08	.02		T.						.05		.01			T.			.48		.10				T.			.02	.38		1.14
Mandan ‖‖	Missouri		.72	.14								T.	T.	T.	T.	T.						.03	.01		T.		T.	T.	.05	.06	.37		1.38
Manfred	James			.50									.03		.02						.17		.10				.02			.03	.46		1.33
Max ‖‖	Missouri			.18									T.				T.				.87		.10	.05						.05	.05		1.30
Minot	Mouse			.24	T.		T.						.13		T		.10				1.19		.20						T	.02	.28		2.16
Mohall	do			.20	T.	T.	.05					T.	.41		.07		.22	T.			1.25	T.	.47		.05				T	.10	.22		3.04
Napoleon ‖‖	Missouri			.60	.40									.04	.03	.01	T.										.10			.05	.01		1.24
New Salem	Heart		.10	.79									T.		T.								.23						T	.17	.31		1.60
Pettibone	James				.13					T			T		T		T.										T.		.03	.04	.37		0.57
Rugby (near)	Mouse			.02		.01	.03						.11		.02		.02				.57		.25							.04	.22		1.29
Ryder	Missouri		T.			.18					T.		T.	T.		.07				1.03		.12						.02	.03		.21		1.66
Selfridge	do		1.00	.20										T.				T.			T.								T	.15	.30		1.65
Steele	do		*	1.10						.30																			T	T.	.60		2.00
Tagus	Mouse			.29	T.		.06						.24		.04	.08	.12			T.	.12		.34						T.	.04	.05		1.38
Towner	do			.25	.15		.05						.12		T		T.	T			1.35		.17		T.				.05		.45		2.59
Turtle Lake	Missouri			.35																	.06		.25							.03	.17		0.86
Tuttle	do			.32	.02					T.					T.			T.		T.			T.				.03		.01	.12	.32		0.82
Velva	Mouse			.22	T.		T.						.02		T.		T.	T.			1.46		.22							.10	.20		2.22
Washburn ‖‖	Missouri			.65	.26														T.		T		.15	.07					T.	T.	.03		1.16
Westhope	Mouse			.03									.18		.05		.33	T			.85	.05	.30						T.	.09	.23		2.11
Willow City	do			.10			.12						.20		.04			T.			1.29		.23						T.	T.	.36		2.34
Wishek ‖‖	Missouri			.30																									T.	.06	.55		0.91
Zap	Knife			.17												.09				.11		.13								.23			0.73
Western Division																																	
Alpha	Lit. Missouri	.07	.09	.07									.63			T.	T.	T.			.01		.12						T.	.09			1.08
Beach	do	.07	.05	.14									.19				T.					.06	.08						T	.03			0.62
Berthold Agency	Missouri			.34										T.				.10				.37		.10					T.	.10	.06		1.07
Bowman	Grand																																......
Corinth	Missouri		T.	.38			.24					.84		.02		.03													.03	.07	.02		1.63
Crosby	Mouse			.20			.05						.06		T.																.01		0.32
Dickinson ‖‖	Heart																																0.84
Dunn Center	Knife			.28	.10									.04							.08		.16							.04			0.70
Epping	Missouri			.28									.46		.02								.16							.08	.05		1.05
Fryburg	Heart	.07	.40	.32									.06		T.	T.		T.		T.	T.	.02	.18	T.					T.	.06	T.		1.11
Hettinger	Grand	.04	.25	.08								.01	.10				T.						.15						T.	.05	.01		0.69
Howard (near)	Missouri			.80		T.						T		T.		T.		T.			T.	T							T	.12			0.92
Kenmare	Mouse		T.	.20	.05		.05					T	.47				.06				.51	.01	.50							.02			1.87
Marmarth	Lit. Missouri	.01		.37								.40	T.								.01	.02	.06							.05	.01		0.93
Mary	do		.05	.09									.63		T.	.02				.01	.12	.10								.13			1.15
Mott	Cannon Ball			.45													T.				.07		.19							.11	.07		0.89
New England ‖‖	do		.85																			.04							.04	.02			0.95
Parshall	Missouri			.15	.05		T.							.01			.08				.34		.36							.06	.03		1.08
Portal ‖‖	Mouse			.10	.10								.50		.11	.11					.12		.12								.06		1.22
Powers Lake	Missouri		.21				.61															.43							.09				1.34
Richardton	Heart	.01	.04	1.30																	.30		.06							.15	.02		1.88
Sanish ‖‖	Missouri			.50		.02							.33	.05	.02	.05				.02		.25							.03	.08	.01		1.36
Tioga	do		.20	.05			01					.24		.03								.32							.04	.05			0.94
Trotters	Lit. Missouri		.41										.19										.11						T.	.07			0.78
Watford City	Missouri		.20	.16		.04							.48		.02	T.		T.		T.	T.	T.	.24		.04					.05			1.23
Williston ***	do		.31	.07		.01						T.	.28	.01		.01					T.	.19							T.	.05			0.93

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum...	36	40	38	39	40	38	40	50	44	48	60	48	58	52	49	52	50	48	58	52	55	55	58	36	34	42	41	54	49	56	....	47.3
	Minimum ...	20	26	24	26	28	30	32	32	23	25	36	35	33	38	36	35	38	36	28	32	33	35	36	30	28	30	31	34	40	44	....	31.8
Devils Lake	Maximum...	35	36	29	34	40	41	43	50	52	51	63	53	58	45	52	60	58	59	50	40	58	48	42	36	35	42	59	53	48	47	....	47.2
	Minimum ...	15	17	23	15	19	26	26	24	30	24	32	35	31	29	26	40	33	31	26	33	30	38	35	30	29	29	31	40	40	42	....	29.3
Edgeley	Maximum...	36	35	30	31	30	48	47	44	53	45	60	57	68	64	54	54	61	64	63	57	65	62	52	36	33	38	57	49	46	47	....	49.5
	Minimum ...	20	24	24	21	10	21	31	26	31	31	30	40	34	39	32	38	36	36	28	40	32	36	36	31	29	28	32	36	38	37	....	30.9
Fullerton	Maximum...	36	33	32	32	36	43	45	46	52	50	61	55	65	64	55	60	63	64	62	61	50	65	50	37	32	38	56	49	51	48	....	50.0
	Minimum ...	22	25	26	24	13	22	32	27	30	31	32	38	33	37	34	38	39	37	31	33	41	36	37	31	27	29	33	42	41	44	....	32.2
Grafton	Maximum...	33	37	36	41	46	44	48	49	49	52	65	64	54	52	50	61	61	59	58	51	49	49	47	41	33	40	60	60	52	52	....	49.8
	Minimum ...	21	19	27	24	25	28	28	27	32	22	29	41	35	35	28	41	33	33	26	36	34	35	39	31	28	30	31	37	40	44	....	31.3
Grand Forks	Maximum...	32	36	33	39	44	49	45	47	46	50	63	49	54	54	49	62	62	61	54	46	51	52	43	35	32	39	55	53	48	52	....	47.8
	Minimum ...	17	18	27	25	22	30	28	24	30	25	30	39	33	36	27	41	38	39	26	38	35	35	35	30	29	30	31	41	40	45	....	31.5
Hillsboro	Maximum...	35	40	37	38	44	51	47	48	45	50	64	60	57	60	49	57	57	63	59	57	55	56	53	40	32	40	52	54	52	53	....	50.2
	Minimum ...	18	19	28	25	23	29	32	26	28	22	29	41	33	38	29	42	36	35	28	39	35	35	40	32	28	28	32	35	40	40	....	31.5
Jamestown §	Maximum...	32	27	33	36	45	38	45	50	49	60	41	65	52	46	54	60	61	57	45	52	48	44	37	33	38	57	49	49	50	56	....	47.0
	Minimum ...	11	11	20	18	8	15	20	21	23	24	25	27	27	30	23	25	27	33	30	35	34	34	37	33	26	23	28	40	40	40	....	26.3
Langdon §	Maximum...	34	33	32	42	42	38	45	52	48	50	62	57	58	49	48	60	58	59	45	42	50	58	45	39	36	39	54	53	53	46	....	47.6
	Minimum ...	16	12	24	16	20	26	20	22	30	31	32	37	32	31	24	39	32	32	24	32	30	29	33	29	26	32	31	35	37	43	....	28.6
Larimore	Maximum...	33	37	32	39	46	51	45	47	45	51	63	57	55	52	50	60	62	62	52	50	53	52	46	36	29	39	55	52	47	49	....	48.2
	Minimum ...	15	15	16	22	22	28	27	22	28	20	28	40	32	33	26	40	32	33	24	36	32	35	36	29	27	28	30	34	38	43	....	29.0
Lisbon §	Maximum...	38	35	33	36	40	47	48	48	48	50	64	50	66	63	50	64	65	65	63	60	59	57	44	34	31	37	50	49	51	56	....	50.0
	Minimum ...	20	22	25	24	13	16	28	24	25	28	28	42	37	37	34	35	39	37	32	36	35	36	40	34	28	29	30	34	41	42	....	31.0
Oakes	Maximum...	34	31	26	28	36	44	39	42	48	50	61	52	67	54	53	58	62	63	43	54	61	51	39	33	31	35	54	44	48	48	....	46.4
	Minimum ...	21	23	26	22	12	17	25	26	27	31	29	35	32	33	34	35	38	38	32	33	36	37	39	33	29	29	30	35	42	42	....	30.7
Sharon	Maximum...	35	34	30	35	35	46	44	49	46	49	62	50	57	55	47	58	62	60	50	45	56	51	44	34	29	40	52	49	47	47	....	46.6
	Minimum ...	12	18	24	23	19	24	28	24	30	24	32	39	31	33	27	39	32	31	26	36	30	36	34	28	26	28	30	33	38	43	...	29.3
Valley City	Maximum...	36	35	35	34	38	49	47	48	49	50	63	59	63	62	50	56	68	66	66	57	61	61	50	38	37	42	52	51	48	51	....	50.7
	Minimum ...	19	23	25	25	10	23	33	24	25	27	25	42	34	35	29	39	35	34	31	41	36	38	38	32	29	29	32	40	40	44	....	31.2
Wahpeton	Maximum...	38	38	37	34	40	49	46	47	46	49	61	57	64	64	50	60	63	64	61	60	55	60	60	39	32	43	59	58	51	59	....	51.5
	Minimum ...	21	22	26	17	10	28	32	27	27	28	32	40	33	40	36	42	40	36	30	41	35	37	38	32	28	31	32	42	42	47	....	32.4
Moorhead, Minn.	Maximum...	33	38	34	36	40	50	45	47	41	48	61	47	58	50	48	60	62	62	60	53	55	58	46	36	32	40	55	51	49	58	....	48.7
	Minimum ...	21	24	25	25	21	30	31	28	30	28	31	41	35	37	32	43	39	36	32	40	36	34	34	28	28	32	32	42	42	46	....	32.8
Middle Division																																	
Ashley	Maximum...	37	37	29	28	29	47	49	44	49	50	59	55	60	60	50	....	....	....	....	52	60	62	60	59	....	....	....	....	....	....	....	^{j}48.8
	Minimum ...	22	24	24	20	13	25	29	25	29	30	32	40	33	40	42	....	....	....	....	43	30	35	36	33	....	....	....	....	....	....	....	^{j}30.2
Bismarck	Maximum...	38	32	29	33	41	46	45	49	57	55	62	61	69	64	68	61	61	64	65	53	73	57	47	45	51	51	60	50	49	46	....	52.7
	Minimum ...	23	25	17	15	17	27	28	28	30	36	37	42	34	36	34	44	37	38	38	40	35	40	37	33	31	31	34	42	40	41	....	33.0
Bottineau	Maximum...	33	38	35	32	39	42	43	47	52	57	56	67	60	61	43	59	62	61	59	54	44	55	53	48	45	50	45	58	54	58	....	50.3
	Minimum ...	14	19	20	19	20	19	23	20	29	27	23	39	37	38	27	29	29	29	27	31	30	30	32	32	30	31	31	31	38	37	....	28.0
Carson	Maximum...	34	33	36	33	45	47	45	50	58	56	64	59	69	65	74	64	61	65	70	60	75	65	48	48	55	52	58	50	50	46	....	54.5
	Minimum ...	23	22	22	10	15	26	28	27	28	29	43	40	32	40	42	41	31	31	44	33	30	39	32	29	25	30	28	35	36	40	....	31.0
Fessenden §	Maximum...	37	36	29	37	39	45	45	49	55	47	54	63	66	53	58	63	61	62	57	41	70	52	43	40	41	45	55	53	47	47	....	49.7
	Minimum ..	12	18	25	16	19	26	26	23	31	27	30	35	31	44	21	40	32	30	28	32	32	34	34	33	30	27	30	33	37	38	....	29.1
Foxholm (near)	Maximum...	35	36	33	32	39	39	44	51	55	54	63	57	63	59	68	61	57	60	56	48	60	54	47	45	52	49	57	54	47	51	....	50.9
	Minimum ...	11	16	25	18	17	32	24	26	34	27	34	38	30	41	29	36	32	35	26	34	32	41	31	28	26	26	30	34	33	37	....	29.4
Garrison §	Maximum...	40	34	30	30	42	39	43	45	59	53	64	56	64	69	67	62	62	64	61	42	70	51	48	45	53	49	59	50	47	48	....	51.5
	Minimum ...	14	22	26	14	14	17	25	30	32	32	44	30	45	33	43	34	34	34	38	36	44	34	30	29	30	34	38	38	38	44	....	31.9
Granville	Maximum...	38	37	35	36	38	40	47	53	57	54	67	58	66	58	65	62	60	62	58	48	68	57	52	46	51	46	60	53	57	47	....	52.5
	Minimum ...	11	16	25	15	16	28	24	23	30	26	30	43	25	30	30	42	24	27	28	38	34	42	34	32	30	32	32	35	32	35	....	29.0
Hansboro	Maximum...	34	35	32	36	42	38	44	53	49	51	64	58	59	52	56	61	54	56	44	44	52	51	46	45	48	45	57	54	52	47	....	48.6
	Minimum ...	16	10	25	16	18	28	21	21	32	21	26	41	30	32	30	40	34	29	21	33	29	33	33	33	28	29	31	34	40	40	....	28.5
Lintou	Maximum...	38	36	30	31	40	49	48	48	55	52	65	60	69	66	61	60	63	65	68	62	73	70	57	43	49	53	60	57	49	48	....	54.2
	Minimum ...	25	26	24	18	17	27	29	24	25	22	35	32	27	45	33	44	28	30	35	35	26	42	36	32	29	30	31	41	39	31	....	30.9
McClusky	Maximum...	35	30	30	33	35	40	43	48	54	53	60	58	64	61	60	60	59	60	62	60	69	53	44	43	47	46	59	49	43	42	....	50.0
	Minimum ..	18	11	25	19	16	27	25	23	28	29	33	42	39	45	28	43	32	30	34	30	34	38	33	32	32	31	34	36	36	37	....	30.3
Maddock	Maximum...	38	40	37	34	39	40	45	50	54	52	64	60	62	60	55	62	60	62	60	50	63	62	58	42	43	48	60	58	49	47	....	51.8
	Minimum ...	11	14	24	9	14	25	25	23	24	20	29	41	30	32	23	40	30	32	25	31	30	38	33	35	23	28	30	37	35	38	....	27.7
Minot	Maximum...	38	37	30	36	40	42	48	54	55	55	63	59	66	52	69	62	60	62	55	42	70	51	47	45	53	49	57	51	47	48	....	51.4
	Minimum ...	11	17	26	21	18	33	27	24	34	28	32	42	28	43	32	43	32	37	31	36	34	33	33	31	29	30	33	34	37	41	....	31.0
Mohall	Maximum...	39	40	34	34	33	42	42	50	56	54	54	62	55	60	54	65	62	58	60	56	45	56	60	50	48	55	45	56	53	48	....	50.9
	Minimum ...	13	18	20	21	19	25	23	26	30	25	28	31	29	29	23	39	33	34	27	32	32	34	31	20	23	28	31	34	34	37	....	28.1
Napoleon §	Maximum...	38	30	30	32	39	46	43	47	55	51	60	58	63	64	57	59	63	65	64	56	73	56	47	41	39	54	61	52	47	46	....	51.4
	Minimum ...	18	17	23	20	9	25	26	23	28	30	33	41	31	44	29	40	30	31	30	35	30	39	34	30	28	26	30	36	38	35	....	29.6
New Salem	Maximum...	43	34	29	33	38	45	40	45	56	54	67	63	69	68	68	65	63	63	69	51	75	67	50	49	58	50	59	55	48	45	....	54.1
	Minimum ...	22	20	20	10	4	25	22	25	27	29	28	35	29	39	29	41	30	29	32	32	23	43	30	24	27	28	24	32	35	36	....	27.7
Steele	Maximum...	36	27	33	36	43	42	45	50	53	58	51	63	60	55	61	60	61	60	55	52	60	49	40	38	44	54	55	50	50	51	....	50.1
	Minimum ...	17	18	18	16	12	21	24	25	26	30	31	35	30	33	28	35	32	35	34	38	35	38	37	33	28	27	31	41	40	40	....	29.6
Towner	Maximum...	40	39	35	39	40	41	49	55	57	52	66	60	63	61	66	65	60	62	60	50	65	63	53	47	51	46	60	53	57	47	....	53.4
	Minimum ...	22	13	25	16	18	28	22	21	32	24	31	44	28	35	28	41	34	33	26	37	32	40	33	31	30	32	32	35	32	35	....	29.7
Westhope	Maximum...	36	35	33	37	43	33	48	55	54	53	63	62	64	55	64	62	60	60	60	49	54	54	50	46	54	47	59	57	50	51	....	51.6
	Minimum ...	14	4	21	17	12	29	21	21	27	24	30	27	28	35	25	29	33	32	27	36	31	42	32	30	29	32	32	33	37	36	....	27.5
Western Division																																	
Beach	Maximum...	29	28	33	43	46	47	36	50	50	54	58	54	66	62	78	57	58	63	67	67	71	53	51	53	56	57	53	50	47	56	....	53.1
	Minimum ...	22	7	21	9	22	25	29	27	28	31	34	38	33	39	39	40	32	31	30	33	37	38	29	23	24	22	31	36	35	34	....	29.6
Berthold Agency	Maximum...	38	40	30	34	42	42	48	54	60	60	66	63	63	70	64	76	64	60	65	64	55	74	58	50	50	48	60	50	50	52	....	55.1
	Minimum ...	10	12	18	13	8	24	22	24	22	30	30	36	36	24	48	30	40	30	28	32	35	32	40	22	30	25	27	30	35	32	....	27.5
Bowman	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Crosby §	Maximum...	39	36	34	39	46	42	45	57	60	62	58	59	62	60	68	60	57	62	62	53	60	50	50	40	55	60	57	60	52	61	....	53.8
	Minimum ...	14	10	21	19	22	24	26	28	28	26	32	37	29	29	35	35	35	36	31	31	32	36	32	29	29	23	28	30	32	35	....	28.5
Dickiuson §	Maximum...	31	27	30	29	44	48	41	47	52	57	63	58	67	64	78	59	60	64	69	59	74	51	52	48	55	51	56	48	46	52	....	52.7
	Minimum ...	23	22	22	15	10	14	26	27	26	29	29	34	28	31	37	38	32	30	36	34	31	40	32	26	24	22	26	28	35	35	....	28.7
Dunn Center §	Maximum...	40	29	27	35	40	46	43	51	51	59	65	59	68	65	78	59	60	64	63	56	76	50	53	49	54	53	58	49	46	52	....	53.3
	Minimum ...	23	23	27	15	11	14	28	27	26	32	32	39	28	36	34	36	32	31	39	36	33	43	34	29	26	25	30	35	39	36	....	30.0
Hettinger	Maximum...	30	30	33	31	45	48	51	53	47	56	62	56	67	62	76	70	71	68	70	77	72	78	75	72	68	65	70	63	55	52	....	59.1
	Minimum ...	23	23	14	20	22	24	29	27	29	30	35	24	39	40	36	43	32	39	40	38	34	37	39	40	35	37	39	34	40	36	....	32.6
Kenmare	Maximum...	43	41	46	37	44	53	52	60	63	67	74	80	68	68	78	74	77	81	76	66	62	67	55	61	62	62	61	73	62	62	....	62.5
	Minimum ...	9	12	25	9	21	33	23	24	33	29	35	46	28	40	30	49	34	35	30	36	34	42	31	27	25	26	32	34	35	37	....	30.1
Marmarth	Maximum...	31	31	33	40	48	51	40	50	50	55	58	62	67	65	78	62	62	65	72	67	75	60	53	51	58	56	53	53	50	58	....	55.1
	Minimum ...	24	25	23	11	23	24	30	26	23	29	38	40	32	43	41	42	33	30	42	35	36	38	32	28	28	23	29	35	36	37	....	31.2
Mott	Maximum...	32	31	33	32	46	48	45	48	52	56	62	60	67	64	77	74	62	65	70	63	74	66	51	47	54	51	56	56	47	49	....	54.6
	Minimum ...	24	24	19	20	12	25	29	31	25	29	35	40	28	42	37	44	31	29	36	34	32	42	34	27	24	27	27	33	37	39	....	30.5
New England §	Maximum...	35	32	36	32	45	47	50	63	51	62	55	68	62	63	67	77	76	79	72	66	76	53	51	53	55	54	57	49	47	53	....	56.2
	Minimum ...	20	22	19	13	23	29	27	27	29	30	31	30	29	35	32	30	31	33	36	31	41	32	26	29	25	26	31	35	34	43	....	29.3
Watford City	Maximum...	44	33	38	39	48	43	42	58	62	59	65	59	66	65	78	62	72	66	64	61	68	53	51	49	54	57	59	53	49	58	....	55.8
	Minimum ...	24	25	24	11	19	32	28	31	20	27	34	41	31	41	33	40	33	32	42	34	35	40	36	26	25	27	32	35	39	37	....	31.4
Williston	Maximum...	39	30	31	37	48	41	43	55	57	61	61	59	66	64	77	59	57	63	61	58	62	47	51	49	55	55	57	53	48	60	....	53.5
	Minimum ...	23	24	22	10	22	33	30	30	31	33	36	41	33	43	41	40	35	37	44	35	38	40	34	29	23	29	35	37	40	36	....	32.8

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, ou which it almost always occurs. ^{a} 1 day missing, ^{b} 2 days, etc.

NOTES EXPLANATORY FOR PAGE 14. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also ou other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University: Howard, Grenora.

[WBO, Minneapolis, 6-8-37--1500]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

1937

NORTH CAROLINA SECTION.

27

L. A. DENSON.

Vol. XLII Raleigh, N. C., May, 1937 No. 5

GENERAL SUMMARY.

The early part of May was cool and the latter part warm with temperature averaging about normal as it did in April. Rainfall, however, was light and much less than in April, especially in most of the eastern and central districts. Only about a quarter of an inch occurred at Henderson and Southport, half inch at Clinton, Elizabethtown, Fayetteville and Louisburg, and less than one inch at Enfield, Goldsboro, Greenville, Kinston, Sloan, Willard, Smithfield, Raleigh and Durham. The average in the western half of the State was about three inches, which is about three-quarters of the normal rainfall. There were 19 clear days, 9 partly cloudy and only 3 cloudy, with much sunshine. Wind and other storm damage was slight and confined to some small areas.

Weather conditions were partly unfavorable for crops. Cotton was doing fairly well as a whole at the close of the month, though mostly a week or more late owing to cool weather early in May and insufficient rainfall over rather large areas which delayed planting in the Piedmont, retarded germination, and required considerable replanting. Abundant sunshine relieved blue mold in tobacco beds which had been badly affected; much of crop is late owing to scarcity of early plants and difficulty in setting out and obtaining a stand under insufficient rainfall, but growth was mostly good under warm conditions in the latter part of May and this crop, like cotton, was doing fairly well in the eastern portion at the close of the month. Corn varied from poor to good and some truck was not turning out as well as expected several weeks ago. Wheat and fruits were looking well and all mountain crops were in satisfactory condition.

Rivers which had been in flood near the end of April or in the first part of May declined to low stages in the latter part of May.

TEMPERATURE.

The monthly mean temperature for the State, as shown by the record of 73 stations, was 66.8°, which is exactly the average for May during the period of record from 1887 to 1937. Variations from normal were slight at nearly all stations and there were no unusual extremes. The highest reported was 98° at Monroe on the 27th and Southern Pines on the 28th; lowest 27° at Mount Mitchell on the 15th, Highest monthly mean 71.0° at Fayetteville and Lumberton; lowest 49.7° at Mount Mitchell.

PRECIPITATION.

The average precipitation for the Section, based on 85 of the reporting stations, was 2.18 inches, or 1.89 inches below the average of the period of record from 1887 to date. Only about half of normal occurred in the coastal plain and Piedmont and less than three-fourths in the Mountain region. The rainfall was excessive at only one station, 4.00 inches being reported at Salisbury on the 13th and 14th. It was due to this heavy local rain that Salisbury reported the heaviest monthly amount, 5.18 inches. The least monthly total was only 0.21 at Southport, followed next by 0.26 at Henderson.

MISCELLANEOUS PHENOMENA (Dates)

Gales.—None reported.

Halos (solar).—Charlotte, 1, 5, 17, 18, 20, 26, 27; Greensboro, 18; Raleigh, 22; Wilmington, 1, 2, 20; Wilson 26.

Halos (lunar).—Concord, 19; Raleigh, 25; Wilmington, 27, 28.

Frost.—Heavy at Banners Elk, 7, 8, 11; Jefferson., 10. Mount Mitchell reports a freeze on 15th, temperature, 27.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE.

Stations.	Atmospheric pressure (reduced to sea-level)					Wind				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	8 a. m.	12 noon	8 p. m.	
Asheville	30.02	30.32	1	29.71	5	7.8	31	nw.	31	78	44	54	78
Charlotte	30.02	30.36	1	29.76	5	7.0	30	nw.	28	70	46	48	84
Greensboro	30.01	30.40	1	29.76	5	7.6	28	sw.	12	78	45	56	76
Hatteras	30.01	30.31	1	28.75	29	12.8	30	n.	10	76	69	78	....
Raleigh	29.99	30.36	1	29.78	6	8.4	21	w.	14	77	50	56	78
Wilmington	30.02	30.31	1	29.77	6	9.1	27	s.	13	80	51	71	86
Norfolk, Va.	30.01	30.39	1	29.73	6	9.3	41	nw.	28	72	50	62	87

COMPARATIVE DATA FOR MAY.

Year	Temperature			Precipitation (inches) Average					Aver. No. Days			
	Mean	Highest	Lowest	Eastern District	Central District	Western District	State	Average Snowfall	Precip. .01 inch or more	Clear	Partly Cloudy	Cloudy
1887	69.9	95	32	......	......	......	4.55	......	11	11	14	6
1888	67.6	96	33	6.44	7.11	7.97	7.04	......	15	6	12	13
1889	68.3	98	28	4.85	4.76	4.21	4.62	......	9	15	10	6
1890	67.5	96	26	4.72	4.92	4.76	4.79	......	10	12	12	7
1891	64.2	95	22	4.73	6.98	4.44	5.36	......	12	13	7	11
1892	66.8	97	32	3.60	3.55	3.64	3.60	......	9	15	10	6
1893	64.9	100	32	6.04	8.06	5.35	6.48	......	10	13	10	8
1894	67.8	98	28	3.99	4.73	3.29	4.00	......	11	11	13	7
1895	64.1	99	27	4.69	3.70	5.11	4.83	0	13	12	10	9
1896	72.2	99	39	4.98	3.94	3.86	4.28	0	10	12	12	7
1897	64.6	92	28	4.08	3.92	2.98	3.73	0	9	14	10	7
1898	68.4	104	27	3.54	4.17	2.99	3.69	0	9	15	10	6
1899	68.5	98	33	3.14	3.71	3.08	3.33	0	9	13	10	8
1900	67.0	98	31	3.01	2.84	1.97	2.70	0	6	18	8	5
1901	66.8	97	32	7.62	8.24	8.83	7.94	T.	12	12	9	10
1902	69.5	99	31	2.39	2.72	2.68	2.59	0	9	15	10	6
1903	67.3	100	26	2.44	1.32	2.40	1.99	0	6	13	10	8
1904	66.3	95	28	2.79	3.14	5.14	3.43	0	8	15	9	7
1905	69.2	95	31	5.38	7.57	7.06	6.69	0	15	11	10	10
1906	66.4	98	23	2.80	2.71	3.73	3.01	T	7	17	8	6
1907	65.2	96	24	5.21	3.70	4.50	4.53	0	11	13	9	9
1908	67.5	96	28	4.99	2.67	4.19	3.86	0	9	14	11	6
1909	65.9	94	25	4.06	5.43	7.49	5.36	0	8	17	7	7
1910	64.9	96	22	5.75	3.77	6.18	4.99	0	10	16	8	7
1911	69.1	101	26	0.94	1.46	1.73	1.27	0	5	20	7	4
1912	67.5	97	31	4.46	4.27	5.26	4.62	0	9	16	8	7
1913	67.9	98	23	3.89	4.14	5.67	4.37	0	9	16	9	6
1914	67.9	101	29	1.57	1.30	1.26	1.38	0	5	21	7	3
1915	67.9	96	32	5.45	5.84	5.59	5.63	0	13	12	10	9
1916	69.9	102	35	4.43	4.51	5.07	4.62	0	9	18	8	5
1917	61.9	98	28	2.86	3.12	2.41	2.80	T.	7	17	8	6
1918	69.7	99	24	3.38	3.70	3.85	3.65	0	9	16	9	6
1919	67.2	97	30	4.58	5.63	5.65	5.27	0	12	12	10	9
1920	62.5	92	26	0.85	1.88	2.95	1.85	0	7	15	9	7
1921	64.1	95	26	5.33	4.08	3.98	4.48	0	12	10	9	12
1922	67.2	94	29	4.53	4.73	5.96	5.07	0	11	13	10	8
1923	64.8	90	25	2.18	3.15	8.10	4.32	T.	9	12	10	9
1924	63.9	94	24	6.10	5.41	4.20	5.27	T.	10	15	9	7
1925	63.5	99	20	2.73	3.09	2.54	2.80	T.	7	18	7	6
1926	66.3	102	26	1.63	1.36	2.07	1.67	0.1	7	18	8	5
1927	68.0	100	18	2.18	1.98	3.50	2.50	T.	8	14	10	7
1928	64.3	96	24	3.91	4.63	6.10	4.76	0.1	11	15	8	8
1929	66.4	92	19	7.28	5.21	6.40	6.33	T.	12	13	10	8
1930	68.3	96	25	2.14	3.00	4.18	3.06	0	8	15	10	6
1931	64.9	93	22	4.33	5.86	4.47	4.88	0	11	14	10	7
1932	65.7	97	27	4.05	3.46	3.91	3.81	T.	9	15	7	9
1933	70.7	99	35	4.17	3.29	6.37	4.58	0	10	16	11	4
1934	66.4	97	32	5.29	4.77	3.44	4.54	0	9	15	8	8
1935	65.5	96	29	2.87	3.60	3.99	3.47	0	10	13	9	9
1936	68.7	98	30	1.04	0.28	1.40	0.90	0	4	22	7	2
1337	66.8	98	27	1.53	2.12	3.06	2.18	0	6	19	9	3
Period	66.8	104	18	3.89	3.99	4.36	4.07	T.	9	15	9	7

Climatological Data for May, 1937.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure from the normal	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Total snowfall, unmelted	With precipit'on (0.01 in. or more)	Clear	Partly cloudy	Cloudy		
Eastern District																				
Beaufort	Carteret	10	36	69.5	0	85	26	48	1	28	1.75	−1.85	0.85	0	3	28	2	1	sw.	U. S. Fisheries Station
Belhaven	Beaufort	4	27	69.0	+0.3	92	27	40	† 2	35	2.80	−1.00	1.80	0	2	29	0	2	s.	W. C. Harris
Clinton	Sampson	159	....	70.7	......	95	28	40	1	39	0.54	......	0.35	0	2	22	9	0	s.	Ferdinand J. Faison
Edenton	Chowan	30	42	^{d}67.9	−0.2	^{d}94	27	^{d}37	1	^{d}37	0.60	−3.69	0.52	0	2	23	6	2	sw.	E. R. Conger
Elizabeth City	Pasquotank	8	25	67.8	+0.8	93	28	38	1	37	1.49	−2.41	0.58	0	5	13	16	2	ne.	W. H. Sanders
Elizabethtown	Bladen	60	25	......	......	....	....	....	....	....	0.59	−3.31	0.32	0	2	....	....	....	......	D. S. Fortner
Enfield (near)	Halifax	99	26	......	......	....	....	....	....	....	0.81	−2.76	0.57	0	3	....	....	....	......	T. S. Inborden
Fayetteville	Cumberland	170	52	71.0	+1.1	98	28	40	1	42	0.55	−3.45	0.25	0	3	26	2	3	s.	J. W. Scoggins
Goldsboro	Wayne	102	67	69.2	−0.3	97	28	38	1	45	0.91	−3.57	0.34	0	3	16	14	1	sw.	Miss Margaret Robinson
Greenville	Pitt	75	32	68.8	+0.3	95	22	39	1	44	0.89	−3.01	0.79	0	2	22	5	4	e.	B. T. Clark
Hatteras	Dare	7	63	67.6	−1.1	81	28	51	3	19	2.36	−1.35	1.00	0	8	18	7	6	sw.	U. S. Weather Bureau
Kinston	Lenoir	46	34	69.0	−1.3	95	28	40	1	36	0.69	−3.11	0.42	0	3	9	7	5	sw.	D. C. Flowers
Lumberton	Robeson	102	54	71.0	+0.5	97	27	42	1	41	1.43	−2.44	0.50	0	5	28	3	0	s.	O. O. Dukes
Manteo	Dare	12	32	68.2	+2.0	88	28	48	† 1	22	1.52	−2.00	0.96	0	3	11	13	7	sw.	Mrs. Rosa L. Drinkwater
Nashville	Nash	190	33	67.8	−0.5	95	28	37	1	48	1.36	−2.43	0.47	0	4	....	....	....	sw.	Miss Empress E. Boddie
New Bern	Craven	12	55	70.6	+1.1	93	†27	42	1	32	3.68	−0.42	1.10	0	7	26	1	4	sw.	James R. Hill
New Holland	Hyde	2	22	^{b}68.6	+0.7	^{b}90	27	^{b}42	2	^{b}30	3.36	−0.24	1.20	0	7	23	6	2	sw.	H. C. Lawrence
Red Springs	Robeson	204	17	......	......	....	....	....	....	....	1.19	−2.21	0.51	0	4	26	4	1	s.	J. D. Callahan
Rocky Mount	Nash	105	26	......	......	....	....	....	....	....	1.63	−2.27	0.98	0	4	....	....	....	......	J. A. Moore
Scotland Neck	Halifax	80	33	67.8	+0.8	96	28	36	1	40	1.15	−2.45	0.66	0	4	19	12	0	e.	J. H. Applewhite
Sloan††	Duplin	50	44	^{b}68.0	−0.6	^{b}92	27	^{b}42	1	^{b}38	0.77	−3.53	0.57	0	3	....	....	....	sw.	R. F. Sholar
Smithfield	Johnston	146	47	67.6	−1.0	95	28	36	1	40	0.87	−3.03	0.37	0	4	18	12	1	sw.	John J. Davis
Southport	Brunswick	18	82	70.4	−0.4	87	29	47	† 1	26	0.21	−3.19	0.21	0	1	25	4	2	sw.	Mrs. C. E. Taylor
Stonewall	Pamlico	17	14	......	......	....	....	....	....	....	2.26	−1.18	0.90	0	5	16	11	4	sw.	A. R. Gatlin.
Swansboro	Onslow	10	13	^{d}70.2	+1.8	^{d}86	†27	^{d}45	5	^{d}30	3.80	+0.10	1.50	0	7	27	2	2	sw.	John L. Bell
Tarboro	Edgecombe	50	52	69.5	+0.3	95	28	38	† 1	39	1.50	−2.24	0.76	0	4	21	8	2	sw.	E. V. Zoeller
Weldon	Halifax	81	65	69.6	+1.6	97	28	37	1	40	1.39	−2.33	0.59	0	5	18	12	1	e.	L. A. W. Shearin
Wenona	Washington	16	22	65.6	−0.6	92	†27	36	4	42	2.65	−1.15	1.27	0	3	17	10	4	sw.	Branch Experiment Sta.
Willard	Pender	51	28	^{e}69.1	+0.5	^{g}94	28	^{e}40	2	^{g}43	0.91	−3.39	0.49	0	5	25	5	1	......	Branch Experiment Sta
Wilmington	New Hanover	6	66	69.6	−1.2	89	28	45	1	27	2.29	−1.15	0.69	0	5	16	14	1	sw.	U. S. Weather Bureau
Wilson	Wilson	145	....	69.4	......	96	28	40	1	34	1.30	......	0.76	0	6	15	11	5	sw.	Joe Overman, Jr.
District means and	extremes	......	....	69.0	+0.2	97	†27	36	† 1	48	1.53	−2.24	1.80	0	4	20	8	3	sw.	
Central District																				
Albemarle	Stanly	700	25	68.6	+1.0	96	27	39	2	41	3.43	−0.07	1.65	0	7	18	13	0	sw.	M. J. Harris
Asheboro	Randolph	860	11	68.4	+0.7	90	†28	38	1	32	1.56	−1.83	1.05	0	5	25	5	1	sw.	W. E. Yow
Caroleen	Rutherford	806	37	^{d}68.0	+0.2	^{d}94	31	^{b}45	† 1	^{d}41	2.99	−0.41	0.60	0	8	18	9	4	sw.	G. C. Hardin
Chapel Hill	Orange	500	79	69.8	+1.8	95	28	37	1	38	0.99	−2.80	0.43	0	6	22	6	3	sw.	J. G. Pickard
Charlotte	Mecklenburg	741	61	69.8	+0.9	93	31	43	1	28	2.66	−0.97	1.87	0	7	13	14	4	s.	U. S. Weather Bureau
Concord	Cabarrus	705	5	^{b}68.5	......	^{c}93	28	41	1	^{c}37	2.15	......	1.57	0	7	7	21	3	......	S. K. Patterson
Durham	Durham	406	28	......	......	93	28	....	....	....	0.61	−2.96	0.33	0	5	28	1	2	......	J. C. Michie
Gastonia	Gaston	810	6	69.6	......	93	27	43	1	32	2.53	......	0.65	0	8	23	7	1	sw.	John H. Shannon
Graham	Alamance	656	35	......	......	....	....	....	....	....	1.95	−1.65	0.57	0	6	....	....	....	......	McBride Holt
Greensboro	Guilford	843	56	66.8	−1.0	92	31	38	1	33	2.25	−1.79	0.72	0	6	18	9	4	sw.	Mrs. A. R. Horry
Henderson	Vance	435	44	67.0	−0.5	94	28	31	8	39	0.26	−3.58	0.19	0	3	15	15	1	s.	Carolina Power & Lt. Co.
High Point	Guilford	966	15	66.6	−1.7	91	31	37	1	31	3.96	+0.16	1.86	0	7	18	11	2	sw.	A. B. Horney
Louisburg	Franklin	375	46	68.5	+0.8	97	28	35	1	43	0.52	−3.25	0.22	0	3	....	....	....	sw.	Robert A. Bobbitt
Moncure	Chatham	232	43	67.4	−0.2	95	28	35	2	41	1.19	−2.57	0.75	0	4	20	8	3	sw.	B. J. Utley
Monroe	Union	586	43	70.0	+1.8	98	27	43	† 1	42	1.30	−2.12	0.88	0	4	27	3	1	sw.	T. A. Ashcraft
Mount Gilead	Montgomery	242	6	67.8	......	93	28	41	2	37	1.23	......	0.72	0	4	16	11	1	n	Carolina Power & Lt. Co.
Oxford	Granville	500	16	66.4	+1.3	94	28	35	1	34	1.04	−3.16	0.68	0	3	29	1	1	sw.	Branch Experiment Sta.
Pinehurst	Moore	650	33	68.2	−0.7	94	†27	35	† 1	40	0.95	−2.75	0.48	0	3	29	1	1	......	General Office
Raleigh	Wake	345	66	69.2	+0.7	94	28	38	1	31	0.94	−2.87	0.50	0	2	21	9	1	sw.	U. S. Weather Bureau
Randleman	Randolph	810	32	......	......	....	....	....	....	....	2.30	−1.70	0.91	0	6	....	....	....	......	Frank Talley
Reidsville	Rockingham	828	38	66.8	0	90	31	36	1	31	4.24	+0.54	1.19	0	7	20	7	4	sw.	Chas. A. Whitsett, Jr.
Rockingham	Richmond	210	42	69.8	−0.2	93	†26	41	† 1	41	1.75	−1.96	0.79	0	5	20	10	1	sw.	C. E. D. Egerton
Salisbury	Rowan	764	53	67.7	−0.6	95	27	40	2	41	5.18	+1.17	4.00	0	8	21	9	1	sw.	C. M. Smith
Settle††	Iredell	700	41	......	......	....	....	....	....	....	2.16	−1.75	1.24	0	7	....	....	....	......	Marvin W. Smith
Shelby	Cleveland	895	13	70.0	......	97	27	46	1	39	3.57	+0.40	1.30	0	9	24	6	1	sw.	J. R. Phifer
Siler City	Chatham	625	12	67.6	−0.4	92	31	37	† 1	37	1.46	−1.72	0.76	0	5	17	12	2	sw.	C. A. Shelton
Southern Pines	Moore	519	42	69.7	−0.2	98	28	37	1	39	1.48	−2.80	0.65	0	4	21	7	0	......	Mrs. P. H. Beck
Statesville	Iredell	950	49	67.3	+0.2	92	†27	39	1	33	2.46	−1.24	0.86	0	6	12	19	0	sw.	Branch Experiment Sta.
Winston-Salem	Forsyth	1,000	42	66.4	0	95	31	36	2	41	4.25	+0.36	1.37	0	8	26	4	1	sw.	Sam E. Welfare
District means and	extremes	......	....	68.2	+0.2	98	†27	34	8	43	2.12	−1.59	4.00	0	6	20	9	2	sw.	
Western District																				
Andrews	Cherokee	1,800	22	64.0	+0.3	91	31	38	7	40	3.53	−1.47	1.03	0	10	....	....	....	......	Mrs. A. B. Chandler
Asheville	Buncombe	2,192	58	64.3	+1.7	89	31	41	7	44	2.45	−0.95	0.70	0	14	10	17	4	nw.	U. S. Weather Bureau
Banners Elk	Avery	3,750	29	57.0	+1.1	84	31	28	7	47	4.52	−0.33	1.86	0	8	7	22	2	w.	Miss Fairie Belle Lowe
Boone	Watauga	3,332	8	57.8	......	85	31	31	11	44	2.87	......	0.65	0	9	21	5	5	w.	J. T. C. Wright
Brevard	Transylvania	2,230	35	63.6	+1.2	87	31	37	7	46	3.74	−1.46	0.72	0	10	11	20	0	w.	H. H. Patton
Bryson City	Swain	2,600	49	......	......	....	....	....	....	....	2.41	−2.01	0.56	0	8	11	8	12	......	Ben Herron
Cullowhee	Jackson	2,100	27	64.4	+1.7	90	30	38	† 7	45	4.65	+1.05	1.80	0	10	18	6	7	nw.	Frank H. Brown
Elkin	Surry	880	24	......	......	....	....	....	....	....	4.09	+0.49	1.56	0	7	26	4	1	w.	Mrs. Emma Bodenheimer
Hendersonville	Henderson	2,153	40	63.2	+0.5	90	31	39	9	43	4.04	−0.82	1.20	0	12	21	8	2	nw.	J. T. Fain, Jr.
Hickory	Catawba	1,165	24	67.4	+1.3	92	31	40	1	37	1.95	−1.35	0.57	0	7	21	10	0	w.	Mrs. J. E. Barb
Highlands (near)	Macon	3,350	51	62.2	+1.3	86	†26	36	15	35	2.15	−3.85	0.95	0	7	9	18	4	sw.	Miss Gertrude Harbison
Hot Springs	Madison	1,326	39	66.2	+0.7	92	31	39	7	43	3.05	−0.57	0.64	0	9	14	13	4	e.	Harry Hill
Jefferson	Ashe	2,900	29	60.1	+0.5	84	†26	32	† 1	44	4.02	−0.38	0.90	0	9	16	12	3	w.	Joe Worth
Lenoir	Caldwell	1,186	63	65.7	+0.9	95	27	41	† 1	51	3.29	−0.72	1.20	0	8	12	17	2	se.	Macon M. Williams
Marion	McDowell	1,425	45	65.7	+0.1	93	31	40	7	39	2.58	−2.12	1.07	0	5	23	4	4	s.	R. S. Clay
Marshall	Madison	1,646	37	63.0	−1.1	90	31	36	7	46	2.41	−0.70	0.67	0	7	12	7	12	se.	J. A. Dennis
Montreat	Buncombe	2,600	20	60.8	+0.3	85	31	37	7	43	1.66	−3.31	0.72	0	7	15	8	8	sw.	Albert R. Bauman
Morganton	Burke	1,135	50	65.8	−0.1	94	31	42	† 1	42	2.28	−1.57	0.83	0	6	23	8	0	w.	J. C. Dale
Mount Airy	Surry	1,048	48	64.2	−0.1	95	31	33	1	41	3.92	+0.07	1.43	0	5	24	6	1	sw.	F. G. Doggett
Mount Mitchell	Yancey	6,711	12	49.7	......	73	31	27	15	28	3.32	......	0.86	0	9	8	10	13	w.	Edward Wilson
Murphy	Cherokee	1,614	61	......	......	....	....	....	....	....	2.69	−1.74	0.88	0	10	....	....	....	......	Miss Willie Mingus
Parker	Ashe	4,075	19	^{b}58.0	+1.9	83	30	30	6	35	3.99	+0.09	0.92	0	9	11	15	5	w.	J. E. Parker
Rock House	Macon	3,100	45	......	......	....	....	....	....	....	......	......	......	......	....	....	....	....	......	Barry C. Hawkins
Swannanoa	Buncombe	2,250	6	63.6	......	91	31	35	7	47	1.29	......	0.41	0	5	12	19	0	s.	Branch Experiment Sta.
Tryon	Polk	1,075	25	66.6	+1.3	89	†28	44	† 2	40	2.88	−2.02	0.88	0	10	19	8	4	sw.	Wayne W. Creasman
Waynesville	Haywood	2,756	38	62.3	+0.9	87	23	35	7	44	2.82	−1.16	0.93	0	7	19	7	5	w.	W. D. Smith
District means and	extremes	......	....	62.5	+0.8	95	†27	27	15	51	3.06	−1.13	1.86	0	8	16	11	4	w.	
State means and ex	tremes	......	....	66.8	0	98	†27	27	15	51	2.18	−1.89	4.00	0	6	19	9	3	sw.	

Reference letters. (^{a}, ^{b}, ^{c}), in the table indicate number of days missing: For example, ^{b} represents two days missing, etc. † Also on other dates. The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean," adjusted to a uniform 35-yearperiod; for stations of 10 to 14 years the means for the period of record are used.

††Too late to be included in means and summaries.

Daily Precipitation for May, 1937.

Stations	Drainage basins	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
astern District																																	
eaufort	Coast						.52								.30											.08				.85			1.75
elhaven	Pungo														1.00															1.80			2.80
inton	Cape Fear						.35		T.							.19																	0.54
denton	Coast					.05									.52																		0.60
lizabeth City	Pasquotank						T.		T.		.02				.58	.11													.41	.37			1.49
lizabethtown ‖‖	Cape Fear						.32									.27																	0.59
nfield (near)‖‖	Tar						.57	.07								.20																	0.84
ayetteville‖‖	Cape Fear						.25								.25	.05																	0.55
oldsboro	Neuse						.31		.34							.26																	0.91
reenville ‖‖	Tar															.79														.10			0.89
atteras***	Coast						.35	.14	.10		.04				1.00						.45									.16	.12		2.36
inston‖‖	Neuse						.14							T.		.42					.13												0.69
umberton ‖‖	Lumber						.50								.45	.35					.03								.10				1.43
anteo	Coast						.26								.96														.30				1.52
ashville‖‖	Tar						47		.13		T.				.40	.36									T.								1.36
ew Bern‖‖	Neuse						.43		.13			.36		T.		.67					.32					.67				1.10			3.68
ew Holland	Coast						.15		.11		1.10				.70	.05				.05										1.20			3.36
ed Springs‖‖	Lumber					.51									.40										.17			T.	.11				1.19
ocky Mount‖‖	Tar						.98		.14						.26	.25																	1.63
cotland Neck	....do					.66			.12						.34															.03			1.15
loan	Cape Fear												.10		.57										.10								0.77
mithfield ‖‖	Neuse						.18		.01			T.			.31	.37											T.	T.					0.87
outhport	Cape Fear														.21																		0.21
tonewall	Coast						.22				.04				.90					.20										.90			2.26
wansboro	....do						1.50			.40					.70						.40	.40				.20				20			3.80
arboro‖‖	Tar						.76			.28				.22		.24														T.			1.50
eldon ‖‖	Roanoke						.46			T.					.15	.59				T.					.11					.08			1.39
enona	Pungo					T.	.21				T.				1.17					T.										1.27			2.65
illard	Cape Fear					.02	.26								.49										.12					.02			0.91
illiamston‖‖	Roanoke						.06		.09							.53														.73			1.41
ilmington***	Cape Fear					T	.34				T.		.69		.56										.59					.11			2.29
ilson	Neuse					.76			.07		.01				.16	.28									.02		T.	T		T.			1.30
Central District																																	
lbemarle	Peedee					.24								.10	1.38	.02				.01									1.65	.03			3.43
reola	Tar					.31					T.			T.	.59	T.				T.					T.			T.					0.90
sheboro ‖‖	Cape Fear					.10								.12	1.05	.21								.08					T				1.56
aroleen	Santee					.18							.03	.56	.48				.23					.59				.03	.60				2.99
hapel Hill	Cape Fear					.27	.07							.01	.43	.04									.17								0.99
harlotte***	Santee					.31					T		T.	.78	1.26					T.			T.	.09	.01			.08	.13				2.66
oncord	Peedee					.17	T.						T.	.06	1.56									.11	.15			.08	.02				2.15
Durham	Neuse					.04	.12							.07	.33										.08								0.64
Gastonia	Santee					.45							.13		.65									.27	.08			.59	.30			.05	2.53
raham‖‖	Cape Fear						.20							.10	.37	.57									.53				T.	.18			1.95
Greensboro ‖‖	....do						.31							.03	.72	.58								.06	.55			T.					2.25
Henderson	Tar, Roanoke					.19	.02							.05	T.																		0.26
High Point	Cape Fear					.50								.18	1.86	.18								1.08				.07	.09				3.96
Louisburg‖‖	Tar						.22									.22									.08								0.52
McHenry's Bridge	Peedee													T.	1.48	T.								.05				.60					2.13
Mocksville	....do						.35							.43	1.25	.70							.70	.50					.70				4.66
Moncure‖‖	Cape Fear						.22								.21	.75														.01			1.19
Monroe	Peedee					.21								.06	.88												T.	T.	.15				1.30
Mount Gilead	....do					.29									.72													.19	.03				1.23
Neuse‖‖	Neuse						.39		.03						.20	.13												.22					0.97
Oxford	Tar					31									.68										.05								1.04
Pinehurst	Lumber					.39									.48														.08				0.95
Raleigh***	Neuse					.50							T.		.41									T.					T.				0.94
Randleman‖‖	Cape Fear						.10							.25	.64	.91									.28				.12				2.30
Reidsville‖‖	....do						.45							.10	.98	1.19								.30	.05				T.	1.17			4.24
Rockingham ‖‖	Peedee						.21							.12	.79	.22													.38	T			1.75
Rougemont ‖‖	Neuse						.62								.26	.59									.19								1.66
Roxboro ‖‖	....do							T				T.	.34	T.		.63									.18		T.						1.15
Salisbury‖‖	Peedee					.21							.36	.82	3.18								.22	.18				.09	.12				5.18
Settle	....do					.27	.05	.02					T.	.10	1.14									.26			T.	.31					2.16
Shelby	Santee				T.		.34							.21	1.30	.06				.06				.20	.33				1.04	.03			3.57
Siler City	Cape Fear					.21									.76	.36									.02				.11				1.46
Southern Pines	Lumber					.19								.65	.35										.29								1.48
Statesville	Peedee					.30								.60	.86									.30				.25	.15				2.46
Winston-Salem ‖‖	....do						.51							.19	1.37	.63								.61	.07			.01	.86				4.25
Western District																																	
Andrews	Tennessee		.01			1.03	.52							.55	.45	.02				.50			.10				T.		.34	.01			3.53
Asheville***	....do		T.	T.		.41							.03	.43	.02				.02	.24		.06	.53	.17		.01	.03	.01	.08			.41	2.45
Banners Elk	....do					.33	.11							1.23	.60					.20			1.86	.18					.01				4.52
Boone	Gr. Kanawha					.39	.08						.33	.65	.50	.01							.35	.24				T.	.32				2.87
Brevard	Tennessee					.53	.04						.40	.68	.72					.49			.12		.23				.46		.07		3.74
Bryson City‖‖	....do			.05		.48	.51							.18	.56					.38				.04						.18			2.41
Canton	....do					.52							.08	.25	.03					.52			.12	.12				.09	.12			.03	1.88
Cullowhee	....do		T.			.57							.17	.81	.08					.35			T.	.04		T.	.04	T.	.20		.59	1.80	4.65
Elkin‖‖	Peedee						1.03		.30					.33	1.56	.68									.14				.05				4.09
Franklin	Tennessee					.76							.03	.47						.24			T.	.04		.02			.09			1.06	2.71
Hendersonville	....do					.50	.03						.09	.37	.55					.41			.20	.03			.45	.18	.03			1.20	4.01
Hickory	Santee					.25	T.							.02	.45					T.			T.	.46				.16	.57			.04	1.95
Highlands	Savannah					.65	.01						.10	.95	T.								.38	T.	T.			.05	.01			T	2.15
Hot Springs‖‖	Tennessee					.41	.41							.40	.30	.03				.26					.52		.06			.64			3.03
Jefferson	Gr. Kanawha					.33	.04						.47	.84	.74				T				.50	.16				.90	.04				4.02
Lenoir	Santee					.26	.40							.12	1.20					.05				.10				.56	.60				3.29
Linville Falls	....do					.36							.62	1.89									.51						.95				4.33
Marion	....do					.42								.11	.68													1.07	.30				2.58
Marshall ‖‖	Tennessee						.67							.10	.65	.15				.25			T.	T.	T.		.35			.24			2.41
Montreat‖‖	....do					.37								.16	.72					.02				.05			.33			.01			1.66
Morganton	Santee					.42	.12							.10	.83									.67					.14				2.28
Mount Airy‖‖	Peedee					.50	1.04	T.					T.		1.43									.88				.07					3.92
Mount Mitchell	Tennessee						.66	.05					.24	.86	.04				.05				.40	.28					.74				3.32
Murphy ‖‖	....do	.15		.02		.88	.15							.09	.45		T.			.55			.01				.05			.34			2.69
Nantahala	....do	.02	T.			1.12	.10							.97	.17													.30	.63				3.31
North Wilkesboro‖‖	Peedee					.29	.18	.10						.07	1.70									.07	.44			.27					3.12
Parker	Gr. Kanawha		T.	T		31	.23			.33			.71	92						T.	.09			.18				.73	.49				3.99
Rock House No. 1	Savannah																																
Swannanoa	Tennessee					.41							.12	.31	.36								T.	.09					T.				1.29
Tapoco	....do					.88	.13						.40	.86					.85				.13	.34					.44				4.03
Tryon	Santee					.55	.23							.24	.88					.25				.33			.08	.02	.29			.01	2.88
Waterville	Tennessee				.03	.49	.03						.10	.44	.02				.08	.45			.06	.43				.02	.46			.38	2.99
Waynesville	....do					.25	.23							.18	.55					.48									.93	.20			2.82

Except as otherwise indicated, observations are made late in the afternoon, near sunset, and precipitation is for the 24 hours ending at the time of observation. ‖‖Measured in the morning; amount then recorded is for the preceding 24 hours. ***Midnight to midnight. *Included in the next following measurement. T. Trace, or less than 0.01 inch.
‡‡ Post-office addresses of these stations are as follows: Of Rock House, Highlands; of Settle, Harmony; of Sloan, Wallace.

Daily Temperatures for May, 1937.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean.
Eastern District.																																	
Beaufort	Maximum	63	67	65	70	77	75	74	78	76	78	74	76	79	78	79	75	78	79	78	78	79	80	82	83	81	85	83	81	83	79	82	77.3
	Minimum	48	50	50	49	56	61	60	64	61	62	59	60	67	65	51	59	66	64	69	63	60	68	68	69	64	66	71	71	66	61	62	61.7
Edenton	Maximum	67	70	70	68	81	82	82	81	79	78	72	82	88	79	77	79	87	83	86	77	86	90	91	81	86	90	94	....	....	....	....	d81.1
	Minimum	37	40	40	38	57	60	50	56	55	58	48	45	65	63	53	51	60	52	65	52	49	63	65	65	56	64	69	....	....	....	....	d54.7
Elizabeth City	Maximum	65	69	67	76	83	81	78	79	77	76	72	80	88	81	77	76	87	82	83	75	84	91	89	82	86	89	91	93	72	82	88	80.6
	Minimum	38	40	44	39	50	62	52	57	55	52	49	45	66	64	54	51	60	53	62	52	49	60	65	63	54	59	70	66	62	55	58	55.0
Fayetteville	Maximum	71	77	72	80	81	82	83	80	85	83	80	89	88	78	77	83	90	83	91	81	89	93	92	87	90	93	96	98	96	92	94	85.6
	Minimum	40	41	43	45	54	55	52	49	50	59	57	55	68	62	51	50	57	54	64	58	47	63	63	65	64	63	70	67	62	60	58	56.3
Goldsboro	Maximum	71	75	72	78	82	83	80	81	80	80	77	85	88	72	76	81	88	85	88	77	88	93	91	87	88	92	94	97	88	90	92	83.8
	Minimum	38	45	43	40	53	58	49	55	56	57	52	50	63	68	49	50	56	53	64	55	48	48	49	62	60	61	66	68	62	56	56	54.5
Greenville§§	Maximum	70	74	72	76	84	82	76	68	67	66	73	81	88	79	77	82	88	88	90	91	88	95	93	87	87	88	91	94	83	83	89	82.3
	Minimum	39	44	45	40	45	53	52	57	55	55	53	57	64	65	52	52	57	55	61	56	58	51	63	64	56	57	62	70	62	57	56	55.4
Hatteras	Maximum	57	62	54	65	74	72	70	75	66	77	61	75	78	76	73	69	77	76	77	72	75	78	78	80	77	79	79	81	78	73	78	73.1
	Minimum	51	51	51	53	55	62	62	61	58	58	58	59	68	66	61	62	66	66	61	60	58	68	69	69	68	65	73	69	66	65	68	62.2
Lumberton	Maximum	72	75	73	80	81	83	80	83	85	89	80	89	88	72	78	83	89	88	91	80	89	91	90	89	89	92	97	96	94	89	90	85.3
	Minimum	42	43	44	48	57	59	53	55	52	58	58	55	66	53	50	50	58	58	65	57	48	60	61	65	65	64	68	65	64	62	59	56.8
Nashville	Maximum	65	69	66	74	98	75	76	77	77	75	74	79	83	77	73	76	83	76	82	78	83	89	87	82	84	89	92	95	89	85	89	80.5
	Minimum	37	42	41	39	50	58	48	56	53	59	53	50	66	61	48	51	51	89	64	53	49	62	64	66	56	62	70	70	62	55	58	55.0
New Bern	Maximum	71	74	66	77	81	85	79	85	80	87	75	81	86	75	78	79	89	83	89	78	88	90	86	86	84	89	93	93	82	85	87	82.6
	Minimum	42	46	47	45	51	62	57	61	59	58	54	55	62	67	54	56	59	60	64	59	56	63	63	65	64	62	69	69	65	59	60	58.6
Sloan	Maximum	69	72	76	76	78	81	80	81	80	83	....	78	83	76	75	....	....	87	87	76	....	....	....	86	87	88	92	91	....	89	....	h81.3
	Minimum	42	43	46	43	52	62	54	56	56	55	....	59	55	53	50	....	....	49	63	61	....	....	....	60	53	57	68	64	....	62	....	h54.8
Southport	Maximum	66	70	65	72	79	74	76	80	77	79	73	86	80	75	78	81	77	81	78	80	79	80	82	83	81	83	81	85	87	83	86	78.6
	Minimum	47	50	47	51	60	64	57	58	59	60	65	65	68	67	55	55	67	64	70	61	55	70	70	72	68	65	73	72	69	61	60	62.2
Tarboro§§	Maximum	72	76	73	77	86	80	79	78	80	79	77	83	86	71	77	79	87	83	85	77	85	82	89	85	87	81	93	95	86	88	90	82.1
	Minimum	38	42	43	38	53	61	62	55	56	62	51	49	65	65	62	62	58	52	62	51	49	67	63	63	64	61	69	70	62	53	55	56.9
Weldon	Maximum	69	75	72	78	81	78	79	80	81	79	78	83	87	79	75	78	85	84	85	79	87	93	91	87	89	92	93	97	88	86	92	83.2
	Minimum	37	42	43	38	49	57	51	58	54	58	53	49	65	67	53	54	59	51	64	52	51	61	66	65	57	64	71	69	64	58	59	56.1
Wenona	Maximum	63	70	66	76	79	80	78	81	79	80	70	79	69	68	74	76	86	82	84	75	85	90	87	81	85	89	92	92	74	78	86	79.2
	Minimum	38	37	43	36	47	61	49	56	57	47	50	45	55	53	55	48	57	52	58	55	43	57	61	60	49	51	66	66	59	49	52	52.0
Wilmington	Maximum	70	71	63	73	75	78	74	82	78	82	74	78	78	74	76	75	82	81	86	76	82	79	80	84	80	86	84	89	86	84	84	78.8
	Minimum	45	48	48	48	60	64	58	63	60	60	60	61	65	62	55	55	60	64	67	61	55	64	65	68	66	64	69	69	68	61	61	60.5
Central District.																																	
Albemarle	Maximum	73	77	77	79	76	77	78	78	87	81	79	85	84	80	75	79	87	83	89	8[illegible]	86	92	88	86	90	92	96	94	90	89	91	84.0
	Minimum	40	39	43	45	49	53	45	48	46	49	52	52	63	53	48	48	53	49	62	50	46	58	59	61	57	63	68	65	63	64	60	53.2
Caroleen	Maximum	70	69	74	76	76	74	74	74	82	84	78	77	79	72	73	....	81	82	86	86	89	87	88	80	85	92	92	92	85	....	94	b81.2
	Minimum	45	51	47	47	53	55	45	46	49	52	55	53	63	61	48	45	....	51	60	51	48	62	....	60	63	66	66	62	61	61	63	d54.8
Chapel Hill	Maximum	73	77	75	79	80	78	79	80	81	80	78	85	86	84	74	79	86	85	88	83	88	93	89	88	89	91	92	95	88	90	91	84.1
	Minimum	37	41	45	45	52	57	47	52	53	56	53	52	63	61	51	49	59	51	62	52	50	64	63	63	60	64	71	66	64	60	61	55.6
Charlotte	Maximum	68	73	72	76	72	74	76	78	80	81	76	83	81	70	72	78	86	82	87	77	85	90	85	81	87	90	93	92	88	87	93	81.1
	Minimum	43	47	52	53	56	55	52	54	54	59	54	59	61	55	51	53	59	59	65	56	57	65	63	63	65	67	70	66	65	68	66	58.5
Greensboro	Maximum	69	73	73	75	75	75	77	71	78	77	74	82	76	71	69	74	84	80	87	77	83	87	86	79	83	87	87	88	82	85	92	79.4
	Minimum	38	41	46	48	51	52	41	52	51	52	52	52	61	58	49	49	57	47	61	51	50	62	60	60	58	64	69	64	64	60	60	54.3
Henderson	Maximum	68	73	70	74	77	78	77	77	78	76	73	81	83	81	72	77	85	81	84	78	84	90	88	85	85	89	92	94	85	86	91	81.0
	Minimum	34	38	39	37	52	55	41	51	44	56	51	52	63	57	50	46	55	45	59	50	45	62	61	64	55	62	70	61	60	55	58	53.0
Monroe	Maximum	70	70	74	79	77	80	79	80	85	84	78	90	88	82	73	81	80	85	91	82	89	93	91	89	91	93	98	97	92	91	97	84.8
	Minimum	43	43	43	46	55	57	47	47	46	55	54	57	65	58	49	48	54	52	52	52	47	64	65	62	59	66	70	65	62	67	61	55.2
Pinehurst	Maximum	71	77	75	79	79	78	78	82	82	83	80	86	87	83	74	82	87	86	90	86	87	91	91	88	89	91	94	94	90	89	93	84.6
	Minimum	35	40	35	42	51	53	45	47	46	52	50	48	58	56	47	47	50	51	60	49	50	57	58	57	59	60	65	62	59	58	57	51.7
Raleigh	Maximum	68	72	69	75	79	76	77	79	79	77	74	81	84	70	72	79	85	83	85	76	85	89	87	83	84	88	92	94	83	87	88	80.6
	Minimum	38	47	47	48	55	59	52	57	54	59	54	54	67	55	53	53	59	57	65	56	54	63	64	66	63	65	71	69	65	62	65	57.9
Reidsville	Maximum	67	71	71	75	75	73	75	74	78	77	74	82	78	76	68	76	82	78	86	78	84	89	83	79	83	89	86	89	81	83	90	79.0
	Minimum	36	41	47	47	51	51	44	52	50	53	51	54	62	57	48	49	58	49	61	50	50	64	62	61	61	65	71	64	63	62	62	54.7
Salisbury	Maximum	67	72	71	74	75	74	72	75	78	77	73	82	78	69	70	81	87	83	90	78	88	92	88	82	89	94	95	93	89	91	94	81.3
	Minimum	42	40	47	47	56	54	45	48	48	52	51	52	60	54	49	51	53	48	62	49	47	62	61	57	60	66	69	63	61	64	59	54.1
Winston-Salem	Maximum	71	75	75	78	76	74	76	78	82	81	78	81	78	78	72	78	86	80	87	85	86	90	85	82	86	89	90	90	86	88	95	81.8
	Minimum	37	36	45	42	48	48	40	41	47	48	48	51	57	58	44	43	53	45	58	45	45	58	60	57	54	63	67	62	62	61	59	51.0
Western District.																																	
Andrews	Maximum	65	71	65	72	75	73	71	75	76	80	71	83	76	79	70	71	79	82	83	81	84	87	85	80	86	84	89	88	88	90	81	79.0
	Minimum	45	53	47	43	52	51	38	40	40	43	40	47	47	52	41	45	48	47	47	46	44	59	58	51	55	54	59	58	54	55	60	49.0
Asheville	Maximum	68	65	71	75	71	66	71	69	78	74	75	77	77	66	67	79	78	79	78	76	88	86	77	82	80	86	85	81	84	85	89	77.0
	Minimum	44	49	52	52	51	51	4[illegible]	45	43	48	45	48	55	49	43	45	55	49	57	48	44	59	60	51	57	59	61	59	58	58	61	51.6
Banners Elk	Maximum	61	64	65	71	67	65	68	70	72	71	71	70	73	67	61	71	71	71	70	71	81	81	75	77	77	81	82	76	78	81	84	72.4
	Minimum	34	44	43	37	43	44	28	29	31	35	29	37	45	47	38	45	46	31	51	36	34	49	47	40	46	49	55	50	50	49	48	41.7
Cullowhee	Maximum	69	67	73	75	71	69	72	74	78	76	78	75	75	68	74	79	80	81	80	82	89	86	79	83	81	87	87	85	87	90	87	78.6
	Minimum	45	49	52	47	51	51	38	38	38	50	40	44	57	54	40	45	47	45	56	44	44	61	57	53	59	55	59	59	61	55	64	50.3
Hendersonville	Maximum	61	68	68	76	72	63	71	71	79	75	74	79	78	67	69	76	80	79	79	78	84	87	83	80	82	86	85	85	84	81	90	77.1
	Minimum	44	41	46	42	48	45	44	47	39	41	40	45	59	54	49	41	41	48	55	49	41	62	52	55	57	52	60	57	57	56	60	49.3
Hickory	Maximum	67	69	74	76	72	72	73	71	80	82	73	79	77	74	73	77	84	82	86	82	86	90	84	79	85	90	90	90	89	90	92	80.3
	Minimum	40	45	45	49	53	51	46	49	47	53	50	51	62	56	46	50	56	53	62	53	49	65	63	53	60	66	66	62	61	66	63	54.6
Highlands	Maximum	61	55	66	71	63	66	71	74	77	76	74	70	71	66	70	76	78	77	77	78	83	82	79	79	78	86	83	85	86	81	86	75.0
	Minimum	41	43	43	49	46	45	41	43	42	51	44	52	53	48	36	44	51	51	51	47	49	57	54	51	58	57	57	55	55	61	58	49.5
Hot Springs§§	Maximum	72	68	80	79	71	71	76	76	81	79	78	79	81	69	69	81	80	83	81	81	89	87	79	84	84	89	86	88	....	91	92	a80.1
	Minimum	50	54	56	55	55	53	39	42	42	45	42	55	58	55	45	47	49	46	57	47	46	58	59	56	57	59	63	60	60	....	59	a52.3
Jefferson	Maximum	63	66	68	74	70	63	69	70	75	71	72	74	63	61	72	72	74	74	70	71	82	80	76	75	78	84	80	78	80	80	84	73.2
	Minimum	32	38	47	39	47	50	35	38	35	32	43	50	52	43	41	56	40	59	42	45	38	52	54	45	49	58	61	60	60	61	55	47.0
Lenoir	Maximum	70	70	74	76	72	71	73	77	81	81	77	78	78	76	73	75	80	80	83	80	87	89	88	86	85	90	95	89	89	89	94	80.8
	Minimum	41	41	51	46	54	46	41	44	43	46	48	50	59	58	46	48	50	49	57	50	44	60	60	54	57	62	44	58	57	64	60	51.2
Mount Airy	Maximum	70	71	76	75	75	71	73	75	79	78	75	77	76	72	68	76	80	79	82	79	84	87	86	82	82	88	88	89	89	88	95	79.5
	Minimum	33	36	41	42	47	50	39	41	41	46	39	45	55	59	50	44	50	42	55	50	43	54	55	53	54	60	65	56	55	61	58	49.0
Mount Mitchell	Maximum	50	43	53	58	50	43	57	58	62	56	60	57	54	44	55	52	54	60	59	52	69	71	61	67	64	70	66	64	66	72	73	59.0
	Minimum	28	30	32	32	39	36	32	34	35	39	40	40	44	38	27	37	39	37	41	37	47	47	44	47	45	49	51	49	49	51	53	40.4
Tryon	Maximum	71	71	75	73	73	73	76	80	81	82	78	79	76	72	75	77	85	85	81	83	85	88	86	83	84	87	88	89	89	81	89	80.5
	Minimum	47	44	47	45	49	45	46	48	44	49	45	49	62	58	45	45	49	52	49	54	45	64	63	58	60	63	62	60	63	60	60	52.6

Reference letters, (a, b, c), appearing in the table indicate number of days missing; for example, b represents two days missing, etc.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Daily Evaporation (inches) and Wind Movement (miles) for May, 1937. (4.30 p. m.)

Station.	Data.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Monthly.
Chapel Hill	Evaporation	.185	.136	.176	.169	.163	.145	.167	.169	.199	.158	.188	.189	.123	.084	.121	.145	.198	.198	.191	.238	.183	.169	.238	.226	.217	.229	.117	.260	.209	.250	.211	5.659
	Wind movement	12	5	16	5	8	11	5	9	6	7	13	5	15	10	9	5	13	3	7	8	6	14	12	15	6	10	10	10	13	6	6	280

W B O, Raleigh, 6-14-37—1,050

THE L OF THE
1937
UNIVERSITY OF IL

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

Vol. XLVI BISMARCK, N. D., JUNE 1937 No. 6

GENERAL SUMMARY

The outstanding feature of the weather during June 1937, was the heavy rainfall in the middle division and the southwestern division. Moderate amounts occurred in the eastern division, but the extreme northwest section continued dry. Most of the moisture fell at a moderate rate over long periods and soaked into the ground. The greatest amounts of precipitation occurred between the 4th and 6th, with moderate showers at most places on the 12th–13th and on the 18th. Somewhat drier weather prevailed after the 20th. Temperatures averaged slightly above normal, but frost occurred in many northern and central districts on the 7th and 8th. A tornado was reported about 12 miles north of Kenmare on June 23d. It uprooted trees, blew down telephone poles, and wrecked some farm buildings. A few farm animals also were killed. Light to moderate dust storms occurred at many places on the 3d, 12th, 17th, and 22d to 25th. The weather was mostly favorable for crops, but insects caused some damage. Pastures improved somewhat after the rains, but they continue poor in the extreme northwest portion.

TEMPERATURE

The mean temperature for the State was 63.5°, or 0.5° above the 1892–1937 average for June. The mean for the eastern division was 63.4°; for the middle division, 62.8°; and for the western division, 64.4°. The highest mean temperature was 69.0° at Hettinger, and the lowest, 60.6° at Edmore, making a range in mean temperature of 8.4°. The absolute range in temperature was 84°, from 109° at Wishek on the 23d, to 25° at Amidon on the 7th. The average daily deficiency in temperature for the State since January 1, 1937 is 2.1°.

PRECIPITATION

The average precipitation for the State was 4.03 inches, or 0.63 inch more than the 1892–1937 average for June. In the eastern division the average amount was 3.04 inches; in the middle division, 5.62 inches; and in the western division, 3.43 inches. The greatest monthly amount reported was 9.34 inches at McClusky; the least was 0.33 inch at Howard. The greatest amount recorded in any 24 consecutive hours was 4.70 inches at Fort Yates on the 5th. The accumulated excess in precipitation since January 1, 1937 is 0.50 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	1	1	..	..	..	2	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	..
Dust storms	3	1	13	1	6	2	..	..	..	..	..	..	..	..	..	..	4	..	4	..	..	2	13	7	..	1	..	..	..	..	..
Fogs	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	2	..	5	..	..	..	..	..	2	..	..	..	..	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	1	..	..	..	..	1	..	..	1	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Hail	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	2	..	1	..	..	7	1	..	..	4	..	..	..	..
Thund'rst'ms	..	..	1	7	1	..	..	..	..	..	..	6	7	3	1	..	1	21	1	3	..	5	10	2	1	..	10	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.90	30.18	2	29.41	5	9.9	37	nw.	5	80	50	48	61
Devils Lake	29.91	30.22	11	29.28	6	9.5	32	ne.	4	83	52	51	72
Williston	29.89	30.18	2	29.42	22	9.6	30	nw.	23	66	33	31	74
Moorhead, Minn	29.91	30.23	10	29.19	6	7.9	25	w.	6	81	52	53	69
Averages & ext's	29.90	30.23	10	29.19	6	9.2	37	nw.	5	78	47	46	69

† And other dates.

COMPARATIVE DATA FOR JUNE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	60.5	94	28	3.59	4.44	2.03	3.35	0	8	11	9	10
1893	67.4	103	33	3.25	4.28	2.60	3.38	0	9	13	10	7
1894	68.8	103	25	4.08	2.31	3.93	3.44	0	7	17	6	7
1895	59.7	97	29	5.37	4.54	4.11	4.67	0	12	8	13	9
1896	65.6	97	37	3.06	4.33	4.68	4.02	0	9	16	9	5
1897	61.7	109	20	4.40	4.40	2.45	3.75	0	9	11	10	9
1898	62.6	105	26	3.17	3.21	3.18	3.19	0	9	10	10	10
1899	62.2	105	30	3.20	4.25	3.98	3.81	0	10	12	11	7
1900	66.9	109	27	1.59	1.54	1.04	1.39	0	5	15	11	4
1901	61.6	95	22	7.20	5.31	5.90	6.14	0	15	10	11	9
1902	58.0	97	28	3.67	3.75	3.53	3.65	0	11	12	9	9
1903	62.4	96	27	1.02	1.52	1.78	1.44	0	4	17	8	5
1904	61.4	100	30	5.95	5.92	4.82	5.56	0	11	13	8	9
1905	59.7	97	32	4.49	4.64	3.87	4.33	0	12	10	7	13
1906	62.0	95	32	3.80	4.21	6.34	4.78	0	11	13	8	9
1907	61.9	95	25	3.47	2.53	2.80	2.93	0	10	12	10	8
1908	60.4	93	27	2.91	3.63	3.70	3.41	0	10	12	9	9
1909	62.9	98	28	3.94	2.49	3.92	3.45	0	10	12	11	7
1910	67.3	111	19	1.26	1.85	3.00	2.04	0	6	16	9	5
1911	66.9	108	25	3.13	3.42	2.61	3.05	0	9	13	10	7
1912	61.8	104	28	2.27	2.11	1.65	2.01	0	6	16	8	6
1913	65.8	101	27	2.85	1.98	2.52	2.45	0	8	16	9	5
1914	62.2	93	29	5.67	7.13	6.64	6.48	0	13	9	11	10
1915	56.7	94	20	5.59	5.11	3.73	4.81	0	12	9	12	9
1916	58.0	92	29	4.06	3.51	4.05	3.87	0	11	10	11	9
1917	59.7	103	19	2.38	1.88	1.96	2.07	0	8	13	11	6
1918	63.3	102	27	2.23	1.53	0.97	1.58	0	7	14	11	5
1919	67.2	108	22	3.15	1.99	1.50	2.21	0	5	15	10	5
1920	62.2	98	26	3.64	3.74	3.20	3.53	0	11	12	12	6
1921	68.2	108	30	3.28	2.83	4.74	3.62	0	9	14	10	6
1922	63.5	108	30	3.38	3.55	4.44	3.79	0	9	15	8	7
1923	66.1	100	30	4.79	2.83	4.21	3.94	0	8	13	12	5
1924	58.6	89	26	3.45	4.51	4.17	4.04	0	11	10	12	8
1925	61.5	98	30	7.72	5.43	4.84	6.00	0	14	11	10	9
1926	60.7	104	22	2.66	2.47	2.71	2.61	0	9	13	9	8
1927	61.2	99	22	3.81	2.34	2.30	2.82	0	9	11	13	6
1928	58.2	92	24	4.83	5.30	4.53	4.89	0	12	10	10	10
1929	61.4	98	21	1.10	1.10	2.12	1.44	0	7	16	9	5
1930	63.3	96	30	2.31	3.42	3.53	3.09	0	10	13	11	6
1931	68.4	110	27	2.93	2.05	2.07	2.35	0	8	14	10	6
1932	67.0	98	34	3.33	3.61	4.83	3.92	0	10	14	10	6
1933	70.7	110	33	1.99	1.66	1.67	1.77	0	7	18	10	2
1934	64.3	100	29	3.74	2.85	2.54	3.04	0	11	12	10	8
1935	60.3	99	25	3.65	2.70	2.77	3.04	T.	10	11	12	7
1936	66.4	110	28	1.41	1.40	1.20	1.34	0	6	16	10	4
1937	63.5	109	25	3.04	5.62	3.43	4.03	T.	7	15	9	6
Period	63.0	111	19	3.52	3.37	3.32	3.40	T.	9	13	10	7

Climatological Data for June 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	66.0	+2.6	90	23	34	7†	42	4.37	+0.66	1.35	0	8	3	12	15	ne.	I. Idso.
Cavalier	Pembina	894	27	.....	.....	92^{m}	23	.....	.....	.....	3.09	−0.11	1.91	0	6	21	2	7	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	40	62.0	−0.4	93	22†	30	7†	36	3.68	+0.35	0.93	0	12	21	5	4	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	62.8	+0.9	98	23	33	8	34	3.50	−0.06	1.67	0	8	10	9	11	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	62.6	−0.3	92	23†	32	8	35	2.41	−1.25	1.34	0	6	5	22	3	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	13	60.6	−2.4	96	23	31	8	39	2.82	−0.04	0.87	0	8	19	6	5	nw.	A. G. Braund.
Ellendale	Dickey	1,457	42	64.1	−1.9	98	23	35	8	35	2.45	−0.83	1.41	0	8	18	7	5	s.	J. E. Demmer.
Forman	Sargent	1,249	44	63.7	−1.1	96	23	35	8	33	3.59	+0.10	1.00	0	8	20	3	7	s.	Helge Dyste.
Fullerton	Dickey	1,439	39	64.2	+0.8	100	23	35	7†	37	1.66	−2.11	1.12	0	5	15	11	4	s.	F. O. Alin.
Grafton	Walsh	827	45	64.0	+1.2	93	23	37	8	37	2.45	−0.95	0.91	0	9	15	9	6	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	63.2	+0.2	92	23	36	7	37	2.80	−0.55	1.09	0	7	12	8	10	nw.	H. E. Simpson.
Hankinson	Richland	1,068	8	64.6	.....	97	23	36	7†	36	2.32	.....	0.93	0	6	17	6	7	se.	Joseph Rindt.
Hannah	Cavalier	1,568	45	61.0	+1.1	95	23	30	8	43	4.26	+0.87	1.30	0	7	7	19	4	nw.	James Muir.
Hillsboro	Traill	901	31	63.6	−0.6	90	23	35	7	37	2.74	−0.63	1.40	0	9	13	8	9	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	64.2	+1.0	98	22	36	7	39	2.84	−0.77	1.15	0	8	14	10	6	nw.	S. Calvelage.
Langdon	Cavalier	1,615	41	61.2	+1.3	95	23	31	8	40	3.57	+0.17	1.10	0	8	22	4	4	s.	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	63.0	+0.6	95	23	35	7†	41	2.96	−0.90	1.62	0	5	16	1	13	sw.	Mabel Walsh.
Lisbon	Ransom	1,091	33	64.5	+1.0	94	23	35	7†	36	3.66	−0.18	1.97	0	9	6	18	6	nw.	J. O. Halverson.
McHenry	Eddy	1,509	15	61.0	−1.2	96	23	33	7†	39	3.52	+0.13	0.93	0	7	13	11	6	nw.	C. E. Blasky.
McLeod	Ransom	1,075	26	63.8	−0.7	95	23	35	8	38	3.15	−0.86	1.03	0	6	12	11	7	ne.	J. G. Carlson.
Mayville	Traill	975	41	64.4	+0.4	88	23	31	9	52	3.58	+0.23	2.60	0	8	15	6	9	nw.	H. B. Addicott.
Oakes	Dickey	1,318	8	63.7	.....	98	23	35	7†	37	2.20	.....	0.76	0	9	16	8	6	s.	F. H. Murray.
Park River	Walsh	998	33	62.9	0.0	92	23	37	7†	35	1.66	−1.73	0.95	0	8	21	3	6	nw.	E. J. Taintor.
Pembina	Pembina	1,520	7	62.8	+0.1	94	23	35	8	39	2.35	−0.98	0.75	0	9	14	10	6	nw.	E. N. Russell.
Sharon	Steele	1,516	13	61.1	−2.5	90	23	33	7	32	3.32	−0.41	1.01	0	9	11	8	11	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	63.8	+0.7	94	23	34	8	37	4.34	+0.88	1.34	0	9	16	6	8	s.	I. C. Robertson.
Wahpeton	Richland	962	45	64.6	−0.5	93	23	36	7†	32	2.64	−1.07	1.02	0	11	15	8	7	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	63.6	−0.8	87	23	37	7	33	1.89	−2.16	0.74	0	11	6	10	14	s.	U. S. Weather Bureau.
Average for Eastern Division		.....	.....	63.4	+0.2	100	23	30	7†	52	3.04	−0.48	2.60	0	8	14	9	7	nw.	.....
Middle Division																				
Ashley	McIntosh	2,001	41	62.7	+0.3	100	23	32	8	41	2.64	−0.60	0.82	0	8	20	0	10	se.	R. C. Miles.
Bisbee	Towner	1,601	1	61.2	.....	95	23	31	8†	39	4.79	.....	1.89	0	7	15	10	5	n.	I. K. Lund.
Bismarck	Burleigh	1,670	63	64.6	+0.9	99	23	36	7	34	6.09	+2.74	3.09	0	9	10	12	8	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	63.0	+1.7	94	24	31	8	39	5.49	+2.17	1.75	0	10	22	1	7	se.	N. D. School of Forestry.
Carrington	Foster	1,579	39	63.3	+0.3	99	23	33	7	43	6.79	+3.27	3.70	0	10	6	15	9	se.	L. A. Swanson.
Carson	Grant	2,500	25	63.8	+1.4	98	22†	31	8	42	6.07	+2.57	2.40	0	7	15	12	3	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	62.2	−0.2	94	23	29	8	40	6.74	+3.49	2.50	0	8	17	5	8	se.	R. L. Williams.
Drake	McHenry	1,634	8	63.0	.....	98	23	33	8	38	7.61	.....	3.69	0	11	12	9	9	se.	Peter Anton.
Dunseith	Rolette	1,682	41	60.4	−0.5	96	24	28	8	43	5.50	+2.38	1.96	0	7	18	8	4	s.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	62.8	+1.2	96	23	29	8	42	4.93	+1.93	1.50	0	8	11	15	4	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	63.9	−0.2	98	23	32	8	41	5.70	+2.30	1.75	0	5	19	8	3	w.	H. S. Solenberger.
Fessenden	Wells	1,610	25	62.3	+0.6	99	23	30	8	42	4.91	+1.22	2.10	0	10	13	8	9	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	65.0	−1.2	100	23	35	8	39	7.93	+4.47	4.70	0	8	19	4	7	n.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	62.8	+1.0	95	29	31	8	41	3.76	+0.67	1.09	0	5	9	14	7	se.	E. C. Bierbaum.
Gaekle	Logan	1,951	7	63.9	.....	100	23	33	8	43	4.15	.....	1.64	0	7	12	11	7	nw.	A. H. Haut.
Garrison	McLean	1,901	60	63.4	+1.2	98	23†	33	8	43	4.71	+1.17	1.36	0	9	18	9	3	se.	E. L. Vorachek.
Granville	McHenry	1,504	30	63.2	+1.0	96	23	32	8	43	5.40	+2.18	1.72	0	6	10	15	5	se.	W. A. Christianson.
Hansboro	Towner	1,597	29	61.8	+1.4	95	23	30	8	39	5.79	+2.41	1.92	0	6	21	5	4	sw.	C. E. Blackorby.
Linton	Emmons	1,711	20	63.4	−0.9	99	23	32	7	41	5.80	+2.64	1.42	0	9	9	18	3	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	62.4	+0.6	96	23	30	8	37	9.34	+5.97	2.44	0	8	23	2	5	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	62.2	+1.1	99	23	30	8	46	5.14	+1.77	1.78	0	7	7	16	7	nw.	A. T. Felland.
Mandan	Morton	1,750	23	63.7	+0.4	99	23	34	7†	38	5.65	+2.36	2.65	0	7	13	6	11	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	62.6	.....	100	27†	29	8	50	5.96	.....	3.05	0	6	.....	.....	.....	se.	A. W. Rice.
Minot	Ward	1,557	41	66.3	+4.0	98	23	39	8	36	3.94	+0.74	1.37	0	5	9	11	10	sw.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	62.3	+1.2	97	24	32	8	45	6.99	+4.10	2.70	0	9	9	17	4	sw.	John Behan.
Napoleon	Logan	1,955	45	61.6	−0.8	100	23	30	7†	42	4.33	+1.04	1.20	0	9	20	5	5	sw.	C. J. Hoof.
New Salem	Morton	2,163	33	61.7	−1.2	98	23	29	8	44	6.34	+2.87	2.62	0	5	20	5	5	nw.	J. Christianson.
Pettibone	Kidder	1,856	28	61.1	−0.4	100	23	28	8	43	3.74	+0.49	1.49	0	5	17	7	6	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	.....	.....	.....	.....	30^{1}	7†	.....	8.40	+4.89	2.74	0	6	9	12	9	ne.	R. S. Armstrong.
Towner	McHenry	1,482	35	65.2	+2.4	99	23	30	8	43	6.64	+3.49	2.85	0	5	18	3	9	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	63.9	+2.1	98	23†	32	8	41	5.52	+1.88	1.56	0	7	19	7	4	n.	Albert H. Slettum.
Velva	McHenry	1,511	10	63.2	.....	95	23	31	8	40	6.18	+3.74	2.02	0	6	11	12	7	se.	Oscar Anderson.
Washburn	McLean	1,731	36	64.0	−0.1	96	23	32	8	39	7.50	+4.11	3.11	0	7	15	10	5	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	62.8	+0.8	94	23	30	8	37	7.45	+4.42	2.94	0	9	15	9	6	n.	D. W. Drake.
Willow City	Bottineau	1,471	45	60.8	−0.2	96	23	29	8	40	5.04	+1.89	1.50	0	7	17	10	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	62.8^{e}	+0.5	109^{f}	23	32^{d}	8	48^{f}	3.16	+0.16	1.05	0	8	.....	.....	.....	se.	E. W. Davis.
Average for Middle Division		.....	.....	62.8	+0.4	109	23	28	8	50	5.62	+2.25	4.70	T.	7	15	9	6	se.	.....
Western Division																				
Amidon	Slope	.....	31	68.2^{i}	+7.2	95^{m}	29	25^{d}	7	39^{m}	4.96	+1.87	1.10	0	8	.....	.....	.....	se.	D. E. Lawrence.
Beach	Golden Valley	2,759	15	62.6	+0.9	96	29	36	8	35	4.53	+0.83	1.58	0	6	9	17	4	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	63.0	+0.2	98	23†	30	7	43	4.42	+0.55	1.05	0	7	23	4	3	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	61.2	−1.3	92	22	33	8	35	5.40	+2.45	1.53	0	7	23	2	5	nw.	George Larsen.
Crosby	Divide	1,954	29	64.8	+3.7	100	22†	36	7	42	0.96	−2.40	0.52	0	4	9	10	11	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	62.2	+0.5	95	22	32	7†	35	6.32	+2.95	1.90	0	9	10	17	3	w.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	63.6	+1.6	96	29	34	7†	37	4.97	+1.10	1.70	0	7	14	12	4	se.	W. F. Moede.
Epping	Williams	2,224	27	65.7	+3.2	102	29	32	7	42	0.95	−2.62	0.72	0	4	12	15	3	se.	T. Beachler.
Fryburg	Billings	2,790	19	63.1	.....	93	22	34	8	33	4.01	+0.71	1.00	0	6	16	11	3	s.	Verne King.
Hettinger	Adams	2,675	30	69.0	+6.1	96	26	43	14	37	5.02	+1.82	1.92	0	7	17	4	9	.....	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	64.4	+4.2	103	29	29	7	45	0.33	−2.73	0.20	0	3	19	7	4	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	65.6	.....	98	29	37	7	38	2.93	−0.13	1.07	0	8	17	10	3	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	64.4	+2.4	94	22	36	7	35	5.81	+2.75	1.75	0	9	12	13	5	nw.	S. P. Grane.
Mott	Hettinger	2,424	30	64.4	0.0	98	22	33	7†	38	5.19	+1.97	1.93	0	8	13	11	6	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	64.8	+2.2	101	23	32	5	49	7.04	+4.08	1.92	0	8	15	10	5	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	62.4	.....	100	30	32	7	47	4.22	+0.66	1.89	0	7	8	19	3	nw.	C. E. Shubert.
Portal	Burke	1,954	32	64.4	+5.2	97	23†	33	7	43	1.76	−1.53	0.85	0	5	17	7	6	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	62.4	+1.4	100	22	31	7	46	2.53	−1.07	0.76	0	4	15	9	6	e.	Geo. B. Gee.
Richardton	Stark	2,467	21	62.4	−0.2	95	22	32	8	34	4.77	+1.36	1.48	0	7	11	2	17	se.	Assumption Abbey.
Sanish	Mountrail	1,835	12	64.5	+1.1	105	29	32	6	48	2.39	−0.47	0.80	0	5	19	4	7	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	24	66.6	+4.9	103	29	34	7	38	1.79	−1.41	0.63	0	5	16	11	3	.....	J. C. Zeller.
Williston	Williams	1,878	58	66.9	+4.2	101	29	36	7	37	0.78	−2.65	0.39	0	7	16	11	3	se.	U. S. Weather Bureau.
Average for Western Division		.....	.....	64.4	+2.4	105	29	25	7	49	3.43	+0.11	2.52	0	6	16	9	5	nw.	.....
Average for the State		.....	.....	63.5	+0.5	109	23	25	7	52	4.03	+0.63	4.70	T.	7	15	9	6	nw.	.....

Notes explanatory of symbols used in this table printed on last page.

Daily Precipitation for June 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red	T.			.47	1.35	.15	T.				.15	T.	.95					.65		.15							.50					4.37
Cavalier	do				1.91	.51													.28		.02				.32			.05					3.09
Cooperstown	Sheyenne				.90	.65	.27	.04					.37	.04		T.			.93	.02	.02	.06	.10					.28		T.			3.68
Courtenay	James				1 28	1.12	.22	.02		T.				.61					.82		.05							.03					4.15
Devils Lake ***	Devils Lake	.01			.90	1.31	.56	.01				T.							.33	T.	.08		T.					.30					3.50
Edgeley	James					1.34	.13						.05	.25		.16												.48					2.41
Edmore	Devils Lake		T.		.54	.87	.66	.05											.51		.05				.13			.01					2.82
Ellendale	James					1.41	.07					.08	.20	.60	.02				.05	.02						T.		T.					2.45
Forman	Sheyenne				1.00	.87	.31						.40	.37					.41							.02		.18					3.59
Fullerton	James	T.			.03	1.12	T.	T.				T.	T.	.38					.08							T.		.05					1.66
Grafton	Red				.06	.91	.72	.04	.02										.32		.05				.30			.03					2.45
Grand Forks ***	do				.30	1.09	.01	.14	.01			T.		T.					.37	T	.88		T.					T					2.80
Hankinson||||	do					.93	.02					T.	.85	.30					.20							T.		.02					2.32
Hannah	Pembina				1.30	1.30	1.10	.06											.27						.17			.06					4.26
Hillsboro	Red		.06		.16	1.40	.02							.02					.65		.35		T.			.05		.03					2.74
Jamestown	James			.25	.42	1.15	T.						.23						.44		.02					.18		.15					2.84
Langdon||||	Pembina				.74	1.10	.56	.05	T.										.37		.10				.56			.09					3.57
Larimore	Red				.46	1.62	.16												.54			.18											2.96
Lisbon	Sheyenne		T.			1.97	.85		.01	T.			T.	.25	.02				.50	.02		T.				.02	.02						3.66
McHenry	James				.87	.93	.50	.06										.88			T.		.06					.22					3.52
McLeod	Sheyenne				.54	.80	.03	T.					.09	.66			T.		1.03							T.	T	T.					3.15
Mayville	Red	.04	T.			2.60	.10	.01	.01			T.	T.						.70		T.	.10	T.	T.				.02					3.58
Oakes	James					.46	.76	T.	.01				T	.29	.08				.41	.05						.01			.13				2.20
Park River	Red			.15		.95		.03										.37	.04		.04			.02			.06						1.66
Pembina	do		T.		.25	.35	.75	.50	.03										.09				.01	.30				.07					2.35
Petersburg	do				.58	.96	.78	.02											.50		.25							T.					3.09
Sharon	do		.01		.77	1.01	.37	.06				T	T						.62	T.	.25		.06					.17					3.32
Valley City	Sheyenne				1.32	1.07	.15	.01				T.	T.	.34					1.34		.01	.04	T.					.06					4.34
Wahpeton	Red		T.		.03	.55	.08	.02				T.	.18	.65	.04				1.02	T.						.04		.02			.01		2.64
Moorhead, Minn. ***	do		.01		.18	.56	.06	.02				.02	.07	.38			T.		.43	T.	T		T	T.	T.	.11		.05					1.89
Middle Division																																	
Ashley	Missouri	.03			.03	.78	.38					2.11	.10	.39														.82					2.64
Bisbee	Devils Lake	T.			.86	1.89	.73	.02											.88		T.			.40				.01					4.79
Bismarck ***	Missouri		T.	.02	.94	2.69	.54					T.	.16	1.10	.02				.52		.10		T.		T.								6.09
Bottineau	Mouse				.01	1.20	1.73	.10	.06										1.75	.06	.01	.05			.52								5.49
Carrington||||	James			.60	.80	3.70	.36	.05				.05	.40	.23				.15										.45					6.79
Carson	Heart				1.15	2.40	.38					.21	.25	1.57					.11														6.07
Dogden Butte	Mouse				1.23	2.50	1.40	T				T.		.14	.16				.96		T				.06			.29					6.74
Drake||||	do				.19	3.00	3.69	.13	.05				T.	.02					.17	.02		.05			.01			.28					7.61
Dunseith	do		T		T.	1.50	1.96	.18	.02										1.03			.06			.75								5.50
Eckman	do				.60	1.50	1.15	.01											.88	.02	.02			.75									4.93
Energy	Missouri				1.50	1.70	.43					T.		1.75					.32														5.70
Fessenden||||	James				.29	1.95	2.10	.09	.01				.18	.06	T.				.03									.19	.01				4.91
Fort Yates	Missouri			.20	.75	4.70						.09	1.73	.05					.28							.13							7.93
Foxholm (near)	Mouse				.67	1.06	.73						.21						1.09		T.			T.			T.	T.					3.76
Gackle	James			.61	.75	1.64	.64							.28					.08							.15							4.15
Garrison||||	Missouri				.14	1.21	1.36	.02					.06	.50	.91				.49						.02								4.71
Granville	Mouse	T			1.21	1.72	1.19	.07				T	T						1.12		T							.09					5.40
Hansboro	Devils Lake				1.52	1.92	1.40	.02											.35	T	T.			.58									5.79
Linton	Missouri			.63	.76	1.33	1.10					.02	.05	1.42					.41							.08		T.					5.80
McClusky	do		T.		1.70	2.44	2.20					.05		1.16	.06				1.67									.06					9.34
Maddock	Sheyenne				1.20	1.70	1.78	.14											.13		.02							.17					5.14
Mandan||||	Missouri			.40	1.18	2.65	T.				T.	T.	.94	.21				.25			.02		T.	T.									5.65
Manfred	James				1.08	2.50	1.47	.03					.11						.09				T					.21					5.49
Max||||	Missouri				.17	1.20	3.05						.57	.02				.95															5.96
Minot	Mouse				.71	1.37	1.33						.05						.48		T						T.						3.94
Mohall	do	.20			.95	1.20	1.28	T.							.37				2.70	T.	.02			.25				.02					6.99
Napoleon||||	Missouri				.75	.26	1.20	.04						.40	1.16				.23							.16			.13				4.33
New Salem	Heart				1.29	2.62	.53					T.		1.75					.15				T.		T.								6.34
Pettibone	James			T.	1.24	1.49	.65					T.		.23				.13															3.74
Rugby (near)	Mouse				.68	1.05	1.68	.05						T.					1.02		T.			.04			.04	.07					4.63
Ryder	Missouri			.02	.96	1.10	T.				T.	T.	.49					1.22			T.			.04			T.						3.83
Selfridge	do			.25	.85	3.23						.15	2.10	T		.07		.45								.09		T.					7.19
Steele	do				2.28	2.74	.58					T.	T.	2.60					.16		.04												8.40
Tagus	Mouse				.68	1.37	.39	T.				.03	T.	.08	T				.47		T.						T.						3.02
Towner	do				.85	2.85	2.00	.04											.90		T.				T.								6.64
Turtle Lake	Missouri				1.20	1.56	1.05					.01		1.16	.01				.53						T.								5.52
Tuttle	do			T.	2.58	2.47	.60	T			T.	T.	T.	1.10	.04				.10		.06		T.										6.95
Velva	Mouse				1.25	2.02	1.48	T.							.06				1.32									.05					6.18
Washburn||||	Missouri				.20	1.64	3.11						T.	1.80	.31				.39										.05				7.50
Westhope	Mouse				.63	1.39	1.16	.07						.07					2.94	.09	.01			1.09									7.45
Willow City	do				.97	1.46	.47												1.50	.07	.02			.55				T.					5.04
Wishek||||	Missouri				.46	.37		1.05				.05			.70				.10							.23			.20				3.16
Zap	Knife				*	2.63							1.75					.15															4.53
Western Division																																	
Alpha	Lit. Missouri				.55	.69		T.				T.	2.52	.26		.08			.68						.03								4.81
Amidon	do				.68	1.10	.02					.04	1.03	1.08					.83					.18									4.96
Beach	do				.56	.47					.02		1.58	1.14					.76														4.53
Berthold Agency	Missouri				.80	1.00	.60						T.	1.05				.05	.85						.07								4.42
Bowman	Grand				.82	1.53						.17	1.40	.84		T.			.54						.10								5.40
Corinth	Missouri				.10	T.										.07		.18	.46	.10													0.91
Crosby	Mouse				.03												.37		.52	.04													0.96
Dickinson||||	Heart				.07	1.02	1.36					.02	.06	1.72	.06		T.		1.90					T.	.11								6.32
Dunn Center	Knife				.06	1.20	1.70							1.04	.10		.04		.83														4.97
Epping	Missouri				.15													.06	.72	.02													0.95
Fryburg	Heart				.64	.86	T.						.73	1.00		T.			.73						.05								4.01
Hettinger	Grand				.50	1.92					.22	.30	1.01	.90							.17												5.02
Howard (near)	Missouri				.10							.03		T	T.		T.		.20					T.			T						0.33
Kenmare	Mouse				.52	.65	.55					T.	.03	.05					1.07	.05	T.							.01					2.93
Marmarth	Lit. Missouri				.68	.56	.01					.15	1.75	1.26			.61		.63						.16								5.81
Mary	do				.51	.40							.20	1.00		.40																	2.51
Mott	Cannon Ball			.01	.51	1.93	.18					.19	.85	1.12					.40				T.										5.19
New England||||	do			.39	1.34	1.16					.07	.25	1.77					1.92						.14									7.04
Parshall	Missouri				.08	.88	.70							.64	.01				1.89						.02								4.22
Portal||||	Mouse				.22		.03										.35		.85	.31													1.76
Powers Lake	Missouri				.70	.52													.76	.55													2.53
Richardton	Heart				.62	1.48	.19				T.		.85	1.34		.19	T.		.10														4.77
Sanish||||	Missouri			.04	.32	.62								.80				.61															2.39
Tioga	do			.08	.16												.63																0.87
Trotters	Lit. Missouri				.46	.16						.02	1.22	.22					.44				.04										2.56
Watford City	Missouri				.44	.17							.07	.63					.48														1.79
Williston ***	do			T.	.19	.03						.15	.01	T.				.04	.35	.01	T.			T.									0.78

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || ||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum	75	78	79	80	70	74	76	72	74	68	70	68	69	75	81	82	80	83	83	82	84	88	90	85	86	87	86	82	84	86	....	79.2
	Minimum	50	45	46	52	42	38	34	36	34	44	48	54	53	50	48	54	52	54	60	62	64	62	67	65	62	64	60	58	60	62	....	52.7
Devils Lake	Maximum	72	74	82	64	47	47	57	61	68	71	69	73	78	77	79	82	81	78	78	75	83	86	98	81	77	81	75	76	83	83	....	74.5
	Minimum	45	44	52	46	44	36	35	33	43	46	52	52	53	47	50	56	58	62	59	56	53	61	64	59	55	53	58	51	53	50	....	50.9
Edgeley	Maximum	65	70	76	74	70	59	60	60	62	63	72	67	65	73	76	78	75	80	80	79	81	82	92	92	79	79	78	85	84	89	....	74.8
	Minimum	45	46	47	55	49	41	34	32	36	39	42	57	50	50	46	50	48	62	64	59	58	61	65	61	50	51	50	50	50	60	....	50.3
Fullerton	Maximum	68	68	81	79	64	52	58	62	69	70	76	67	62	76	81	82	83	83	79	84	87	88	100	83	79	88	83	78	88	80	....	76.6
	Minimum	48	50	48	47	49	45	35	35	37	46	56	58	55	52	49	56	55	65	60	54	53	57	66	60	56	54	53	53	51	54	....	51.9
Grafton	Maximum	73	75	82	81	56	53	49	63	70	73	75	78	80	81	81	85	83	81	80	80	85	85	93	91	79	83	81	81	80	81	....	77.3
	Minimum	40	48	60	50	43	45	38	37	38	41	45	50	53	52	50	53	55	63	60	55	55	58	63	63	55	53	56	51	48	48	....	50.7
Grand Forks	Maximum	69	74	80	71	60	56	52	62	70	72	70	75	75	76	80	83	82	79	80	74	82	82	92	81	79	83	77	76	80	81	....	75.1
	Minimum	44	47	48	52	49	42	36	40	40	46	55	52	52	50	50	55	59	62	59	56	51	59	64	60	51	59	60	50	43	47	....	51.3
Hillsboro	Maximum	67	70	80	77	62	56	57	61	70	72	73	70	72	76	82	83	84	82	79	81	83	81	90	87	80	84	76	76	81	81	....	75.8
	Minimum	44	46	50	57	50	42	35	37	40	46	57	55	52	50	49	56	56	62	58	58	56	56	62	65	55	55	54	52	44	46	....	51.5
Jamestown §	Maximum	74	82	75	55	52	58	62	69	72	71	64	68	75	80	83	85	81	79	79	88	90	98	82	79	85	81	76	87	82	94	....	76.9
	Minimum	43	47	49	55	47	43	36	37	37	46	51	57	55	50	47	56	55	60	61	54	53	64	65	61	53	53	56	52	51	55	....	51.6
Langdon §	Maximum	71	73	80	75	56	50	50	58	67	73	73	76	82	78	79	81	80	78	76	75	83	87	95	82	78	80	81	75	79	78	....	75.0
	Minimum	42	40	40	46	41	38	34	31	37	42	48	45	50	44	47	54	56	58	50	55	54	58	58	55	54	50	51	47	48	47	....	47.3
Larimore	Maximum	75	74	81	75	53	55	53	61	71	75	74	75	77	77	84	85	83	80	80	75	83	83	95	90	80	83	79	74	83	82	....	76.5
	Minimum	40	47	45	50	46	42	35	35	38	42	49	49	50	51	47	54	54	63	60	56	53	59	62	61	56	51	54	50	42	45	....	49.5
Lisbon §	Maximum	71	75	82	79	61	56	61	64	68	71	75	62	64	76	81	83	82	80	80	86	88	88	94	81	76	87	79	79	83	82	....	76.5
	Minimum	45	52	48	59	54	46	35	35	38	43	54	58	55	52	55	57	55	66	59	52	53	59	65	64	54	53	55	54	47	53	....	52.5
Oakes	Maximum	67	72	79	79	59	53	59	61	68	69	76	67	63	74	80	81	84	79	78	82	86	89	98	80	75	85	82	78	84	81	....	75.6
	Minimum	47	51	45	55	56	44	35	35	37	47	51	59	55	52	47	57	58	66	58	53	52	58	63	62	55	54	52	52	47	51	....	51.8
Sharon	Maximum	69	72	75	69	50	52	49	60	66	68	67	70	71	73	77	78	78	77	77	79	83	79	90	80	77	82	76	75	78	78	....	72.5
	Minimum	42	46	45	49	45	40	33	34	36	44	52	53	53	49	52	52	58	61	57	52	52	61	61	60	51	50	56	51	47	48	....	49.7
Valley City	Maximum	71	74	81	80	62	57	57	62	68	70	70	67	67	75	80	82	81	80	80	81	85	86	94	92	79	88	85	77	81	82	....	76.5
	Minimum	43	49	48	57	49	42	35	34	36	44	55	50	55	50	45	54	55	63	60	55	53	57	63	62	53	51	54	59	48	52	....	51.0
Wahpeton	Maximum	69	72	79	79	65	60	59	61	68	70	73	74	64	75	79	81	81	80	81	82	83	84	93	92	77	85	81	78	79	79	....	76.1
	Minimum	49	53	47	57	55	44	36	36	38	42	57	59	54	51	47	61	58	63	61	56	54	61	61	68	56	55	58	51	58	51	....	53.2
Moorhead, Minn.	Maximum	68	73	80	78	62	58	58	60	68	70	71	67	66	76	79	81	81	75	79	80	83	83	87	80	75	83	75	74	80	80	....	74.3
	Minimum	48	53	47	58	48	39	37	38	40	46	58	58	56	52	54	59	58	63	59	56	55	59	67	63	57	56	54	54	48	51	....	53.0
Middle Division																																	
Ashley	Maximum	70	74	82	57	47	54	60	62	69	66	76	65	66	75	77	77	81	78	79	82	87	92	100	90	76	83	86	82	90	90	....	75.8
	Minimum	43	46	46	46	46	39	33	32	34	41	52	57	54	51	46	47	53	57	57	52	54	62	67	57	53	51	56	51	49	56	....	49.6
Bismarck	Maximum	69	76	83	56	45	57	58	62	65	67	73	68	70	75	79	78	85	81	78	84	89	94	99	80	79	83	88	83	95	85	....	76.1
	Minimum	46	49	52	43	40	40	36	36	43	49	52	57	55	54	50	58	62	58	60	54	59	68	67	57	61	56	59	55	61	60	....	53.2
Bottineau	Maximum	70	77	78	88	59	50	48	51	65	68	69	72	79	82	77	79	82	82	77	72	74	85	89	94	82	77	80	79	84	87	....	75.2
	Minimum	40	39	41	49	42	45	35	31	38	40	51	55	42	46	50	59	57	59	68	51	52	62	69	64	61	49	60	54	59	55	....	50.8
Carson	Maximum	68	78	86	68	50	63	62	65	65	75	72	63	66	88	78	81	86	81	75	86	91	98	98	80	79	83	88	87	95	86	....	78.0
	Minimum	46	42	48	41	40	38	33	31	40	15	51	51	48	46	52	54	58	53	59	51	54	63	64	50	57	50	56	52	55	59	....	49.6
Fessenden §	Maximum	72	75	83	53	46	48	54	64	66	70	70	70	75	77	79	79	84	79	78	88	93	90	99	81	81	85	82	78	91	84	....	75.8
	Minimum	44	43	49	47	42	40	34	30	38	44	50	55	52	45	45	54	53	61	56	51	58	57	60	56	52	46	56	51	49	47	....	48.8
Foxholm (near)	Maximum	77	78	86	63	47	54	54	63	67	68	69	72	77	77	80	82	82	72	75	77	87	90	94	76	79	82	82	81	95	85	....	75.7
	Minimum	44	42	52	43	40	39	37	31	43	44	50	50	50	46	51	57	61	56	58	54	53	64	67	53	50	47	58	50	54	51	....	49.8
Garrison §	Maximum	72	78	86	48	42	57	58	65	67	64	71	71	76	76	80	83	93	78	78	80	89	94	98	80	84	85	87	86	98	85	....	77.0
	Minimum	45	44	50	46	39	40	34	33	36	46	49	50	52	48	58	56	59	56	58	53	52	60	68	53	54	47	49	52	55	55	....	49.9
Granville	Maximum	75	77	88	63	48	50	54	65	67	69	70	73	78	80	80	83	84	77	78	77	87	90	96	80	80	83	83	83	95	87	....	76.7
	Minimum	43	40	52	45	41	40	34	32	40	45	54	53	55	43	42	56	57	59	60	52	60	64	64	54	50	45	60	51	52	48	....	49.7
Hansboro	Maximum	76	76	84	55	47	46	49	62	70	71	72	74	80	82	81	83	80	73	76	78	85	88	95	75	77	79	85	82	83	84	....	74.9
	Minimum	42	44	47	43	42	39	35	30	45	45	39	45	45	43	48	53	53	50	62	51	53	60	58	57	53	48	58	65	58	48	....	48.6
Linton	Maximum	68	79	84	71	50	56	59	61	66	67	74	70	65	73	78	78	84	81	78	85	88	95	99	92	78	84	87	82	94	86	....	77.1
	Minimum	42	45	49	48	42	38	32	34	35	49	53	57	53	51	46	55	58	56	56	46	52	63	64	57	50	46	51	53	53	59	....	49.8
McClusky	Maximum	69	73	82	79	57	48	51	61	64	64	68	69	72	73	77	78	79	80	77	78	85	88	96	77	71	82	81	80	93	85	....	74.6
	Minimum	44	42	49	44	40	39	32	30	40	44	49	55	52	43	50	56	56	58	59	53	54	62	77	55	54	49	58	53	56	54	....	50.2
Maddock	Maximum	71	75	84	80	50	49	52	61	65	69	68	70	78	77	80	82	81	80	79	77	95	89	99	89	84	82	81	77	88	81	....	76.4
	Minimum	43	41	47	48	42	40	33	30	39	43	49	52	50	42	46	50	53	62	55	54	52	57	68	56	52	47	52	50	42	47	....	48.1
Minot	Maximum	76	79	86	57	47	50	53	65	69	70	71	74	79	78	82	84	86	78	80	78	90	95	98	79	82	85	89	84	97	87	....	77.6
	Minimum	51	48	57	46	43	41	41	39	48	49	54	55	56	51	52	63	65	60	66	59	57	71	75	57	58	50	63	56	61	58	....	55.0
Mohall	Maximum	70	68	80	85	50	45	52	50	65	70	70	70	75	81	78	81	82	84	77	77	85	84	92	97	79	78	80	82	82	89	....	75.3
	Minimum	46	39	51	46	41	41	39	32	41	42	52	59	51	50	48	48	56	58	57	52	52	59	67	52	50	45	55	53	55	52	....	49.3
Napoleon §	Maximum	70	74	82	57	47	54	60	62	69	66	76	65	66	74	82	79	82	78	75	82	85	91	100	77	75	83	85	80	91	85	....	75.1
	Minimum	40	41	50	49	42	39	30	30	34	40	49	55	54	47	42	52	55	60	53	48	53	61	63	53	52	50	51	49	49	54	....	48.2
New Salem	Maximum	70	73	89	55	43	62	55	54	57	63	73	66	66	72	77	78	84	79	75	85	88	93	98	88	79	83	88	83	96	87	....	75.3
	Minimum	47	42	49	40	39	38	32	29	40	41	45	54	49	45	49	53	53	52	55	55	54	62	62	46	53	49	57	47	52	53	....	48.1
Steele	Maximum	....	....	80	70	46	50	55	60	67	70	71	68	65	72	74	79	84	86	76	83	....	....	....	....	....	....	....	....	....	....	....	^{1}69.8
	Minimum	....	....	47	42	38	40	30	30	35	40	49	54	54	50	48	55	56	60	60	51	....	....	....	....	....	....	....	....	....	....	....	^{1}46.6
Towner	Maximum	77	78	88	82	45	48	52	65	69	70	71	78	92	84	86	89	95	89	83	83	87	90	99	92	79	82	80	81	91	86	....	79.7
	Minimum	44	41	55	45	41	41	36	30	40	45	55	54	63	51	48	46	71	50	53	53	52	63	67	55	55	48	59	51	55	51	....	50.6
Westhope	Maximum	79	79	86	62	50	49	52	66	69	67	72	72	78	79	82	83	84	79	77	79	85	92	94	83	79	83	81	82	87	85	....	76.5
	Minimum	44	40	45	42	41	45	37	30	41	42	49	50	57	42	53	54	59	57	58	53	52	61	62	54	51	45	46	52	56	53	....	49.0
Western Division																																	
Beach	Maximum	73	77	77	52	48	59	64	65	67	72	76	67	70	62	67	75	74	70	68	71	88	93	87	77	77	83	86	87	96	92	....	74.0
	Minimum	48	44	52	44	41	40	37	36	40	46	44	57	48	51	54	57	61	53	59	52	55	66	66	50	51	53	57	55	61	60	....	51.3
Berthold Agency	Maximum	74	77	87	55	47	60	60	65	67	65	74	68	75	75	82	83	87	80	78	82	82	95	98	84	80	86	86	86	98	87	....	77.4
	Minimum	42	40	50	40	33	41	30	32	40	45	50	56	51	47	45	57	60	54	50	47	51	65	62	50	50	43	54	61	55	55	....	48.5
Bowman	Maximum	65	72	78	51	45	54	61	60	62	72	70	62	61	73	75	80	83	73	73	82	86	92	90	75	74	77	83	82	91	88	....	73.0
	Minimum	42	45	51	42	38	40	34	33	42	42	52	55	48	48	51	53	58	52	56	56	54	64	64	47	53	46	53	53	56	55	....	49.4
Crosby §	Maximum	81	58	60	54	56	61	62	71	74	75	74	79	87	85	87	85	90	79	80	81	94	100	93	76	81	87	88	95	100	96	....	79.6
	Minimum	40	39	49	45	44	42	36	38	38	46	50	50	48	50	46	55	61	51	55	56	53	60	67	52	51	46	56	53	62	63	....	50.1
Dickinson §	Maximum	69	75	83	47	45	57	61	61	65	70	75	64	69	74	77	83	87	74	74	82	87	95	91	76	76	81	86	83	94	87	....	74.9
	Minimum	45	42	49	44	38	40	32	32	38	45	51	53	50	48	52	55	59	52	56	50	55	62	64	50	55	46	54	53	61	57	....	49.6
Dunn Center §	Maximum	76	78	85	50	49	59	62	65	67	69	73	64	73	75	80	84	86	75	75	82	88	94	93	74	79	83	86	85	96	86	....	76.4
	Minimum	45	44	50	47	43	47	34	34	42	46	46	57	56	51	50	51	59	55	59	51	54	64	56	51	53	51	56	54	59	57	....	50.7
Hettinger	Maximum	91	85	83	80	78	80	85	82	79	76	75	72	72	68	74	75	80	84	81	83	86	90	91	88	94	96	93	94	90	93	....	83.3
	Minimum	68	62	58	57	55	56	54	52	50	48	46	45	47	43	45	44	48	47	50	56	57	59	58	60	62	63	62	65	63	60	....	54.7
Kenmare	Maximum	78	81	81	66	49	58	57	68	68	68	72	74	81	80	83	85	86	85	78	80	91	95	95	81	81	86	87	88	98	91	....	79.0
	Minimum	43	43	52	47	42	43	37	38	45	46	54	52	51	46	53	59	63	57	57	55	59	68	68	57	55	48	60	54	62	55	....	52.3
Marmarth	Maximum	71	76	80	55	48	61	67	62	62	72	74	68	63	77	70	84	84	81	75	83	89	94	91	76	75	80	80	86	92	90	....	75.5
	Minimum	51	55	52	43	41	42	36	37	47	47	57	53	50	50	51	56	60	53	60	55	64	68	68	60	57	50	57	61	57	57	....	53.2
Mott	Maximum	71	77	86	70	45	58	63	62	63	71	73	69	66	75	77	81	88	80	75	85	89	98	97	79	82	89	85	96	92	87	....	77.6
	Minimum	48	45	51	44	38	40	33	33	42	48	53	57	50	50	52	55	60	53	59	51	59	66	66	50	48	56	55	58	59	53	....	51.2
New England §	Maximum	70	89	72	58	50	62	64	64	67	69	74	63	69	72	89	87	82	70	73	86	92	97	101	81	81	87	91	97	99	89	....	78.2
	Minimum	44	54	47	38	32	36	33	41	41	48	57	50	49	50	51	49	50	64	63	51	62	66	52	59	48	55	55	66	69	61	....	51.4
Watford City	Maximum	78	81	81	54	54	59	69	70	71	72	78	67	79	81	82	87	88	78	79	84	92	99	97	79	82	88	89	92	103	93	....	80.2
	Minimum	46	44	54	46	43	42	34	35	46	49	56	57	54	52	54	59	61	55	59	54	57	70	71	51	51	50	57	56	66	61	....	53.0
Williston	Maximum	79	80	73	53	55	61	63	69	69	72	74	71	81	79	82	88	90	78	78	85	92	99	94	77	80	84	87	92	101	93	....	79.3
	Minimum	48	43	52	46	45	44	36	37	48	49	54	59	55	53	58	63	60	57	60	59	60	71	67	54	56	48	61	61	68	64	....	54.5

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ^{a} 1 day missing, ^{b} 2 days, etc.

NOTES EXPLANATORY FOR PAGE 22. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

[WBO, Minneapolis, 7-28-37—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVI   Bismarck, N. D., July 1937   No. 7

GENERAL SUMMARY

Temperatures were above normal in all sections, with the highest readings during the first decade. The precipitation was fairly well distributed throughout the month, but only light amounts occurred in the western section after the 17th. Moderate to heavy amounts were reported from the northeastern counties northwestward to Bottineau County and thence southwestward to Dunn County, but sub-normal amounts were reported at many central, southern and extreme western stations. A tornado occurred in Benson County on July 24th, causing considerable property damage, but no lives were lost. Moderate dust storms were reported at many stations on the 5th, 6th, and 24th. The weather was favorable for the development of corn and for ripening small grains. Considerable harvesting of small grain was accomplished by the end of the month. Much of the grain was cut for feed, due to black stem rust and ravages of cutworms and grasshoppers. The heavy rainfall during June and at many places during July improved pastures considerably in all sections except in the northwestern counties where the dry weather of the previous months continued.

TEMPERATURE

The mean temperature for the State was 71.7°, or 2.9° above the 1892-1937 average for July. The mean for the eastern division was 71.1°; for the middle division, 71.4°; and for the western division, 72.7°. The highest mean temperature was 75.6° at Amenia and Watford City, and the lowest, 68.1° at Hansboro, making a range in mean temperature of 7.5°. The absolute range in temperature was 71°, from 111° at Crosby, Epping, and Howard on the 5th, to 40° at Parshall on the 28th and at Pettibone on the 17th. The average daily deficiency in temperature for the State since January 1, 1937 is 1.4°.

PRECIPITATION

The average precipitation for the State was 2.93 inches, or 0.51 inch more than the 1892–1937 average for July. In the eastern division the average amount was 3.70 inches; in the middle division, 2.70 inches; and in the western division, 2.40 inches. The greatest monthly amount reported was 9.48 inches at Grafton; the least was 0.78 inch at Granville. The greatest amount recorded in any 24 consecutive hours was 4.04 inches at Grafton on the 9th. The accumulated excess in precipitation since January 1, 1937 is 1.01 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	1	..	4	..	..	1	..	1	..	..	..	..	..	..	2	..	1	4	5	6	4	2	1	..	..	..	..	..	..	..
Dust storms	..	1	..	..	8	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	5	..	..	..	..	..	..	1
Fogs	..	..	..	..	..	..	..	1	..	14	2	2	5	5	6	2	10	11	3	..	..	..	..	..	..	..	..	..	1	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Hail	..	..	..	..	..	..	..	..	3	..	..	..	..	..	2	..	..	..	..	1	1	4	..	7	..	..	..	..	..	..	2
Thund'rst'ms	2	11	9	..	..	2	1	12	14	4	15	8	4	2	6	1	..	..	..	10	7	19	..	21	1	3	5	..	11	3	16

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.90	30.23	28	29.56	31	8.3	30	nw.	24	79	49	46	63
Devils Lake	29.93	30.19	28	29.61	22	8.0	24	n.	6	87	53	52	69
Williston	29.89	30.22	28	29.48	5	7.6	29	se.	11	70	41	37	64
Moorhead, Minn	29.91	30.15	26	29.60	15	8.1	27	nw.	24	82	50	53	74
Averages & ext's	29.91	30.23	28	29.48	5	8.0	30	nw.	24	80	48	47	68

† And other dates.

COMPARATIVE DATA FOR JULY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	68.7	108	31	3.44	2.98	3.28	3.23	0	8	19	8	4
1893	69.5	112	35	2.54	1.94	1.64	2.04	0	7	17	10	4
1894	71.7	107	38	0.92	0.73	0.25	0.63	0	3	20	8	3
1895	66.1	102	29	3.12	2.44	3.13	2.90	0	8	14	11	6
1896	67.5	107	31	1.67	1.48	1.37	1.51	0	6	15	10	6
1897	68.9	109	38	6.46	4.43	2.40	4.43	0	9	13	11	7
1898	67.6	106	28	3.07	2.40	2.00	2.49	0	7	15	11	5
1899	68.3	109	32	2.37	2.30	2.35	2.34	0	6	18	9	4
1900	67.9	107	33	2.89	2.26	1.60	2.25	0	6	16	10	5
1901	70.8	110	40	5.10	4.08	3.66	4.28	0	6	18	7	6
1902	67.6	106	34	2.34	2.00	2.10	2.15	0	5	20	7	4
1903	66.7	109	26	2.59	1.77	2.32	2.23	0	7	17	8	6
1904	64.4	102	34	2.96	2.83	0.60	2.13	0	6	17	8	6
1905	65.6	100	32	4.27	3.90	3.17	3.78	0	8	17	9	5
1906	66.9	102	34	2.90	1.32	0.45	1.56	0	11	13	8	10
1907	65.8	103	31	2.69	3.90	2.60	3.06	0	9	16	11	4
1908	68.6	103	31	1.89	2.37	1.46	1.91	0	6	19	9	3
1909	67.1	99	34	3.45	2.94	1.80	2.73	0	8	15	9	7
1910	70.0	114	33	1.30	2.10	1.40	1.60	0	5	18	9	4
1911	65.1	107	23	2.25	1.76	1.10	1.70	0	6	18	10	3
1912	66.0	106	30	4.52	3.07	3.38	3.66	0	10	12	13	6
1913	65.6	103	35	2.64	2.38	1.65	2.22	0	8	17	8	6
1914	72.1	109	36	2.62	1.85	2.03	2.17	0	6	19	9	3
1915	62.3	97	30	2.42	2.66	4.30	3.13	0	11	12	11	8
1916	73.1	105	33	4.71	2.76	1.41	2.96	0	7	19	9	3
1917	70.9	114	27	1.96	1.80	0.87	1.54	0	7	17	11	3
1918	65.5	102	34	2.84	2.90	2.46	2.73	0	7	14	10	7
1919	71.2	105	37	3.15	1.11	1.32	1.86	0	5	18	10	3
1920	68.3	103	31	2.27	2.33	1.73	2.11	0	7	18	11	2
1921	71.4	110	35	4.47	2.87	1.88	3.07	0	7	17	10	4
1922	65.6	100	30	2.28	2.44	2.72	2.48	0	8	16	11	4
1923	71.2	103	35	2.90	3.34	2.91	3.05	0	8	16	11	4
1924	65.5	99	32	1.93	2.04	1.83	1.93	0	6	18	9	4
1925	66.7	106	29	1.43	1.33	1.30	1.35	0	6	18	9	4
1926	70.3	108	32	2.35	1.78	1.99	2.04	0	7	18	8	5
1927	65.4	97	28	2.33	3.11	3.09	2.84	0	9	15	10	6
1928	67.4	96	38	4.65	5.32	4.49	4.82	0	10	16	10	5
1929	70.6	109	34	1.93	1.09	0.78	1.27	0	5	21	8	2
1930	72.3	107	34	1.83	0.80	0.49	1.04	0	5	21	8	2
1931	70.6	111	37	2.89	3.20	3.01	3.03	0	8	17	8	6
1932	70.0	108	36	1.95	2.22	1.68	1.95	0	7	19	8	4
1933	71.9	109	36	2.04	2.13	1.83	2.00	0	7	19	9	3
1934	71.8	112	29	1.58	1.30	0.77	1.18	0	6	18	10	3
1935	73.8	110	45	3.90	5.44	3.90	4.41	0	10	17	11	3
1936	79.9	121	38	0.71	0.48	0.92	0.70	0	4	22	8	1
1937	71.7	111	40	3.70	2.70	2.40	2.93	0	9	15	10	6
Period	68.8	121	23	2.79	2.44	2.04	2.42	0	7	17	9	5

Climatological Data for July 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	75.6	+6.9	100	6	50	15	33	2.62	−0.17	1.35	0	6	2	12	17	s.	I. Idso.
Cavalier	Pembina	894	27	69.6	......	95	5	48	17	41	4.07	+1.40	1.51	0	7	19	5	7	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	40	69.8	+1.6	98	9	45	18†	40	4.25	+1.79	1.60	0	11	22	4	5	ne.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	70.5	+3.1	96	9	49	28	37	3.26	+0.69	1.26	0	14	12	9	10	n.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	70.6	+1.8	102	6	44	17	43	1.40	−1.37	0.48	0	8	9	19	3	uw.	O. A. Thompson.
Edmore	Ramsey	1,524	13	68.4	+2.0	96	5	45	28	42	3.57	+0.70	0.99	0	11	9	9	13	se.	A. G. Braund.
Ellendale	Dickey	1,457	42	73.6	+2.9	109	6	51	26†	40	1.90	−0.84	0.68	0	8	21	6	4	s.	J. E. Demmer.
Forman	Sargcut	1,249	44	72.1	+2.0	102	6	48	17	33	4.24	+1.27	1.94	0	5	27	3	1	se.	Helge Dyste.
Fullerton	Dickey	1,439	39	73.4	+4.4	108	6	47	17†	41	1.61	−1.51	0.70	0	7	20	8	3	s.	F. O. Alin.
Grafton	Walsh	827	45	70.6	+2.9	93	6	49	25†	41	9.48	+6.93	4.04	0	9	10	13	8	uw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	69.6	+2.1	95	6	48	25	36	4.66	+1.91	1.20	0	10	8	14	9	se.	H. E. Simpson.
Hankinson	Richland	1,068	8	72.8	......	104	6	48	17	39	2.22	......	0.92	0	4	24	7	0	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	45	68.4	+3.7	95	5	45	1†	45	4.61	+2.26	1.32	0	9	10	15	6	nw.	James Muir.
Hillsboro	Traill	901	31	70.8	+1.2	99	6	48	17	35	5.61	+2.93	2.25	0	10	16	10	5	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	73.0	+4.5	102	9	47	17	39	2.45	−0.33	0.68	0	11	12	12	7	se.	S. Calvelage.
Langdon	Cavalier	1,615	41	68.6	+4.0	96	5	45	29	40	5.92	+3.55	2.75	0	11	21	5	5	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	70.2	+3.2	96	6	47	26	44	3.89	+0.67	1.18	0	12	17	4	10	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	33	73.2	+3.9	106	6	47	1†	41	2.39	−0.80	1.52	0	6	12	16	3	nw.	J. O. Halverson.
McHenry	Eddy	1,509	15	69.2	+1.5	98	9	45	26	45	4.71	+1.63	1.77	0	12	14	12	5	nw.	C. E. Blasky.
McLeod	Ransom	1,075	26	72.5	+2.3	102	6	45	17	40	1.72	−1.25	0.75	0	4	20	6	5	nw.	J. G. Carlson.
Mayville	Traill	975	41	69.6	+0.6	92	6†	45	26	53	6.53	+3.77	1.95	0	10	8	23	0	nw.	H. B. Addicott.
Oakes	Dickey	1,318	8	73.4	......	106	6	46	17†	41	1.10	......	0.51	0	12	18	7	6	s.	F. H. Murray.
Park River	Walsh	998	33	70.2	+2.3	94	5	48	29	37	4.68	+2.18	2.50	0	9	15	9	7	nw.	E. J. Taintor.
Pembina	Pembina	1,520	7	68.8	+1.3	92	5	47	29	38	5.30	+2.95	1.63	0	7	21	5	5	s.	E. N. Russell.
Sharon	Steele	1,516	13	69.2	−1.7	93	6†	48	1†	39	5.86	+3.77	1.53	0	13	11	11	9	ne.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	72.7	+4.0	101	6	45	26	42	2.63	−0.18	1.28	0	7	22	4	5	se.	I. C. Robertson.
Wahpeton	Richland	962	45	73.3	+3.5	100	6	48	26†	36	2.36	−0.86	1.48	0	9	19	7	5	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	72.1	+4.0	101	6	50	17	31	2.68	−0.75	1.79	0	9	10	12	9	s.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	71.1	+3.0	109	6	44	17	53	3.70	+0.91	4.04	0	9	15	10	6	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	41	72.6	+3.9	100	6	46	17	43	2.62	−0.21	0.53	0	9	22	6	3	se.	R. C. Miles.
Bisbee	Towner	1,601	1	68.2	......	95	5	48	18†	42	8.47	......	3.52	0	10	15	8	8	w.	I. K. Lund.
Bismarck	Burleigh	1,670	63	73.6	+3.8	100	5	50	28	36	2.17	−0.07	0.61	0	9	11	14	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	70.2	+3.6	99	6	48	17†	37	3.85	+1.48	1.52	0	11	13	8	10	e.	N. D. School of Forestry.
Carrington	Foster	1,579	39	71.6	+2.9	101	8	43	24	42	2.42	−0.16	1.20	0	13	16	3	12	ne.	L. A. Swanson.
Carson	Grant	2,500	25	73.0	+4.2	104	5	44	28	45	2.38	+0.35	0.75	0	9	18	9	4	se.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	69.9	+0.8	98	5†	46	17	33	2.32	−0.82	0.79	0	13	13	10	8	nw.	R. L. Williams.
Drake	McHenry	1,634	8	70.6	......	100	5	49	17†	37	4.36	......	2.75	0	11	10	10	11	s.	Peter Anton.
Dunseith	Rolette	1,682	41	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Wilbur Keeling.
Eckman	Bottineau	1,500	32	70.2	+3.4	103	5	45	28	42	5.89	+3.66	1.50	0	11	11	12	8	ne.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	72.5	+1.5	103	5	45	28	42	2.63	+0.28	1.50	0	7	14	14	3	se.	H. S. Solenberger.
Fessenden	Wells	1,610	25	70.7	+2.7	100	5	46	28	43	3.19	+0.86	1.30	0	11	15	9	7	ne.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	74.8	+3.1	102	9	48	28	42	1.80	−0.39	0.72	0	6	19	8	4	n.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	71.0	+2.6	105	5	48	17	41	2.44	+0.21	0.52	0	12	11	8	12	ne.	E. C. Bierbaum.
Gackle	Logan	1,951	7	73.2	......	101	9	48	17	40	2.15	......	0.87	0	9	16	8	7	ne.	A. H. Haut.
Garrison	McLean	1,901	60	72.0	+3.8	104	5	46	28	44	1.47	−0.99	0.42	0	9	14	11	6	ne.	E. L. Vorachek.
Granville	McHenry	1,504	30	70.9	+3.4	102	5	45	28	46	0.78	−1.39	0.25	0	7	15	11	5	se.	W. A. Christianson.
Hansboro	Towner	1,597	29	68.1	+2.9	97	5	41	18	41	4.92	+2.46	1.20	0	12	12	14	5	sw.	C. E. Blackorby.
Lintou	Emmons	1,711	20	73.6	+2.3	101	5†	42	28	45	3.09	+0.96	0.89	0	10	13	16	2	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	70.5	+1.7	99	5	44	17	37	1.44	−1.09	0.36	0	8	18	6	7	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	70.2	+2.6	100	5	44	28	45	2.65	+0.06	0.95	0	10	8	14	9	nw.	A. T. Felland.
Mandan	Morton	1,750	23	72.4	+1.8	102	5	48	28	37	1.83	−0.55	0.89	0	11	13	9	9	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	72.1	......	110	5	42	23	50	1.12	......	0.50	0	8	14	5	12	se.	A. W. Rice.
Minot	Ward	1,557	41	71.4	+3.5	105	5	44	27	42	1.31	−0.59	0.48	0	9	10	8	13	s.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	69.8	+3.5	107	6	42	23	41	6.27	+3.93	1.75	0	10	6	20	5	nw.	John Behan.
Napoleon	Logan	1,955	45	72.2	+3.6	103	9	45	28	44	2.24	−0.26	0.55	0	12	18	6	7	s.	C. J. Hoof.
New Salem	Morton	2,163	33	71.4	+1.5	103	5	45	28	40	2.39	+0.21	1.00	0	10	19	8	4	nw.	J. Christianson.
Pettibone	Kidder	1,856	28	70.9	+2.9	100	5	40	17	46	1.19	−1.65	0.49	0	10	14	11	6	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	69.8^{1}	+0.4	94^{1}	10	42^{1}	28	41^{1}	3.33	+0.34	0.96	0	10	......	......	......	nw.	R. S. Armstrong.
Towner	McHenry	1,482	35	71.6	+3.6	102	5	45	28	40	1.91	−0.50	0.65	0	11	17	8	6	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	71.8	+3.5	101	5	45	17	49	1.18	−1.37	0.22	0	9	11	8	12	ne.	Albert H. Slettum.
Velva	McHenry	1,511	10	71.0	......	101	5	46	17†	39	1.17	−1.43	0.52	0	10	11	11	9	nw.	Oscar Anderson.
Washburn	McLean	1,731	36	72.4	+2.9	98	5	49	28	36	2.95	+0.47	1.57	0	7	19	7	5	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	D. W. Drake.
Willow City	Bottineau	1,471	45	69.2	+3.5	101	5	44	19	43	3.82	+1.68	1.04	0	11	18	9	4	ne.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	73.2^{d}	+4.6	103^{d}	6†	43^{d}	1	52^{d}	2.61	+0.08	0.70	0	8	......	......	......	nc.	E. W. Davis.
Average for Middle Division		......	.....	71.4	+3.1	110	5	40	17	52	2.70	+0.26	3.52	0	10	14	10	7	nw.	......
Western Division																				
Amidon	Slope	......	31	......	......	......	......	......	......	......	1.52	−0.95	0.38	0	10	25	0	6	se.	D. E. Lawrence.
Beach	Golden Valley	2,759	15	73.3	+4.8	107	5	49	25†	45	2.28	+0.47	0.57	0	10	10	12	9	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	71.2	+2.0	106	5	42	28	57	4.78	+2.42	2.20	0	10	11	13	7	se.	C. L. Hall.
Bowman	Bowman	2,872	23	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	George Larsen.
Crosby	Divide	1,954	29	71.6	+4.8	111	5	48	28	43	1.70	−0.41	0.75	0	10	15	8	8	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	71.3	+3.1	104	5	45	28	43	2.74	+0.57	0.88	0	12	20	2	9	se.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	73.1	+5.1	105	5	47	4	48	3.76	+1.53	1.51	0	9	16	12	3	ne.	W. F. Moede.
Epping	Williams	2,224	27	73.6	+5.6	111	5	44	28	44	3.61	+1.64	1.51	0	8	16	13	2	se.	T. Beachler.
Fryburg	Billings	2,790	19	73.1	......	105	5	51	8†	43	1.50	−0.69	0338	0	13	17	11	3	nw.	Verne King.
Hettinger	Adams	2,675	30	72.4	+2.3	133	5	45	28	42	1.83	−0.53	0.55	0	8	18	5	8	......	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	72.1	+6.1	111	5	46	23	45	1.61	−0.22	0.90	0	7	19	9	3	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	73.0	......	103	5	49	28	37	3.10	+0.81	1.10	0	11	18	8	5	se.	Synthia M. Costello.
Marmarth	Slope	2,714	28	73.6	+4.2	103	5	48	25†	46	1.25	−0.63	0.50	0	6	16	8	7	nw.	S. P. Grane.
Mott	Hettinger	2,424	30	73.9	+3.6	103	5	49	28	44	1.79	−0.35	0.55	0	9	9	19	3	se.	W. M. Hendricks.
New England	Hettinger	2,400	43	73.8	+5.0	105	5	49	9	45	1.89	−0.18	0.99	0	6	16	10	5	se.	F. S. Sleight.
Parshall	Mountrail	1,929	22	69.2	......	106	5	40	28	46	4.24	+2.24	1.66	0	10	7	23	1	se.	C. E. Shubert.
Portal	Burke	1,954	32	70.6	+4.4	107	5	43	28	44	2.33	+0.22	0.77	0	10	17	7	7	e.	R. G. Wegener.
Powers Lake	Burke	2,205	32	74.6	+4.9	104	5	49	27	39	2.81	+0.22	1.53	0	7	17	13	1	se.	Geo. B. Gee.
Richardton	Stark	2,467	21	71.8	+1.7	103	5	52	25	37	2.58	+0.33	1.11	0	9	3	7	21	ne.	Assumption Abbey.
Sanish	Mountrail	1,835	12	71.6	+2.1	109	5	42	24	46	2.54	+0.84	0.94	0	9	21	12	8	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	24	75.6	+6.3	108	5	48	28	44	3.13	+1.30	1.40	0	7	14	16	1	e.	J. C. Zeller.
Williston	Williams	1,878	58	74.0	+5.1	108	5	50	28	36	1.75	−0.14	1.09	0	10	16	11	4	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	72.7	+4.9	111	5	40	28	57	2.40	+0.36	2.20	0	9	15	10	6	se.	......
Average for the State		......	.....	71.7	+2.9	111	5	40	17†	57	2.93	+0.51	4.04	0	9	15	10	6	nw.	......

Notes explanatory of symbols used in this table printed on last page.

Daily Precipitation for July 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red									.52				T.	1.35	.05			.20		.15							.35					2.62
Cavalier	do									1.51				.07			1.50				.07		.42		.42			.08					4.07
Cooperstown	Sheyenne		.02	.08				T.	.03	T		.12	.62	T.	.57	T	.22		.68				.15		1.60		T.				.16		4.25
Courtenay	James	.08						.02	.04	.02		T.	.43	.02	.58	.03	.06		.71			T.			.11			T.		T.	.03		2.13
Devils Lake ***	Devils Lake		.51	.22				.01	.17	.02	T.	.06	.20	T.	.09	.36	.06				T.		.16		1.26			.13		.01			3.26
Edgeley	James												.21	.25	.48	.01	.02					.03			.30					.10			1.40
Edmore	Devils Lake		.22	.07					T	.89			.06		.05	.24	.48						.19		.99			.16		T.	.22		3.57
Ellendale	James		T.						T.				.31	.68	.22	.14			.24			.14			.10					.07			1.90
Forman	Sheyenne		T.									.91		1.94	1.29	T.	T.					T.	T.		.06			.04		T.			4.24
Fullerton	James		T.										.30	.38	.70	T.	T.		.05		.06				T.			.06		.06			1.61
Grafton	Red									4.04			.03		.25	2.27	1.71				T.		.34	.07	.69			.08					9.48
Grand Forks ***	do		.05	T.				T.	.03	.38			.98	T.	.53	.55	.69		.22		T.		.03		1.20			T.					4.66
Hankinson ‖‖	do										T.			.80	.92		T.		T.						.45			T.			.05		2.22
Hannah	Pembina			.07					.03	1.32					T.	.10	.67						1.03	T.	.90			.07			.42		4.61
Hillsboro	Red			.32					T.	.50			.93		2.25		.30		.17		.04				1.00	.08		.02					5.61
Jamestown	James		.11	.03				.06	.10			.68		.56	.31	.29						.02			.02	.27				T.			2.45
Langdon ‖‖	Pembina			.05	.02				.02	2.75		T.			.02	.57	.63	T.					.60	T.	.83			.08			.35		5.92
Larimore	Red			.16						.13			.45		.41	.10	1.04		.05		T.		.07		1.18	.15		.13				.02	3.89
Lisbon	Sheyenne											.03			1.52	.10			T.			.17	T.		T.	.40		T.			.17		2.39
McHenry	James		T.	.12				T.	.09			1.77			.23	.04	.43	.08					.27		1.59		.01			.07		.01	4.71
McLeod	Sheyenne													.22	.65										.75						.10		1.72
Mayville	Red			.65			T.		T.	.20			.58	T.	1.95	.05	.20		.10		1.18		.02		1.60		T.						6.53
Oakes	James			.01									.04	.01	.51	.24	.04			T.		.02	.05		.02	.04			.10		.02		1.10
Park River	Red								1.01			T		.04	.09	2.50	.06					.13			.74		T	.05			T	.06	4.68
Pembina	do									1.05					.04	1.63	1.45						.61		.43			.09					5.30
Petersburg	do			.10					T.	.07			.21		.23	.34	.38						.10		1.51			.10					3.04
Sharon	do		1.23	.34				T.	T.	.01			.92	T.	.72	.22	.40	T.	.07				.25		1.53	.02		.06		T.	.09		5.86
Valley City	Sheyenne		T.	T						.45			T.	T	1.28		.02		.80						.06			.01			.01		2.63
Wahpeton	Red											T.	T.	.20	1.48	.32	.01	.01	.01				.01		.25	.07		T.			T		2.36
Moorhead, Minn. ***	do		T.	.03					T.	T.		T.	.11	.19	1.63	.01	.08	T.	.06		T.		T.		.55			.02		T.	T.		2.68
Middle Division																																	
Ashley	Missouri								.53		.06		.29	.42	.27				.51			.43			.02					.09			2.62
Bisbee	Devils Lake		.65	.02					1.55			T.				.20	.08						.45		1.49			.08		T.	.43	3.52	8.47
Bismarck ***	Missouri		.06	T.			T.	.14	.37		T.	.16		T.	.44	.61	T.	.32			T.	T.					T.	.03		.04		T	2.17
Bottineau	Mouse			.50						1.52	.03				.12	.02	.09				.01		.61		.55	.33		.07					3.85
Carrington ‖‖	James		.02						.13		.03	1.20		.07	.03	.33	.02	.12						.10	.10		.01			.26			2.42
Carson	Heart		.16	.11				.15	.75			.55		.10	.05	.35		.16															2.38
Dogden Butte	Mouse		T.	.01				T	.17		.02	.24	.19		.79	.21	.08	.22				T.			.04			.02		.30	.03		2.32
Drake ‖‖	do			.01						.13	T.		2.75		.12	.04	.12	T.	.03		.01					.07		.02			1.06		4.36
Dunseith	do																																
Eckman	do							.01	.65	1.20		1.50			.22	T.	.05						.50		.38			.10		.10		1.18	5.89
Energy	Missouri							T.	.26			1.50	.10		.05	.50	.10	.12							T.								2.63
Fessenden ‖‖	James								.08	.11		.46	1.30	.06		.03	.26	.01	.05							.51					.32		3.19
Fort Yates	Missouri		.09								T.	.23		.21	.44	.72						.11											1.80
Foxholm (near)	Mouse			T.			T.		.52	.12	.02	.08			.03	.51	.13					.01			.13			.05		.42		.42	2.44
Gackle	James		.07						.21				.87	.31	.16		.01		.24			.25			.03								2.15
Garrison ‖‖	Missouri								T.	.12		.08			.42	.03	.42		.13		.10				.07			T.		.10			1.47
Granville	Mouse								.11	.07		.04				T.							T.		.07			.03		.25		.21	0.78
Hansboro	Devils Lake		.08	.07					.20	1.20	.02				.25	.08	.27				T.		.50		1.00			.05			1.20		4.92
Linton	Missouri			.01				T.			.48	.15	.01	.15	.89	.32		T	.63			.25			T					.20			3.09
McClusky	do								.23			.06	.34		.36	.20		.17				.05			.03								1.44
Maddock	Sheyenne	T	.56			T.	T.	.06	.03	T.	T	.95		.03	.20	.25							T.		.31			04		T.	.22		2.65
Mandan ‖‖	Missouri		.04					.41		T.	T.	.04		.21	.08	.89	.01	.03		.04							.03		.05		T.	T.	1.83
Manfred	James							.01	.14			.19	1.30		.08	.11	.10	.05			T.				.35					.09	.25		2.67
Max ‖‖	Missouri									.04		.04	.03		.25		.50	.20			.01							T			.05		1.12
Minot	Mouse	T.	T.						.48	.01	.10	.03				.23						T.		.07			.04			.33		.02	1.31
Mohall	do			.08		T.	T.	T.	1.75		.05				.95		.10						.90		1.37	.05			.30		.72		6.27
Napoleon ‖‖	Missouri			.16				.01		.15		.02	.55		.36	.05	.28	T.	.20			.15				.08					.23		2.24
New Salem	Heart		T.	T.				.10	.27		T.	.45			.28	1.00	.10	.08			.02				T.			.08		.01		T.	2.39
Pettibone	James		T.					.07	.23		.03		.49	.03	.12	.02		.01	.13			.06											1.19
Rugby (near)	Mouse			.10					1.00			.06				.19	.14				.05		.08		1.13					.13		.40	3.28
Ryder	Missouri		T.								1.23	.09			T.	.93		.07		.16				.02			.07			.15		.10	2.82
Selfridge	do		.14	.01								.15		.20	.19	T		.10												T.			0.79
Steele	do							.17	.17			.74	.94	T.	.07	.96	.04	T				.07	.01					T.		.16			3.33
Tagus	Mouse		.02				T		.60	.82	.10	.83				.43	.25						T.		.07			.02		.30		.22	3.66
Towner	do		T	.08					.16	.65	T.		.08			.04	.08				T.	T	.15		.35					.20	.07	.05	1.91
Turtle Lake	Missouri							T.	.22		.01	.13	.19		.21	.04		.19							.17			.02					1.18
Tuttle	do		T.					.08	.36		T.		.41	.02	.13	.03	.03	.06	.50				T.		T.			T		.05			1.67
Velva	Mouse		T.	T.					.07	.14	T	.52	.05		.09	.03		.05							.03			.09		.10		T	1.17
Washburn ‖‖	Missouri								.38	.07		.32	1.57		.20		.27		.14						T.								2.95
Westhope	Mouse																																
Willow City	do		.07	T.					.52	1.04	T.	T.			T.	.18	.10				.05		.30		.93			.04		.04		.55	3.82
Wishek ‖‖	Missouri												.16	.05	.70	.02	.37			.25		.60									.46		2.61
Zap	Knife									.23	.48	.20			.06	.54																	1.51
Western Division																																	
Alpha	Lit. Missouri		.26	.02			T.	T.	.08	.28	.15	.08		.20	.18	.03	T.										.06			.11			1.45
Amidon	do		.16	.01				.12	.38		.16		.10			.33	.14	.03												.09			1.52
Beach	do		.07	.11			T.		.05	.43	.53	T.			.30	.57		.05	.01								T.			.16			2.28
Berthold Agency	Missouri	.02		.05							1.40	2.20			.25	.45	.10	.08							.13			.10					4.78
Bowman	Grand																																
Corinth	Missouri		.02			.01			.61							1.50					T.		.22		.45					.10		.02	2.93
Crosby	Mouse			.10						.05					.01	.35	.75						.21		.07	.03		.02		.11			1.70
Dickinson ‖‖	Heart		.03	.25				T.	.21	.02	.88	.04				.16	.77	.20	.07			T.			.03			.08			T.	T.	2.74
Dunn Center	Knife			.12					.10		.12	.20	1.25			.23	1.51	.13	.10														3.76
Epping	Missouri		.08						.43	.24				1.05		1.51	.12													.05		.14	3.62
Fryburg	Heart	T.	.05	.12			.01	T.	.31	.04	.38	T.	.01	T.	T.	.22	.18	.27							T.		.02	.07		.02			1.50
Hettinger	Grand	.22	.11				.16			.55				.47		.20			.11											.01			1.83
Howard (near)	Missouri		.02				T.		.90	.02		T.		.09		.51							T.		.03					.04			1.61
Kenmare	Mouse	T.				T.			.45	.47	T.			.33	.07	.03	.07						.32		.15			.02		.09		1.10	3.10
Marmarth	Lit. Missouri		.10	.03				.18	.25	.50	.19	T															T			T.			1.25
Mary	do	.05	.10	.11		T			.31	.25		.29			.03	.29		.30										T.					1.73
Medora				.20						.26	.09		.02			.94	.08	T.	.04						.01			T.		T.		T.	1.64
Mott	Cannon Ball	T	.08					.19	.55		.03	.17		.22	.08	.36		T				T.								T.		.11	1.79
New England ‖‖	do	.05	.10				.10	.42		.99						.23																	1.89
Parshall	Missouri	.13	.02							.48		1.66	.28				1.32		.14							.02		.03			.16		4.24
Portal ‖‖	Mouse			.31						.77						.76	.01						.07		.06	.10		.02		.15		.08	2.33
Powers Lake	Missouri		.02				1.53	.41								.34						.26			.21		.04						2.81
Richardton	Heart			.02			T.	.03	.29		1.11			T.	.06	.57		.04										.04		.42			2.58
Sanish ‖‖	Missouri			.23		T.			T.	.85	.03	.12	.10			.09	.94		.09							.09							2.54
Tioga	do					T.			.56	.29						1.03	.03								.08								1.99
Trotters	Lit. Missouri		T.							.58						.74	.05	.05												.06			1.48
Watford City	Missouri			.12						.70		.65		.10		1.40		.13									T.			.03			3.13
Williston ***	do		T.	.01			T.		.33	.24	T.		T.	.01		1.09		.02							.01		.02			.01		.01	1.75

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum	93	90	93	94	92	100	95	93	95	94	90	85	83	86	80	78	80	80	80	85	90	90	89	91	90	89	90	88	90	92	94	89.0
	Minimum	64	63	66	68	70	74	72	68	70	68	72	62	58	55	50	52	56	54	58	57	60	62	66	62	60	58	60	62	60	62	61	62.3
Devils Lake	Maximum	92	89	85	86	96	89	79	83	96	84	82	82	79	76	69	62	74	79	87	89	93	90	79	62	76	81	80	79	79	90	88	82.4
	Minimum	55	57	60	54	63	63	61	62	65	65	63	66	62	64	60	56	51	56	58	65	56	61	53	56	50	54	57	49	54	58	63	58.6
Edgeley	Maximum	89	90	89	92	96	102	89	90	101	92	87	86	82	74	75	65	74	76	80	95	87	93	78	76	80	84	90	85	84	90	90	85.8
	Minimum	46	60	50	51	54	62	62	56	61	66	62	54	62	58	58	56	44	54	55	54	63	63	53	59	50	46	56	49	48	53	56	55.5
Fullerton	Maximum	89	95	88	89	98	108	86	92	100	96	96	87	76	70	78	71	75	81	88	94	95	99	82	87	83	86	89	86	80	91	92	88.0
	Minimum	59	55	50	50	57	67	61	59	70	73	68	66	65	66	59	58	47	47	58	60	67	65	65	57	50	49	59	51	50	58	61	58.9
Grafton	Maximum	91	89	90	89	92	93	85	83	88	87	83	83	82	79	68	65	72	77	86	87	89	88	86	77	78	79	82	79	78	84	87	83.1
	Minimum	50	64	57	56	57	70	61	52	62	65	65	67	64	65	60	55	50	53	57	62	56	63	58	55	49	50	57	51	49	56	62	58.0
Grand Forks	Maximum	86	87	86	85	91	95	82	82	94	81	82	82	79	71	66	63	70	78	85	89	90	91	77	64	76	79	83	79	79	84	88	81.4
	Minimum	50	59	62	53	57	70	58	60	65	66	62	65	63	63	58	53	50	52	56	61	59	64	59	51	48	50	58	51	52	59	61	57.9
Hillsboro	Maximum	86	90	86	82	90	99	88	89	95	91	84	84	80	76	66	62	75	79	87	92	91	92	78	75	68	84	85	83	84	86	89	83.7
	Minimum	51	61	62	52	56	70	60	62	61	61	61	65	64	65	62	55	48	54	55	60	58	60	59	53	50	50	55	50	56	60	60	57.9
Jamestown §	Maximum	94	93	89	91	99	98	85	90	102	91	88	84	74	68	75	67	79	72	89	94	95	96	80	80	82	85	88	84	81	93	100	86.6
	Minimum	51	60	59	57	61	69	62	62	63	65	69	65	65	65	61	57	47	56	55	62	65	68	58	57	51	48	59	50	52	58	66	59.5
Langdon §	Maximum	91	89	86	88	96	92	86	77	81	84	81	84	80	72	68	63	71	79	85	87	88	84	78	78	76	78	79	76	79	80	82	81.2
	Minimum	51	51	56	55	61	69	56	52	53	64	63	65	65	61	59	54	48	51	55	63	57	60	52	54	47	50	52	48	45	56	59	55.9
Larimore	Maximum	92	89	85	87	92	96	84	82	94	89	82	82	79	76	65	63	74	80	85	87	90	89	77	73	75	82	81	77	83	86	89	82.7
	Minimum	48	62	59	55	57	68	62	58	64	62	62	66	64	65	59	55	51	57	55	60	56	64	58	54	49	47	57	49	48	58	60	57.7
Lisbon §	Maximum	89	93	88	89	92	106	96	91	99	96	94	90	80	68	78	66	70	81	88	94	90	98	80	80	81	83	88	83	89	90	88	87.0
	Minimum	47	58	58	55	55	68	62	60	68	65	70	68	67	67	63	60	47	52	55	62	66	67	59	63	52	47	57	49	48	58	66	59.3
Oakes	Maximum	89	93	88	88	95	106	85	91	104	96	92	87	76	69	78	74	78	82	88	94	94	98	79	84	82	85	89	84	81	92	92	87.5
	Minimum	48	59	57	53	58	69	61	60	68	64	70	67	67	68	62	59	46	52	55	61	68	65	57	57	51	46	59	59	50	57	64	59.3[a]
Sharon	Maximum	87	91	83	81	86	93	80	80	93	85	81	81	75	70	65	62	72	78	83	89	85	88	77	63	76	77	81	79	76	84	86	80.2
	Minimum	48	62	59	57	61	65	60	60	62	64	63	64	64	63	57	55	50	57	55	62	63	63	54	55	50	51	58	48	54	57	59	58.1
Valley City	Maximum	89	90	86	88	92	101	95	90	98	97	86	85	84	75	73	69	72	79	86	93	89	94	89	79	80	82	86	85	82	88	89	86.2
	Minimum	47	59	58	53	57	66	62	62	66	66	68	66	66	64	63	57	46	68	55	59	62	69	57	57	51	45	59	49	49	69	59	59.2
Wahpeton	Maximum	83	90	84	84	89	100	99	91	97	95	94	89	84	75	77	77	70	77	83	91	90	95	94	76	80	80	86	86	80	86	87	86.1
	Minimum	49	59	61	56	60	70	63	56	69	70	70	67	66	67	64	54	49	59	53	62	62	69	60	54	52	48	66	66	48	66	62	60.5
Moorhead, Minn.	Maximum	84	87	84	83	89	101	84	91	96	96	89	84	82	70	70	63	70	78	85	91	88	95	77	71	78	81	86	80	80	86	88	83.5
	Minimum	54	63	65	59	58	71	61	63	73	69	68	68	66	65	60	54	50	59	56	60	65	68	61	56	52	51	59	55	52	60	62	60.7
Middle Division																																	
Ashley	Maximum	92	94	89	90	98	100	89	94	98	93	92	83	76	69	79	71	73	80	87	94	90	93	79	86	81	85	87	85	80	94	92	86.9
	Minimum	49	60	60	62	65	68	61	60	69	66	67	64	64	64	56	55	46	55	55	63	59	58	54	58	49	49	56	48	51	55	63	58.4
Bismarck	Maximum	94	85	89	91	100	90	70	90	92	85	89	83	74	72	74	72	67	78	88	89	96	89	80	80	83	88	85	85	84	93	96	84.9
	Minimum	61	64	64	55	70	68	62	60	67	69	68	66	68	64	58	57	53	57	56	69	65	70	57	60	56	60	62	50	60	61	72	62.2
Bottineau	Maximum	82	89	89	83	86	99	82	83	74	79	80	81	82	80	77	70	66	71	78	87	87	93	80	78	79	80	83	79	82	78	86	81.4
	Minimum	64	66	61	55	65	70	56	59	62	63	66	64	65	64	62	65	48	48	53	64	50	61	50	57	54	48	61	48	55	60	64	59.0
Carson	Maximum	97	84	89	92	104	92	82	86	94	88	92	92	82	80	77	75	72	80	90	94	99	90	84	81	86	91	88	89	91	92	99	88.1
	Minimum	57	61	60	57	74	67	56	57	55	55	66	64	63	60	56	54	54	52	57	64	64	60	50	50	49	56	58	44	61	60	57	58.0
Fessenden §	Maximum	91	90	88	89	100	89	76	83	97	85	82	84	83	75	69	66	73	79	86	90	92	90	80	72	79	85	83	83	80	88	93	83.9
	Minimum	48	57	60	52	63	69	62	58	58	65	65	65	66	62	62	58	47	55	51	64	59	65	51	55	51	48	64	46	47	51	60	57.5
Foxholm (near)	Maximum	92	88	86	92	105	97	85	79	78	77	81	84	80	78	72	70	70	78	87	88	93	90	79	76	81	90	84	85	79	86	93	84.0
	Minimum	62	57	63	51	66	70	53	58	60	62	64	61	60	62	58	56	48	49	56	67	57	65	49	57	54	55	60	49	51	58	61	58.0
Garrison §	Maximum	94	88	89	92	104	88	78	84	89	80	86	87	82	80	73	73	65	80	86	90	94	86	82	79	85	88	84	86	79	92	95	85.1
	Minimum	57	56	62	59	60	68	59	60	60	66	66	65	64	63	55	55	48	55	54	55	60	64	50	58	53	56	64	46	58	58	68	58.8
Granville	Maximum	93	91	87	92	102	87	82	73	88	81	80	87	85	78	77	71	73	84	92	89	96	89	82	78	84	90	83	86	76	89	95	85.2
	Minimum	47	47	53	49	62	70	58	60	62	65	61	64	63	60	61	59	48	48	53	59	55	62	58	55	50	53	57	45	54	57	61	56.6
Hansboro	Maximum	91	89	85	86	97	87	85	72	75	78	80	82	80	75	67	65	73	80	86	86	90	81	78	67	78	79	78	81	77	85	85	80.6
	Minimum	50	55	55	49	59	68	59	53	59	65	61	62	61	59	60	59	50	41	56	60	54	61	50	55	53	47	55	50	45	56	56	55.6
Linton	Maximum	93	92	91	93	101	93	83	97	101	92	89	86	75	73	78	72	75	80	87	92	95	93	84	85	82	88	89	86	87	94	97	87.8
	Minimum	53	58	57	48	68	72	61	64	72	64	65	64	64	63	55	55	52	57	54	61	61	67	51	62	47	56	62	42	54	62	69	59.4
McClusky	Maximum	90	89	85	87	99	93	76	79	90	82	80	82	80	73	72	69	69	75	83	87	90	88	83	75	80	84	83	82	77	90	92	82.7
	Minimum	53	58	62	53	65	69	59	60	64	65	66	64	63	63	59	55	44	52	53	63	60	64	49	57	58	50	46	56	56	58	63	58.3
Maddock	Maximum	91	88	85	86	100	95	84	80	95	91	83	83	81	76	72	66	73	78	87	89	94	93	82	80	79	85	86	85	83	90	94	85.0
	Minimum	46	53	58	53	62	65	56	58	61	64	60	64	63	62	56	54	47	52	50	63	50	62	50	52	50	45	59	44	47	56	59	55.5
Minot	Maximum	94	90	88	93	105	86	82	71	81	79	81	84	82	78	75	69	69	81	88	89	95	86	81	75	81	89	83	85	74	89	94	83.8
	Minimum	52	68	49	57	72	57	61	62	65	67	65	64	65	58	57	48	48	53	70	55	68	50	64	52	57	62	44	55	61	64	60	59.0
Mohall	Maximum	87	92	92	83	98	107	86	86	77	74	78	93	89	85	75	74	67	72	79	86	83	93	83	73	73	87	80	85	73	87	87	83.4
	Minimum	55	53	59	50	62	72	50	55	60	59	64	67	61	64	60	53	47	48	53	53	65	62	42	53	52	60	46	48	52	59	58	56.2
Napoleon §	Maximum	91	93	88	91	100	94	82	94	103	87	92	80	70	75	77	71	72	80	86	92	94	90	79	83	84	90	88	85	80	94	95	86.5
	Minimum	47	58	56	50	65	72	58	58	67	62	65	61	64	64	55	54	47	56	55	64	61	70	52	57	48	47	61	45	55	56	65	57.9
New Salem	Maximum	93	86	86	93	103	89	80	84	91	88	90	81	75	75	74	73	67	76	85	88	90	88	81	80	85	90	83	85	85	93	97	85.0
	Minimum	53	57	66	53	65	63	55	56	58	62	63	60	62	59	53	52	49	62	55	63	58	69	61	54	52	52	60	45	53	54	63	57.8
Steele	Maximum	....	....	....	....	....	....	....	....	....	94	87	80	70	75	72	69	70	78	85	89	91	90	82	78	80	87	86	83	80	90	93	[i]82.2
	Minimum	....	....	....	....	....	....	....	....	....	70	63	63	64	63	57	55	47	56	51	56	60	67	53	58	49	52	61	42	55	56	65	[i]57.4
Towner	Maximum	92	93	87	90	102	100	81	79	89	80	78	84	82	80	73	68	72	81	89	88	93	90	84	77	80	86	85	83	81	88	93	84.8
	Minimum	55	60	61	52	67	71	60	58	61	65	67	65	68	63	62	57	46	48	60	65	53	63	50	56	51	54	60	45	50	59	61	58.3
Westhope	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Western Division																																	
Beach	Maximum	93	88	85	96	107	82	74	84	86	86	88	81	77	82	71	75	77	81	93	91	99	91	85	81	85	98	84	89	86	92	94	86.5
	Minimum	65	63	60	51	72	64	56	58	63	64	63	63	64	57	55	54	58	57	59	63	63	68	50	61	49	62	63	49	62	55	71	60.1
Berthold Agency	Maximum	95	87	89	95	106	93	78	80	90	77	85	83	78	77	72	71	71	78	88	90	95	85	79	80	85	89	83	85	85	93	98	85.2
	Minimum	57	52	61	46	49	69	60	59	61	62	65	64	63	62	56	56	51	51	52	63	57	62	48	65	51	58	61	42	55	57	62	57.3
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Crosby §	Maximum	92	94	86	100	111	79	90	76	83	90	94	81	81	86	68	71	76	84	91	90	97	82	82	73	87	95	80	83	85	92	83	85.9
	Minimum	66	61	63	57	69	67	52	58	62	62	58	58	62	57	60	56	55	51	52	60	57	52	49	51	53	61	59	48	50	55	58	57.4
Dickinson §	Maximum	92	87	86	93	104	88	68	84	88	77	84	81	73	78	74	73	72	77	87	87	94	85	81	81	82	92	84	86	88	92	96	84.3
	Minimum	63	58	58	50	66	71	60	56	58	62	62	66	64	62	58	55	55	55	55	63	62	65	49	55	47	58	61	45	55	52	61	58.3
Dunn Center §	Maximum	96	87	85	95	105	87	75	83	90	82	84	82	75	76	73	71	69	76	87	84	93	84	78	79	82	92	83	82	85	88	95	84.0
	Minimum	63	54	61	47	69	62	62	58	63	60	62	59	57	56	54	65	61	63	66	72	71	74	63	70	66	67	74	52	67	59	51	62.2
Hettinger	Maximum	91	89	90	95	103	84	68	71	73	78	77	80	78	75	74	76	83	82	89	93	97	95	93	90	81	90	88	84	87	94	92	85.2
	Minimum	70	69	67	68	70	58	54	60	58	62	60	56	59	60	54	60	62	56	55	57	72	74	71	72	52	51	46	45	48	54	50	59.7
Kenmare	Maximum	92	91	88	93	103	102	85	82	75	80	84	85	84	78	75	71	70	80	88	91	97	97	82	78	85	88	87	86	85	89	87	85.7
	Minimum	64	68	64	66	68	72	56	62	62	64	66	64	62	64	59	56	52	50	59	64	60	64	51	58	57	54	61	49	51	60	65	60.4
Marmarth	Maximum	91	85	86	97	103	90	70	83	85	81	86	80	76	70	76	78	79	82	89	91	98	90	85	80	84	94	85	87	87	92	94	85.9
	Minimum	66	64	62	51	72	69	57	69	68	64	64	67	66	55	56	52	57	57	57	61	64	65	54	60	48	62	68	48	65	60	70	61.2
Mott	Maximum	95	91	90	94	103	99	82	91	91	81	89	80	77	77	85	75	80	78	88	90	97	91	84	83	84	92	86	87	90	93	98	87.8
	Minimum	61	60	63	50	67	68	58	57	62	60	62	65	65	61	58	56	55	70	56	65	64	71	52	56	50	51	60	49	62	55	70	60.0
New England §	Maximum	95	88	91	96	105	90	68	81	84	88	83	88	84	74	80	84	78	84	90	90	99	91	92	84	90	95	88	89	94	98	99	88.4
	Minimum	58	60	59	51	72	57	57	62	49	58	63	62	68	58	56	56	58	60	58	60	66	68	56	64	52	50	50	51	62	68	67	59.2
Watford City	Maximum	97	96	90	97	108	92	83	74	92	93	90	86	84	84	76	73	74	83	93	94	98	87	86	79	89	95	84	92	88	95	99	88.7
	Minimum	68	65	61	56	77	68	55	65	60	69	65	63	66	62	57	58	56	58	58	66	65	69	53	62	63	63	62	48	65	58	73	62.4
Williston	Maximum	94	93	86	97	108	76	82	73	85	88	87	86	82	82	71	70	69	81	92	91	99	84	81	77	84	94	82	86	86	91	92	85.5
	Minimum	69	64	66	62	77	63	56	64	64	69	68	62	66	62	59	58	58	56	62	66	65	63	54	61	55	67	62	50	65	61	64	62.5

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

NOTES EXPLANATORY FOR PAGE 26. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, [b] represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow.
‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

[WBO, Minneapolis, 8-24-37—1500]

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CLIMATOLOGICAL DATA

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NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVI BISMARCK, N. D., AUGUST 1937 No. 8

GENERAL SUMMARY

Hot weather persisted throughout the month. Temperatures averaged 2.5° higher than any previous August and only three Julys show higher average temperatures. Temperatures were unseasonably high from the 21st to the 31st. Precipitation averaged slightly above normal in the eastern division and slightly below normal in the central and western divisions. It was well distributed throughout the month, but with the heaviest amounts on the 1st and 2d. Crops deteriorated somewhat in the central and western divisions due to the hot, dry weather. Pastures were fair to good in the eastern division, but they were very dry in the northwestern division. No severe wind or hail storms were reported, but dust storms, mostly light, occurred at many places on the 9th, 19th, 21st, 23d, and 27th.

TEMPERATURE

The mean temperature for the State was 72.9°, or 6.6° above the 1892-1937 average for August. The mean for the eastern division was 73.1°; for the middle division, 72,6°; and for the western division, 73.1°. The highest mean temperature was 78.2° at Amenia, and the lowest, 68.0°, at Dunseith, making a range in mean temperature of 10.2°. The absolute range in temperature was 69°, from 109° at New England on the 5th, to 40° at four scattered stations on the 20th, 21st, and 22d. The average daily deficiency in temperature for the State since January 1, 1937, is 0.4°.

PRECIPITATION

The average precipitation for the State was 1.52 inches, or 0.49 inch less than the 1892-1937 average for August. In the eastern division the average amount was 2.56 inches; in the middle division, 1.11 inches; and in the western division, 0.88 inch. The greatest monthly amount reported was 7.23 inches at McLeod; the least was 0.04 inch at Amidon and Tuttle. The greatest amount recorded in any 24 consecutive hours was 3.40 inches at Hansboro on the 1st. The accumulated excess in precipitation since January 1, 1937, is 0.52 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	3	6	3	4	1	2	..	..	..	..	..	2	1	1	..	..	..	..	..	..	..	4	..	..	..	4	2	..	..	..	..
Dust storms	1	..	..	..	..	..	..	..	3	..	..	..	1	..	..	..	..	1	2	..	4	1	4	..	..	..	6	2	..	..	..
Fogs	2	2	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hail	5	1	..	..	..	..	..	..	6	2	..	..	..	1	..	..	..	1	1	..	..	..	..	1	..	..	1	1	..	..	..
Thund'rst'ms	18	16	5	..	2	3	6	3	13	10	3	1	9	15	13	9	6	3	2	1	2	3	5	8	5	..	10	11	5	..	6

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.86	30.18	17	29.52	23	8.8	38	sw.	14	67	34	31	62
Devils Lake	29.89	30.22	21	29.58	18	8.6	28	ne.	14	82	38	40	70
Williston	29.86	30.25	16	29.47	23	7.9	46	w.	1	62	29	25	81
Moorhead, Minn	29.90	30.25	21	29.54	18	8.6	26	sw.	24	84	50	52	73
Averages & ext's	29.88	30.25	16†	29.47	23	8.5	46	w.	1	74	38	37	72

† And other dates.

COMPARATIVE DATA FOR AUGUST

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	67.3	105	24	2.86	2.80	1.50	2.39	0	8	15	10	6
1893	66.7	109	29	2.10	1.25	0.58	1.31	0	3	20	7	4
1894	68.8	102	30	1.37	0.86	1.20	1.14	0	4	17	10	4
1895	64.5	104	24	1.87	1.36	1.48	1.57	0	5	17	11	3
1896	64.7	107	21	2.07	0.86	0.42	1.12	0	5	17	10	4
1897	64.1	106	29	1.28	1.13	1.13	1.18	0	5	15	10	6
1898	65.4	104	24	2.92	1.40	0.75	1.69	0	5	15	11	5
1899	65.2	97	32	2.90	2.90	2.69	2.83	0	6	15	11	5
1900	70.4	114	33	6.05	4.53	4.60	5.06	0	10	14	11	6
1901	66.9	100	32	2.55	1.90	0.86	1.77	0	6	18	8	5
1902	64.3	96	26	2.65	2.36	1.88	2.30	0	8	16	9	6
1903	63.7	103	35	4.72	4.65	4.67	4.68	0	10	13	7	11
1904	63.3	102	31	1.56	1.92	1.34	1.61	0	6	17	7	7
1905	67.5	107	34	3.51	2.44	1.34	2.43	0	7	17	8	6
1906	66.3	105	31	1.53	1.74	2.25	1.84	0	7	17	6	8
1907	64.5	104	26	2.17	1.23	1.79	1.73	0	6	18	9	4
1908	63.2	104	25	2.48	2.46	1.55	2.16	0	7	17	8	6
1909	69.8	109	27	2.98	1.94	1.78	2.23	0	6	18	9	4
1910	63.1	109	24	1.58	1.30	1.51	1.46	0	5	14	8	9
1911	62.2	98	23	3.61	3.87	2.15	3.21	0	8	12	11	8
1912	63.4	118	32	3.41	2.60	2.62	2.88	0	10	11	10	10
1913	68.9	106	30	3.15	2.32	2.42	2.63	0	6	16	10	5
1914	64.2	101	26	2.00	2.26	2.61	2.29	0	7	13	11	7
1915	64.4	100	19	1.16	1.49	0.89	1.18	0	4	19	8	4
1916	66.0	100	26	3.17	2.79	2.05	2.67	0	8	16	10	5
1917	65.2	105	25	0.96	0.74	0.76	0.82	0	4	17	10	4
1918	66.5	102	34	3.51	3.39	3.25	3.38	0	8	15	11	5
1919	67.9	101	30	2.58	1.57	0.63	1.59	0	5	18	10	3
1920	68.8	108	28	1.03	2.01	1.55	1.53	0	5	22	6	3
1921	67.2	108	31	3.08	1.86	0.99	1.98	0	6	18	10	3
1922	69.8	115	33	1.29	1.63	1.02	1.31	0	6	18	9	4
1923	63.0	97	28	2.38	1.70	1.45	1.84	0	8	14	12	5
1924	63.8	102	28	2.27	1.36	1.09	1.57	0	6	17	9	5
1925	67.9	110	29	1.39	1.06	0.66	1.04	0	5	20	8	3
1926	65.6	105	36	3.01	2.41	1.68	2.37	0	7	14	8	9
1927	63.4	96	28	3.17	3.63	2.58	3.13	0	8	18	8	5
1928	64.8	105	25	3.84	3.15	2.28	3.09	0	8	17	9	5
1929	68.5	106	26	0.87	0.83	0.60	0.77	0	4	20	9	2
1930	70.4	104	32	1.40	1.45	1.49	1.45	0	6	15	9	7
1931	67.0	105	30	2.43	2.33	1.51	2.09	0	6	16	9	6
1932	68.3	100	28	2.40	1.37	1.89	1.89	0	7	16	10	5
1933	68.5	104	31	0.81	0.64	0.79	0.75	0	5	17	9	5
1934	67.4	108	25	1.70	1.15	0.60	1.15	0	5	16	11	4
1935	66.2	109	26	3.83	1.90	1.32	2.35	0	8	16	9	6
1936	69.8	110	29	1.67	1.37	1.16	1.40	0	6	14	11	6
1937	72.9	109	40	2.56	1.11	0.88	1.52	0	5	18	10	3
Period	66.3	118	19	2.43	1.98	1.61	2.01	0	6	16	9	6

Climatological Data for August 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	78.2	+11.7	100	1†	56	31	38	1.55	−1.04	0.75	0	6	4	14	13	s.	I. Idso.
Cavalier	Pembina	894	27	71.3	......	98	14	46	21	40	4.01	+1.65	3.30	0	4	24	1	6	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	40	71.5	+5.3	98	23	46	19†	42	4.08	+1.45	2.94	0	10	21	6	4	ne.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	72.0	+7.2	100	6	47	20	45	1.25	−1.23	0.75	0	10	16	10	5	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	75.8	+8.9	105	15	42	21	50	1.11	−1.36	0.61	0	6	9	20	2	se.	O. A. Thompson.
Edmore	Ramsey	1,524	13	70.0	+6.3	98	6†	42	21	50	1.90	−0.24	0.63	0	10	13	8	10	s.	A. G. Braund.
Ellendale	Dickey	1,457	42	76.0	+7.2	106	15	48	20	46	2.14	−0.58	1.07	0	8	21	9	1	s.	J. E. Demmer.
Forman	Sargent	1,249	44	74.0	+5.8	98	15	46	20†	46	3.94	+1.16	1.17	0	6	25	5	1	s.	Helge Dyste.
Fullerton	Dickey	1,439	39	76.0	+8.9	107	15	47	21	46	2.45	−0.08	1.11	0	8	18	12	1	s.	F. O. Alin.
Grafton	Walsh	827	45	72.2	+7.0	98	14	42	21	44	1.45	−1.13	0.48	0	7	11	13	7	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	71.7	+6.3	96	5†	44	21	40	3.22	+0.58	2.75	0	6	11	17	3	se.	H. E. Simpson.
Hankinson	Richland	1,068	8	74.4	......	104	15	47	21	45	3.36	......	0.81	0	8	18	8	5	se.	Joseph Rindt.
Hannah	Cavalier	1,568	45	69.2	+6.3	94	14	40	21	38	3.44	+1.32	3.35	0	3	13	17	1	nw.	James Muir.
Hillsboro	Traill	901	31	73.7	+6.2	98	15	45	21	40	3.18	+0.48	1.20	0	10	18	10	3	s.	H. F. Lund.
Jamestown	Stutsman	1,457	45	74.8	+8.4	104	5	48	20	46	1.45	−1.24	0.81	0	7	12	11	8	se.	S. Calvelage.
Langdon	Cavalier	1,615	41	69.1	+6.6	96	14	43	21	41	2.90	+0.44	1.75	0	9	20	3	8	s.	V. Sturlangson.
Larimore	Grand Forks	1,134	44	71.7	+6.7	99	26	40	21	48	1.74	−1.04	1.13	0	7	20	5	6	se.	Mabel Walsh.
Lisbon	Ransom	1,091	33	74.6	+7.6	101	1	47	21	45	3.71	+1.03	1.36	0	11	17	11	3	se.	J. O. Halverson.
McHenry	Eddy	1,509	15	71.2	+6.1	97	14†	41	19	48	0.92	−1.99	0.42	0	8	16	10	5	se.	C. E. Blasky.
McLeod	Ransom	1,075	26	74.6	+6.7	103	14	48	20	39	7.23	+4.81	1.60	0	9	23	7	1	se.	J. G. Carlson.
Mayville	Traill	975	41	......	......	95	5†	......	......	......	2.08	−0.55	1.05	0	7	11	1	19	nw.	H. B. Addicott.
Oakes	Dickey	1,318	8	75.0	......	105	15	47	20	48	2.17	......	1.06	0	9	20	9	2	s.	S. F. Rossman.
Park River	Walsh	998	33	70.8	+4.6	100	14	42	21	40	0.77	−1.65	0.30	0	7	15	8	8	se.	E. J. Taintor.
Pembina	Pembina	1,520	7	69.6	+5.3	95	14	44	21	44	2.49	+0.30	1.72	0	7	16	7	8	s.	E. N. Russell.
Sharon	Steele	1,516	13	71.8	+4.5	98	26	47	19†	39	1.26	−0.84	0.56	0	11	14	11	6	se.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	74.6	+7.8	102	1†	45	30	49	1.25	−0.96	0.70	0	9	16	15	0	se.	I. C. Robertson.
Wahpeton	Richland	962	45	75.6	+7.7	100	15	45	21	40	4.20	+1.52	1.40	0	11	15	12	4	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	74.2	+8.1	98	1	50	20	38	3.59	+0.70	1.03	0	11	11	15	5	s.	U. S. Weather Bureau.
Average for Eastern Division		......	......	73.1	+7.1	107	15	40	21	50	2.56	+0.13	3.35	0	8	16	10	5	se.	......
Middle Division																				
Ashley	McIntosh	2,001	41	76.0	+9.5	105	15	47	21†	44	1.63	−0.92	0.96	0	5	18	12	1	se.	R. C. Miles.
Bisbee	Towner	1,601	1	68.6	......	99	23	42	21	42	1.45	......	0.97	0	5	17	12	2	n.	I. K. Lund.
Bismarck	Burleigh	1,670	63	75.4	+8.1	104	6	52	20	43	1.12	−0.70	0.43	0	4	14	11	6	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	69.8	+5.7	100	24	42	20	41	3.44	+1.03	1.87	0	7	13	8	10	e.	N. D. School of Forestry
Carrington	Foster	1,579	39	72.2	+5.4	102	13	41	20	51	0.85	−1.31	0.25	0	7	20	6	5	se.	L. A. Swanson.
Carson	Grant	2,500	25	73.4	+5.5	105	14	41	20	44	0.15	−1.65	0.08	0	3	18	12	1	n.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	72.2	+5.8	101	23	47	19	44	1.06	−0.86	0.43	0	6	21	6	4	nw.	R. L. Williams.
Drake	McHenry	1,634	8	71.0	......	100	23	47	20	40	1.27	......	0.43	0	6	14	11	6	se.	Peter Anton.
Dunseith	Rolette	1,682	41	68.0	+4.1	99	24	42	29	38	0.34	−2.12	0.19	0	4	18	8	5	n.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	70.0	+5.8	105	23	43	20	51	0.78	−1.19	0.50	0	6	14	16	1	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	74.0	+6.4	103	14	44	20	52	1.04	−0.89	0.35	0	5	21	9	1	n.	H. S. Solenberger.
Fessenden	Wells	1,610	25	72.6	+6.7	103	6	45	11†	49	0.59	−1.72	0.32	0	6	16	12	3	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	75.0	+5.7	105	27	47	20†	48	0.60	−1.57	0.37	0	3	23	5	3	n.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	71.6	+6.0	104	23	45	20	47	0.53	−1.21	0.35	0	5	11	12	8	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	7	75.6	......	103	6	48	20	40	1.17	......	0.43	0	5	19	4	8	nw.	A. H. Haut.
Garrison	McLean	1,901	60	71.8	+5.7	102	23	46	11†	49	0.86	−1.15	0.41	0	7	21	10	0	n.	E. L. Vorachek.
Granville	McHenry	1,504	30	72.5	+7.6	103	23	45	17†	46	1.58	−0.32	1.04	0	6	19	8	4	nw.	W. A. Christianson.
Hansboro	Towner	1,597	29	69.6	+7.2	98	23	46	17†	45	4.62	+2.32	3.40	0	7	19	9	3	se.	C. E. Blackorby.
Linton	Emmons	1,711	20	76.8	+7.6	105	6	43	20	51	0.29	−2.08	0.18	0	3	16	14	1	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	72.4	+6.3	101	6†	46	20	46	0.45	−1.49	0.29	0	3	24	6	1	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	72.6	+6.9	102	6†	44	11†	50	1.12	−1.35	0.50	0	8	18	5	8	nw.	A. T. Felland.
Mandan	Morton	1,750	23	74.5	+6.4	104	6	48	20	45	1.34	−0.38	0.63	0	5	14	12	5	se.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	72.3	......	102	23	44	20	48	0.77	......	0.35	0	5	15	6	10	......	A. W. Rice.
Minot	Ward	1,557	41	71.8	+6.8	104	23	45	11†	53	1.01	−1.06	0.52	0	7	9	13	9	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	70.2	+6.3	102	23	43	17	54	0.42	−1.51	0.30	0	5	9	19	3	nw.	John Behan.
Napoleon	Logan	1,955	45	76.2	+9.8	106	6	44	20	52	0.28	−2.12	0.12	0	6	25	6	0	se.	C. J. Hoof.
New Salem	Morton	2,163	33	74.0	+6.8	105	6†	43	20	50	0.47	−1.35	0.28	0	4	22	5	4	ne.	J. Christianson.
Pettibone	Kidder	1,856	28	73.0	+4.7	103	6	43	20	47	0.86	−1.42	0.73	0	4	14	12	5	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	73.6	+6.9	101	14	45	20†	45	1.02	−1.37	0.61	0	4	17	8	6	se.	R. S. Armstrong.
Towner	McHenry	1,482	35	73.3	+7.9	104	23	46	12†	50	1.50	−0.53	0.50	0	7	21	8	2	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	73.8	+7.4	103	6	47	11†	50	1.84	−0.28	0.67	0	7	22	7	2	se.	Albert H. Slettum.
Velva	McHenry	1,511	10	71.7	......	102	23	45	17	53	1.28	−0.62	0.55	0	7	13	14	4	se.	Oscar Anderson.
Washburn	McLean	1,731	36	74.3	+6.9	101	6	48	20	46	0.47	−1.20	0.11	0	7	25	6	0	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	70.0	+5.3	104	23	43	20	51	0.85	−1.15	0.45	0	5	20	8	3	se.	D. A. Findlay.
Willow City	Bottineau	1,471	45	69.6	+6.0	101	23	42	21	51	2.97	+0.85	1.18	0	6	21	9	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	75.2ᵉ	+9.4	105	6†	45	19†	52	1.28	−0.63	1.17	0	3	......	....	......	nw.	E. W. Davis.
Average for Middle Division		......	......	72.6	+6.5	106	6	41	20	54	1.11	−0.50	3.40	0	5	18	9	4	se.	......
Western Division																				
Amidon	Slope	......	31	75.5	+7.6	105	27	43	19	50	0.04	−1.18	0.04	0	1	25	6	0	s.	J. G. Jacobson.
Beach	Golden Valley	2,759	15	73.0	+6.6	104	13†	43	20	48	0.81	−0.88	0.55	0	5	14	16	1	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	72.4	+4.7	107	23	40	20	59	1.29	−0.63	0.63	0	7	14	16	1	w.	C. L. Hall.
Bowman	Bowman	2,872	23	......	......	...	......	......	......	......	......	......	......	......	......	......	......	......	....	George Larsen.
Crosby	Divide	1,954	29	70.0	+5.4	107	23	44	20	51	0.58	−1.41	0.52	0	3	22	5	4	sw.	J. H. Phelps.
Dickinson	Stark	2,543	45	71.8	+5.5	105	27	44	20	58	1.04	−0.95	0.64	0	4	17	10	4	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	70.9	+4.7	104	27	44	20	49	0.80	−0.91	0.69	0	5	18	10	3	nw.	W. F. Moede.
Epping	Williams	2,224	27	74.3	+8.4	105	23	42	20	49	0.61	−1.09	0.61	0	1	17	14	0	nw.	T. Beachler.
Fryburg	Billings	2,790	19	73.2	......	105	27	46	20	45	1.77	−0.19	1.02	0	4	23	6	2	nw.	Verne King.
Hettinger	Adams	2,675	30	78.0	+9.2	104	6†	43	20	50	0.28	−1.35	5.17	0	2	......	......	......	......	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	70.0	+5.1	104	23	40	22	48	0.55	−1.09	0.50	0	3	21	9	1	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	72.8	......	100	23†	47	8†	41	3.43	+1.49	1.89	0	6	20	11	0	se.	Synthia M. Costello.
Marmarth	Slope	2,714	28	73.6	+6.3	101	14†	42	20	47	0.14	−1.60	0.13	0	2	20	10	1	......	S. P. Grane.
Mott	Hettinger	2,424	30	75.6	+8.5	109	5	43	20	50	0.11	−1.82	0.10	0	2	16	13	2	se.	W. M. Hendricks.
New England	Hettinger	2,400	43	76.1	+9.2	109	6	46	18†	49	0.13	−1.57	0.11	0	2	20	7	4	se.	F. S. Sleight.
Parshall	Monntrail	1,929	22	69.7	......	105	23	41	11†	59	0.87	−1.09	0.61	0	4	12	19	0	nw.	C. E. Shubert.
Portal	Burke	1,954	32	70.2	+6.0	106	23	44	20	48	1.85	−0.04	1.62	0	3	25	3	3	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	73.2	+9.2	102	23	45	12	38	0.56	−1.21	0.31	0	3	20	10	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	21	74.0	+5.9	103	27	46	20	39	0.46	−1.49	0.27	0	5	12	14	5	se.	Assumption Abbey.
Sanish	Mountrail	1,835	12	73.1	+6.3	107	23†	44	20	56	0.60	−0.71	0.38	0	3	16	13	2	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	24	75.0	+7.7	104	23†	46	20	48	0.78	−0.93	0.70	0	2	20	11	0	n.	J. C. Zeller.
Williston	Williams	1,878	58	73.4	+7.3	103	23	48	20	46	0.98	−0.49	0.94	0	3	23	8	0	se.	U. S. Weather Bureau.
Average for Western Division		......	......	73.1	+6.6	109	6	40	20†	59	0.88	−0.73	2.03	0	3	19	10	2	nw.	......
Average for the State		......	......	72.9	+6.6	109	6	40	20†	59	1.52	−0.49	3.40	0	5	18	10	3	se.	......

Notes explanatory of symbols used in this table printed on last page.

Daily Precipitation for August 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
menia	Red	.15	.75	T.					.20							.10	T.							.15						.20			1.55
avalier	do	3.30									.08				.12						.51												4.01
ooperstown	Sheyenne	2.94		.10				.04		.34	.39		.05		.04	T.				.11						.05		.02	T.	T			4.08
ourtenay	James	.96		.17							.24			T.			.05			.46						.01		.48	.04			T.	2.41
evils Lake ***	Devils Lake.	.15	T.				T.	.01		.75		.01	.01	T.	.06	.08	T		T.	.13					T.			.04	T.	T.		.01	1.25
dgeley	James	.61							.02											.06						.17	.01			.24			1.11
dmore	Devils Lake.	.43		.01				T.	T.		.31		.03		.10	.63			.07	.26	.01				T.	T.		.05		T.		T.	1.90
llendale	James	1.07	.03							.32					.02				.26				.05			T.		.05		.34			2.14
orman	Sheyenne	.57		1.17						.35	.19									T.					T.	T.		T.	.64	1.02			3.94
ullerton	James	.92					T.	.04		.07	T				T.		T.		.05	.24		.01				T.		.01	T.	1.11			2.45
rafton	Red	.21	.08						T.		.31				.04	.48				.04	.29												1.45
rand Forks ***	do	2.75	.01	T.			T.	T	T.		.31				.06	T.	T.		.01	.08						T.		T	T.	T.		T.	3.22
ankinson ‖‖	do	.50	.38							.02	.50								.60	.01					.54					.81			3.36
annah	Pembina	3.35						T.			T.		.03		T.	T.				T									.06				3.44
illsboro	Red	.13	.97	1.20						.04	.48		.02		.25		T.			.02						.04			.03	T.			3.18
amestown	James	.81	.12								.31															.10	T.	.02	.06	.03			1.45
angdon ‖‖	Pembina	1.75	.08						.06		.13		.03		.09	.68	.01				.07												2.90
arimore	Red.	1.13	.05								.23		.03		.18				.07	.05								T.					1.74
Lisbon	Sheyenne		.54	.50				T.		T.	.68				.01	.01		T.		.39	.08		.05				.04		.05	1.36	T.	T.	3.71
McHenry	James	.10	.02					T.		.42	T.	.04		.21			T.	.01		.03					T.			.09	T.				0.92
McLeod	Sheyenne	.69		1.60					.04		.87							1.15		T.			.06		.32				1.10	1.40			7.23
Mayville	Red	.08	1.05	.05					.15		.27				.36						.12												2.08
Oakes	James		.57	T.				.06		.26	.04										.14						.02		.01	1.06	.01	T.	2.17
Park River	Red	.06								.30				.03	.03			.04		.16					T							.15	0.77
Pembina	do	1.72		.05				T.			.07					.06			.04	T	.14								.41				2.49
Petersburg	do	.23	.01								.35		.04		.70					.20								.06					1.59
Sharon	do	.56		.01			T.	T.		.06	.38		.05		.06	T.			.01	.06						.03		.01	.03	T.		T.	1.26
Valley City	Sheyenne	.70		.04							.40		.04		.02					.01								.02		.01		.01	1.25
Wahpeton	Red.		.20	.56						T.	.48		T.		.02					.02	.02		.03			1.33		T.	.13	1.40	.01		4.20
Moorhead, Minn. ***	do	1.03	.70	.14		T				T.	.57		.01		.01				.35	T.			.07		.05	T.		T.	.12	.54		T.	3.59
Middle Division																																	
Ashley	Missouri	.96								.32																.23		.05		.07			1.63
Bisbee	Devils Lake.	.04	.05					T.		.97					.26		T											.13	T.			T.	1.45
Bismarck ***	Missouri	T.	T				T.	T.		.13				T.	.43		T.		T.	T.				T.		.15		T.	T.	T.		.41	1.12
Bottineau	Mouse	1.43	1.87						.01		.02		.04		T.														.04	.03			3.44
Carrington ‖‖	James		.25							.24	.04	.01						.01									T.	.14				.16	0.85
Carson	Heart																											.04			.03	.08	0.15
Dogden Butte	Mouse	.03	.29						T.	.08	.43				.20					T.												.03	1.06
Drake ‖‖	do	.08	.19	T.					T.	.25	.43				.23	T.									.09			T.					1.27
Dunseith	do		.19					T	T.				.04			T.	T.								T.			.03	.08				0.34
Eckman	do		.24					T.		.50		.01					T.			T.								.01	.01			.01	0.78
Energy	Missouri	.05	.35						.27	.27															.10								1.04
Fessenden ‖‖	James	.04	.02								.07				.32		T.			T.								.13				.01	0.59
Fort Yates	Missouri		T.						.16																	.07		T.		T.		.37	0.60
Foxholm (near)	Mouse	T.	.35					T.		.12				.02		T.	.02			.02					T.			T.				T.	0.53
Gackle	James	.31						.11			.30						.02			.43													1.17
Garrison ‖‖	Missouri	.08	.41							.13					.06	.04									.02							.12	0.86
Granville	Mouse	.04	.24					.17		1.04										T.								.05	T.			.04	1.58
Hansboro	Devils Lake.	3.40	.55					.05			.08		.10															.05	.39				4.62
Linton	Missouri	T	T.							.06	T.					T.	T.			T.						T.		.18		.05			0.29
McClusky	do	.14	.02								.29																						0.45
Maddock	Sheyenne	.05	.03					T			.12		T.	.05		.03				.32					T.	T.		.50				.02	1.12
Mandan ‖‖	Missouri	T.					T.			.63					.40				T.					T	.06				T.	T.	.22	.03	1.34
Manfred	James	.17								T.					.40	T.	.01												.04			.05	0.67
Max ‖‖	Missouri		.35							.07					.29										.02							.04	0.77
Minot	Mouse	.01	.29					T.			.52					.01	T.		.09	T.	.02											.07	1.01
Mohall	do	.03		T.				.01	T.	T.				T.		.30	T.			T.		T.			.01		.07				T.		0.42
Napoleon ‖‖	Missouri		.01								.12												T.			.01		.01	.07		.06		0.28
New Salem	Heart	.02	.15							.02						T.	T.															.28	0.47
Pettibone	James	.73														.02							.06			.05							0.86
Rugby (near)	Mouse		.14							.34		.07		.03		.02								T.				.54				T.	1.14
Ryder	Missouri	.42					T.		.12	.02						.02							T.		.06						.20		0.84
Selfridge	do								.32																	T.		.70	T	T.		.15	1.17
Steele	do	.61									.05					.21						T.				.15				T.			1.02
Tagus	Mouse	.01	.50					T		.09				.06			T.	T.		.01					.04			T.				.03	0.74
Towner	do	.14	.50					.03	T.		.41		.06		.04		T.								T.			.32					1.50
Turtle Lake	Missouri	.09	.43							.18	.31					.07									.09							.67	1.84
Tuttle	do	T								T.	.03					T.							T.							T		.01	0.04
Velva	Mouse	.06	.42						.03	.55					.15	T.				.02												.05	1.28
Washburn ‖‖	Missouri		.05							.09	.11				.04	.04									T.				.04			.10	0.47
Westhope	Mouse		.29					.01					.05		T.	.45	T.	T.		T.					T.				.05				0.85
Willow City	do	1.18	.92					T.		.28			.06		.10		T.								T.			.43					2.97
Wishek ‖‖	Missouri		1.17															.06				T				T.					.05		1.28
Zap	Knife	1.50							.16						.10									.05							.05	.04	1.90
Western Division																																	
Alpha	Lit. Missouri	T.												T.	T		.07															.41	0.48
Amidon	do																													T.		.04	0.04
Beach	do	.15	.04								T.						T.						T.	.05						.02		.55	0.81
Berthold Agency	Missouri	.13	.63						.06						.06	T.	.06	T.								.08						.27	1.29
Bowman	Grand																																
Corinth	Missouri	.63							T.					.02		.27				.06													0.98
Crosby	Mouse		.52					T.												.02	.04												0.58
Dickinson ‖‖	Heart	T.	.64					T.		T.	T	T.			T.	.03	.02		T	T.					T.						T	.35	1.04
Dunn Center	Knife.	.01	.69												.02	.03			.05														0.80
Epping	Missouri		.61																														0.61
Fryburg	Heart	T.	1.02								T.			T.	.21	T.		.15						T.						T		.39	1.77
Hettinger	Grand						T.							.17								T.								.11			0.28
Howard (near)	Missouri		.50					T.							.03	.02				T.										T.			0.55
Kenmare	Mouse	.05	1.89					.03		T.				.02		1.29				T	.15				T.								3.43
Marmarth	Lit. Missouri										T.						T													.01		.13	0.14
Mary	do	.09	.48														.03															.13	0.73
Medora		1.23									T.				T.		T.	.03						T.							.26		1.52
Mott	Cannon Ball									T.				.01																		.10	0.11
New England ‖‖	do																T.													.11		.02	0.13
Parshall	Missouri		.61					.08		.13					T.	T.				T.					T.				T.			.05	0.87
Portal ‖‖	Mouse		1.62					T.	.03						.20																		1.85
Powers Lake	Missouri			.31														.21									.04		T.				0.56
Richardton	Heart	.27									T.					.02	.01								.02							.14	0.46
Sanish ‖‖	Missouri		.38												.06																	.16	0.60
Tioga	do	2.03													.01	T.																	2.04
Trotters	Lit. Missouri	.94						.03			T.																					.12	1.09
Watford City	Missouri		.70						T.																							.08	0.78
Williston ***	do	.94						T.		T.				.02			T.			.02										T.			0.98

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum...	100	94	89	88	90	91	92	91	90	88	87	92	94	90	89	88	89	90	92	90	93	93	92	96	94	98	100	94	96	96	94	92.3
	Minimum...	70	71	64	62	68	70	68	66	64	60	60	62	64	68	70	60	58	58	57	60	66	64	67	68	66	64	70	68	60	58	56	64.1
Devils Lake	Maximum..	86	80	83	90	98	100	86	83	96	78	83	84	90	96	91	78	84	87	81	71	79	87	98	87	92	97	94	80	70	80	78	86.0
	Minimum..	66	65	57	57	57	57	62	55	61	59	54	60	58	65	68	56	50	59	52	47	48	59	65	66	58	52	69	61	54	49	55	58.1
Edgeley	Maximum...	100	85	90	100	101	98	96	90	90	85	89	88	101	104	105	99	92	100	89	76	80	101	88	87	95	95	92	91	79	76	81	91.7
	Minimum...	66	67	54	67	63	53	53	65	66	62	53	63	72	70	72	68	63	50	50	50	42	61	67	62	57	52	61	73	53	45	60	60 0
Fullerton	Maximum...	104	86	85	93	99	104	86	91	95	84	86	90	91	102	107	87	84	91	89	77	84	100	95	97	95	97	92	102	75	75	90	91.4
	Minimum...	68	67	64	60	55	58	70	57	66	59	55	58	56	69	77	65	52	60	50	48	47	62	66	67	58	62	66	75	53	50	62	60.7
Grafton	Maximum...	86	82	82	89	96	95	93	80	93	89	83	84	87	98	94	89	79	87	81	71	77	83	94	92	90	96	95	93	72	76	70	86.3
	Minimum...	65	64	61	57	56	59	63	54	63	61	53	59	54	68	70	60	47	62	47	49	42	57	67	67	55	52	59	69	55	53	52	58.1
Grand Forks	Maximum...	88	82	82	91	96	92	80	80	89	81	81	84	86	96	91	84	79	92	81	72	76	84	92	93	89	95	92	84	66	71	72	84.5
	Minimum...	67	69	63	56	60	57	65	56	64	61	55	60	58	68	72	55	46	60	50	49	44	59	71	63	57	55	61	64	54	52	56	58.9
Hillsboro	Maximum...	96	83	82	93	97	95	93	82	88	86	83	83	87	97	98	94	82	92	84	76	77	85	90	95	90	96	93	90	86	72	74	87.7
	Minimum...	69	66	65	57	57	59	69	56	57	61	56	59	56	66	73	63	50	62	53	50	45	55	56	68	57	60	62	71	65	55	54	59.7
Jamestown §	Maximum...	84	84	92	98	104	84	90	97	82	86	88	92	103	103	84	87	95	88	79	81	96	96	95	95	100	95	88	70	82	83	93	90.1
	Minimum...	58	62	63	54	58	56	64	59	59	62	54	58	57	63	74	63	53	57	51	48	50	56	63	71	60	63	67	70	59	55	54	59.4
Langdon §	Maximum...	79	82	77	85	91	89	86	84	85	82	83	83	88	96	85	79	80	82	78	76	75	83	93	84	89	93	91	86	82	72	74	83.6
	Minimum...	63	62	55	52	57	56	57	58	56	56	49	52	55	64	67	47	48	55	44	46	43	55	62	65	52	52	58	64	49	46	48	54.6
Larimore	Maximum...	85	83	80	89	96	92	85	80	91	80	82	85	89	94	93	88	80	90	85	72	80	84	95	96	91	99	91	83	70	76	74	85.7
	Minimum...	68	63	60	54	55	55	63	55	61	61	51	59	52	65	72	58	45	64	48	49	40	57	69	67	55	51	63	70	55	52	52	57.7
Lisbon §	Maximum...	101	84	84	94	100	98	87	91	92	82	86	88	88	99	100	86	85	95	88	79	77	97	93	95	96	98	91	89	63	76	81	89.1
	Minimum...	68	68	65	53	55	54	62	60	70	60	56	58	55	60	73	65	54	59	51	48	47	54	73	71	61	62	64	72	56	53	54	60.0
Oakes	Maximum...	103	85	83	94	101	104	88	91	92	84	85	89	98	100	105	88	85	94	89	79	81	90	92	96	95	97	92	101	63	76	90	90.6
	Minimum...	68	68	66	54	54	56	64	57	61	58	55	59	54	62	75	65	55	53	48	47	52	60	63	70	60	62	65	69	58	53	55	59.5
Sharon	Maximum...	88	85	80	89	95	91	82	85	89	81	83	84	86	96	91	83	80	92	82	74	76	86	93	96	91	98	91	81	68	77	71	85.3
	Minimum...	66	63	60	50	56	56	66	60	59	60	52	58	58	64	71	58	49	63	47	47	47	55	67	63	58	60	69	65	55	52	54	58.3
Valley City	Maximum...	102	92	89	95	102	101	94	94	95	92	87	89	90	100	100	96	88	95	88	81	79	93	95	96	98	101	97	98	81	79	82	92.5
	Minimum...	70	67	64	51	53	53	68	57	60	58	54	56	55	59	64	55	54	63	48	49	48	51	65	61	59	52	59	63	48	45	51	56.8
Wahpeton	Maximum...	99	95	86	90	99	97	93	89	86	83	83	86	86	96	100	99	84	91	87	79	80	93	92	95	90	92	91	93	91	74	86	89.8
	Minimum...	75	69	65	54	59	58	71	62	67	61	56	59	56	65	72	67	53	61	53	49	45	60	68	67	65	62	64	69	58	54	61	61.5
Moorhead, Minn.	Maximum...	98	84	82	93	98	95	85	88	85	80	83	86	84	94	96	83	82	89	85	74	77	87	91	94	89	96	89	88	64	73	80	86.2
	Minimum...	68	69	64	56	60	62	71	61	67	62	61	59	60	69	74	65	54	61	57	50	51	60	68	69	65	64	64	63	57	54	60	62.1
Middle Division																																	
Ashley	Maximum...	102	86	84	95	98	103	90	90	91	85	86	91	93	103	105	90	85	94	88	82	83	102	95	94	93	98	92	96	77	78	89	91.5
	Minimum...	68	63	59	55	59	59	68	58	64	59	68	60	54	69	77	61	53	63	48	48	47	61	71	65	57	59	69	74	57	47	57	60.5
Bismarck	Maximum...	85	79	84	95	98	104	90	93	96	80	86	89	95	100	95	81	87	87	90	78	87	98	100	84	93	98	98	79	68	80	78	88.9
	Minimum...	69	64	56	55	60	65	72	60	68	61	53	62	62	70	71	63	59	62	53	52	56	64	75	61	56	55	75	66	58	54	64	62.0
Bottineau	Maximum...	86	77	76	80	88	91	94	73	79	90	77	82	81	90	93	89	79	84	79	67	71	80	89	100	85	90	95	96	73	72	78	83.4
	Minimum...	61	61	52	51	59	65	60	50	64	54	48	55	59	63	67	50	50	59	47	42	50	58	67	67	49	49	67	63	49	52	56	56.3
Carson	Maximum...	100	81	86	97	101	93	84	82	98	79	88	95	100	105	100	85	79	74	77	76	80	90	105	87	82	88	92	78	68	70	85	87.3
	Minimum...	70	56	49	55	57	68	61	54	65	57	50	58	60	74	78	68	58	55	58	41	56	56	74	67	56	54	65	67	52	45	60	59.5
Fessenden §	Maximum...	86	79	83	92	98	103	89	90	98	80	87	87	98	99	99	82	88	88	93	77	81	93	100	85	94	100	95	80	71	83	78	88.9
	Minimum..	63	63	53	50	58	54	62	54	58	58	45	57	51	64	70	56	47	64	48	45	46	57	66	66	56	51	62	67	54	51	49	56.3
Foxholm (near)	Maximum...	76	75	81	90	95	99	87	85	97	79	87	89	98	100	93	79	90	87	74	76	83	93	104	91	92	98	98	92	71	82	84	87.9
	Minimum...	59	60	50	57	59	67	57	49	54	53	46	51	60	61	63	51	49	65	52	45	49	50	57	62	52	51	64	61	48	53	55	55.2
Garrison §	Maximum...	83	79	81	93	94	98	87	86	90	78	82	86	96	96	92	78	87	83	90	80	87	95	102	88	94	99	99	79	72	83	73	87.4
	Minimum...	61	61	52	50	53	53	64	53	62	56	46	59	56	62	62	58	52	63	54	46	46	57	65	68	50	50	51	69	55	52	52	56.2
Granville	Maximum...	80	78	85	95	97	101	87	87	97	80	87	86	97	97	93	83	90	82	78	76	84	93	103	90	94	100	98	87	73	83	82	88.5
	Minimum...	60	62	52	55	55	58	62	50	55	57	47	54	57	65	67	60	45	55	49	45	53	54	70	64	48	64	62	64	52	52	58	56.5
Hansboro	Maximum...	78	78	78	85	90	96	81	77	92	80	84	83	88	96	90	80	81	80	71	70	80	86	98	83	92	93	92	82	76	76	77	83.6
	Minimum...	60	62	67	55	57	58	64	54	57	53	48	51	54	60	66	53	46	60	54	54	55	55	56	65	48	48	54	56	54	46	55	55.6
Linton	Maximum...	95	83	86	96	100	105	100	93	95	93	87	92	95	103	101	95	87	94	94	84	81	103	101	96	94	101	99	98	77	80	88	93.4
	Minimum...	69	62	55	47	49	57	74	57	67	59	46	53	60	74	70	63	52	64	53	43	55	63	74	68	56	68	71	75	53	49	63	60.3
McClusky	Maximum...	90	78	81	92	95	101	92	89	92	90	83	86	93	101	98	88	87	85	87	76	81	95	95	93	90	97	93	84	73	81	80	88.6
	Minimum..	63	59	52	50	53	57	64	53	60	57	48	56	54	58	68	59	53	51	53	46	52	55	57	68	51	51	66	63	53	48	60	56.2
Maddock	Maximum...	92	79	84	94	98	102	100	87	98	94	87	87	96	102	98	90	88	87	82	76	80	90	99	97	93	98	97	90	73	81	79	90.3
	Minimum...	63	62	54	52	52	52	58	52	58	55	44	56	51	65	67	53	44	65	45	45	44	56	63	68	52	48	63	65	52	48	53	55.0
Minot	Maximum...	82	77	83	94	97	100	85	85	95	79	86	88	98	99	95	78	90	83	77	77	83	93	104	87	93	99	97	77	71	82	82	87.6
	Minimum...	60	60	51	53	54	55	63	50	54	55	45	55	58	66	67	56	45	65	48	45	50	53	61	71	52	46	68	66	53	52	58	56.0
Mohall	Maximum...	76	76	78	81	91	94	96	79	81	91	83	98	87	100	98	81	89	88	78	81	86	94	102	100	97	101	87	75	80	83	81	87.5
	Minimum...	59	60	49	56	54	59	58	57	58	50	44	44	51	51	53	49	43	56	49	54	45	51	59	60	49	50	63	48	60	45	60	53.0
Napoleon §	Maximum...	105	86	86	96	100	106	92	96	100	84	87	91	99	104	102	85	91	94	96	80	86	104	99	88	93	103	93	92	71	84	91	93.0
	Minimum...	68	60	54	51	52	54	74	50	70	60	50	62	58	74	69	61	54	64	46	44	51	62	73	69	55	53	73	71	55	45	61	59.5
New Salem	Maximum...	90	83	84	95	100	105	90	94	99	85	88	90	99	101	96	85	90	89	91	79	91	99	105	89	95	100	103	83	79	83	72	91.4
	Minimum...	60	56	50	53	57	55	69	52	59	54	49	58	54	55	66	58	52	65	50	43	56	54	77	64	52	53	63	63	53	49	59	56.7
Steele	Maximum...	81	86	87	82	90	100	97	93	97	78	86	90	93	101	99	90	90	89	90	78	80	100	99	84	91	100	95	90	68	81	86	89.4
	Minimum...	60	61	55	56	58	56	65	54	62	58	46	56	55	73	71	58	50	64	49	45	51	61	72	62	55	55	65	65	53	45	58	57.9
Towner	Maximum...	90	79	83	93	100	101	97	85	95	94	86	86	98	97	95	89	88	87	80	75	83	92	104	101	95	100	97	93	73	82	91	90.6
	Minimum...	61	61	52	53	50	56	58	52	52	53	55	46	60	66	68	55	46	67	50	46	50	58	69	69	46	50	64	65	50	49	58	56.0
Westhope	Maximum...	77	78	82	89	93	94	77	79	92	81	88	87	96	100	91	78	87	82	69	76	80	92	104	88	91	97	98	77	75	81	83	85.9
	Minimum...	59	55	52	51	55	59	59	47	61	52	46	51	56	62	64	49	47	57	48	43	47	56	60	64	47	46	63	61	49	51	56	54.0
Western Division																																	
Beach	Maximum...	90	79	83	93	98	99	87	96	96	77	87	89	104	97	90	80	98	88	82	80	92	100	104	84	91	98	101	87	72	80	79	89.7
	Minimum...	59	49	46	52	56	65	63	57	59	54	48	56	61	66	64	56	53	65	56	43	55	54	64	59	46	50	63	67	49	49	58	56.2
Berthold Agency	Maximum...	86	80	82	93	95	98	92	91	100	89	89	91	100	100	95	83	94	86	87	81	91	94	107	93	91	100	104	84	69	83	89	90.9
	Minimum...	61	52	47	44	46	71	65	49	55	51	42	54	57	52	65	53	55	61	53	40	52	54	54	43	63	41	61	66	52	50	59	53.8
Bowman	Maximum...	....	....	...	....	....	....	....	....	....	....	....	....	....	....	....	...	....	....	....	....	....	....	....	....	....	....	....	....	....	...	....	......
	Minimum...	....	..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..	....	....	....	....	...	...	....	...	....	....	....	....	....	....	......
Crosby §	Maximum...	82	74	85	92	94	97	82	87	89	80	86	71	97	95	86	79	100	81	69	81	89	102	107	85	81	99	101	74	76	83	80	86.6
	Minimum...	56	56	51	52	53	50	57	47	58	50	48	50	57	59	62	55	49	58	54	44	47	57	60	60	47	49	50	60	47	50	58	53.3
Dickinson §	Maximum...	87	77	81	92	97	101	90	96	99	75	86	89	101	101	93	83	92	85	85	80	92	99	104	85	92	98	105	80	63	80	78	89.2
	Minimum...	63	57	53	50	51	59	64	56	55	53	47	52	59	64	65	54	49	55	55	44	45	53	56	59	51	45	47	66	54	50	53	54.3
Dunn Center §	Maximum...	83	75	81	91	95	97	88	90	98	78	85	88	99	96	90	80	92	83	84	77	89	93	101	84	90	95	104	79	68	80	74	87.3
	Minimum...	49	60	53	47	49	59	63	52	56	55	47	54	58	60	65	56	47	61	53	44	50	53	56	64	47	46	58	68	53	50	57	54.5
Hettinger	Maximum...	95	97	93	98	101	104	100	95	96	94	96	95	99	95	88	90	89	91	92	87	100	104	98	96	97	90	94	90	86	93	91	94.7
	Minimum...	80	79	75	78	80	85	78	72	74	68	69	67	72	63	60	55	51	53	48	43	50	54	51	50	49	49	48	49	48	51	53	61.4
Kenmare	Maximum...	75	76	82	90	92	96	94	83	90	84	84	89	94	98	94	83	88	88	78	74	80	94	100	98	89	98	100	100	75	81	86	88.1
	Minimum...	60	60	56	57	61	60	58	47	58	54	55	52	62	68	62	51	48	64	54	47	50	53	60	62	67	68	64	64	48	58	58	57.6
Marmarth	Maximum...	90	80	82	93	96	100	94	99	100	81	87	88	100	101	91	80	94	87	87	81	93	99	101	90	90	97	101	85	71	77	85	90.3
	Minimum...	64	52	51	48	49	65	62	68	70	56	51	55	60	62	65	56	49	53	56	42	57	53	58	62	50	60	60	69	53	50	60	57.0
Mott	Maximum...	91	89	86	96	101	105	92	95	101	95[b]	87	91	100	103	97	90	90	87	89	81	91	100	102	89	94	100	105	97	74	79	77	92.7
	Minimum...	71	59	52	51	52	62	73	57	62	56	53	54	60	68	70	60	50	65	52	43	54	54	66	66	56	50	69	64	54	46	61	58.4
New England §	Maximum...	84	94	99	101	109	94	99	101	91	90	92	102	103	102	89	94	90	83	92	96	105	94	96	99	105	76	79	80	78	72	80	92.5
	Minimum...	51	58	68	72	72	69	62	69	70	58	56	60	70	68	58	51	56	46	46	56	56	53	58	62	61	67	49	51	61	60	58	59.7
Watford City	Maximum...	91	79	84	94	99	100	86	93	100	82	86	89	103	99	89	82	98	86	83	82	91	99	104	87	93	101	104	86	73	82	89	90.8
	Minimum...	64	57	53	54	57	68	64	55	61	59	53	61	62	64	69	58	54	62	59	46	57	60	65	63	51	53	67	65	53	57	61	59.1
Williston	Maximum...	84	76	82	92	95	96	82	89	91	81	86	89	102	94	84	77	97	80	75	77	90	97	103	83	88	98	99	76	68	81	87	87.1
	Minimum...	60	58	55	57	58	71	63	57	63	57	55	61	65	65	69	54	59	61	56	48	60	63	66	62	52	52	71	56	53	60	63	59.7

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

NOTES EXPLANATORY FOR PAGE 30. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, [b] represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

[WBO, Minneapolis, 9-29-37—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVI Bismarck, N. D., September 1937 No. 9

GENERAL SUMMARY

The temperature averaged somewhat above normal, but with cool periods from the 15th to the 18th, and from the 24th to the 30th. Killing frost occurred at most places on the 25th, and at some places between the 15th and 18th. The precipitation was somewhat below normal in the eastern and southwestern sections, but above normal amounts were reported in the northwestern section where most needed. The precipitation in all sections occurred during the first and third decades. Snow was reported at many stations in the northwestern and north-central sections on the 29th and 30th. Only a few light dust storms occurred. Pastures improved somewhat near the close of the month and the weather was favorable for harvesting and threshing, but the ground was too dry in some sections for fall plowing and winter rye seeding.

TEMPERATURE

The mean temperature for the State was 58.6°, or 2.0° above the 1892-1937 average for September. The mean for the eastern division was 58.0°; for the middle division, 58.2°; and for the western division, 59.5°. The highest mean temperature was 62.0° at Fort Yates, Mayville, and Richardton, and the lowest, 53.4° at Dunseith, making a range in mean temperature of 8.6°. The absolute range in temperature was 84°, from 104° at Wishek on the 1st, to 20° at Linton on the 25th. The average daily deficiency in temperature for the State since January 1, 1937, is 0.1°.

PRECIPITATION

The average precipitation for the State was 1.47 inches, or 0.07 inch less than the 1892-1937 average for September. In the eastern division the average amount was 1.21 inches; in the middle division, 1.60 inches; and in the western division, 1.61 inches. The greatest monthly amount reported was 3.93 inches at Powers Lake; the least was 0.46 inch at Grand Forks. The greatest amount recorded in any 24 consecutive hours was 2.84 inches at Alpha on the 5th. The accumulated excess in precipitation since January 1, 1937, is 0.45 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	1	3	2	..	2	1	..	11	10	1	3	2	1	1	1	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Dust storms	..	..	..	1	1	..	..	..	..	..	..	..	1	2	..	..	1	..	1	2	6	1	3	..	..	..	..	..	..	..	..
Fogs	13	15	2	..	..	2	4	7	..	3	3	1	..	..	1	1	1	2	..	..	..	..	1	..	..	..	1	4	5	10	..
Luuar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Hail	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..
Thund'rst'ms	14	11	1	2	1	14	1	7	7	6	1	..	..	..	..	..	..	..	..	..	3	1	8	2	..	..	..	..	1	1	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.00	30.43	25	29.54	21	8.4	30	nw.	6	77	48	46	62
Devils Lake	30.01	30.40	4	29.55	21	8.8	27	nw.	14	91	51	49	59
Williston	30.00	30.40	24	29.51	21	8.5	27	se.	29	77	45	43	62
Moorhead, Minn	30.00	30.36	29	29.44	23	8.4	25	sw.	14	85	53	52	63
Averages & ext's	30.00	30.43	25	29.44	23	8.5	30	nw.	6	82	49	48	62

† Aud other dates.

COMPARATIVE DATA FOR SEPTEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	59.2	101	24	1.08	1.05	0.40	0.84	0	4	16	7	7
1893	57.1	102	8	0.75	0.75	0.94	0.81	0.1	4	18	7	5
1894	58.2	104	18	1.06	1.67	1.42	1.38	0	5	15	7	8
1895	56.6	100	12	1.29	0.61	0.42	0.77	0	4	12	12	6
1896	53.0	98	11	2.25	2.00	0.57	1.61	0	6	12	8	10
1897	64.1	109	18	0.24	0.25	0.35	0.28	0	2	20	7	3
1898	56.8	98	10	1.85	1.00	0.90	1.25	0	4	14	9	7
1899	55.0	101	11	0.60	0.57	0.57	0.58	T.	3	17	9	4
1900	54.6	98	17	5.15	5.26	4.44	4.95	T.	8	12	7	11
1901	53.6	100	12	2.41	1.80	1.82	2.01	T.	7	10	8	12
1902	53.6	95	15	1.24	0.54	0.44	0.74	0	4	16	8	6
1903	51.6	90	18	3.36	2.85	2.77	2.99	0.7	7	12	6	12
1904	54.7	96	18	2.12	1.18	1.00	1.43	0	5	14	7	9
1905	59.8	104	23	1.62	1.65	1.74	1.67	0	5	16	8	6
1906	62.8	109	20	1.54	0.73	1.07	1.11	0	4	19	6	5
1907	52.1	96	9	2.39	1.11	0.68	1.39	T.	6	14	8	8
1908	60.7	104	16	0.87	0.89	1.97	1.24	0.2	4	17	7	6
1909	59.0	93	24	1.03	0.77	1.04	0.95	0	4	16	8	6
1910	55.3	99	18	2.38	1.88	1.10	1.79	0.1	4	14	7	9
1911	54.9	95	21	2.32	2.41	2.38	2.37	T.	8	12	8	10
1912	51.5	124	18	3.54	2.50	1.82	2.62	0	10	11	6	13
1913	57.2	108	8	2.39	1.47	1.37	1.74	0.4	6	16	8	6
1914	59.3	98	25	1.24	1.00	0.84	1.03	0	5	16	8	6
1915	54.6	104	23	2.42	2.60	1.94	2.32	0	9	10	8	12
1916	55.1	99	15	2.12	1.07	1.10	1.43	T.	6	14	9	7
1917	56.4	97	16	1.53	0.93	0.65	1.04	0	5	12	9	9
1918	51.9	93	11	0.46	0.40	0.33	0.40	T.	3	15	9	6
1919	58.6	100	20	0.92	1.05	0.86	0.94	0.3	5	12	10	8
1920	59.0	99	19	3.94	1.19	1.49	2.21	T	8	15	9	6
1921	57.0	101	25	3.91	3.37	2.34	3.21	T.	12	12	10	8
1922	59.8	104	23	2.42	2.00	1.89	2.10	0	6	16	8	6
1923	60.1	99	15	2.04	2.25	3.25	2.51	0	6	14	8	8
1924	55.0	98	20	3.68	1.91	0.68	2.09	T.	7	15	7	8
1925	58.1	103	20	4.18	2.23	1.61	2.67	T.	8	12	8	10
1926	52.3	95	9	2.80	2.44	1.66	2.30	0.5	9	11	9	10
1927	56.8	101	10	1.06	0.47	1.48	1.00	T.	3	16	9	5
1928	53.9	95	12	1.50	0.75	0.74	1.00	T.	5	17	7	6
1929	52.7	105	12	1.65	1.82	1.47	1.65	0	5	11	9	10
1930	56.2	98	10	1.02	0.88	1.17	1.02	0	4	16	9	5
1931	61.4	107	27	1.97	2.38	2.06	2.14	T.	6	18	7	5
1932	56.8	102	22	1.10	0.56	0.23	0.63	0	3	18	8	4
1933	60.9	101	22	1.03	0.71	0.70	0.81	0	4	16	8	6
1934	52.4	95	9	1.28	0.86	0.74	0.96	2.0	7	11	9	10
1935	57.2	105	16	0.73	0.44	0.12	0.43	0	3	15	9	6
1936	60.3	112	12	1.47	1.29	0.68	1.15	T.	5	15	10	5
1937	58.6	104	20	1.21	1.60	1.61	1.47	0.1	6	13	9	8
Period	56.6	124	8	1.89	1.46	1.28	1.54	0.1	6	14	8	8

Climatological Data for September 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	58.4	+1.1	92	23	29	16	56	1.25	−0.87	1.25	0	1	4	10	16	ne.	I. Idso.
Cavalier	Pembina	894	27	58.0	......	91	2	29	26†	52	1.07	−1.19	0.31	T.	4	18	2	10	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	40	56.2	−0.1	93	2†	27	19†	47	0.82	−1.00	0.22	0	9	22	1	7	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	56.4	+0.5	91	2	32	26	43	1.80	+0.17	0.59	0	10	10	12	8	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	58.6	+1.0	100	1	26	26	47	0.89	−0.90	0.56	0	4	9	19	2	se.	O. A. Thompson.
Edmore	Ramsey	1,524	13	56.2	+0.7	90	2	28	19†	52	1.31	+0.22	0.57	0	6	8	9	13	n.	A. G. Braund.
Ellendale	Dickey	1,457	42	60.2	+1.8	100	1	26	26	44	1.93	+0.17	0.72	0	7	16	7	7	s.	J. E. Demmer.
Fargo	Cass	895	1	59.6	......	98	21	31	17	47	0.91	....	0.64	0	7	9	12	9	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	44	58.2	−0.5	95	1	28	25	44	0.94	−1.23	0.41	0	6	22	3	5	sw.	Helge Dyste.
Fullerton	Dickey	1,439	39	60.1	+2.9	97	1	26	26	43	0.74	−1.36	0.30	0	5	17	9	4	n.	F. O. Alin.
Grafton	Walsh	827	45	58.9	+2.6	93	2	26	26	47	1.43	−0.91	0.37	0	9	8	13	9	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	56.2	−0.2	93	2	28	26	46	0.46	−1.58	0.20	0	6	6	14	10	nw.	H. E. Simpson.
Hankinson	Richland	1,068	8	58.2	......	97	21	28	16	51	0.99	....	0.60	0	4	9	9	15	......	Joseph Rindt.
Hannah	Cavalier	1,568	45	53.6	−0.4	88	2	22	28	53	0.96	−1.24	0.43	T.	6	12	10	8	nw.	James Muir.
Hillsboro	Traill	901	31	58.8	+0.2	92	2	32	19†	44	1.66	−0.49	0.72	0	6	14	9	7	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	58.4	+1.9	99	1	28	26	58	0.55	−1.29	0.24	0	5	15	10	5	......	S. Calvelage.
Langdon	Cavalier	1,615	41	56.2	+3.9	89	2	27	29	48	1.56	−0.76	0.68	0	6	8	10	12	......	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	58.1	+2.8	93	2	25	19	48	0.72	−1.54	0.40	0	4	14	7	9	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	33	58.7	+1.2	97	21	29	17	48	1.85	−0.29	1.03	0	8	12	12	6	nw.	J. O. Halverson.
McHenry	Eddy	1,509	15	56.5	+1.4	94	21	23	26	51	0.77	−1.13	0.31	0	9	7	15	8	nw.	C. E. Blasky.
McLeod	Ransom	1,075	26	59.0	0.0	96	21	28	16	57	1.14	−1.07	0.55	0	6	18	4	8	sw.	J. G. Carlson.
Mayville	Traill	975	41	62.0	+4.6	91	2†	32	12†	46	1.03	−1.16	0.41	0	6	4	7	19	nw.	H. B. Addicott.
Oakes	Dickey	1,318	8	58.9	......	98	1	27	26	57	1.12	....	0.59	0	7	21	3	6	ne.	S. F. Rossman.
Park River	Walsh	998	33	55.8	−0.8	92	2	27	19	48	1.75	−0.49	0.69	0	6	13	4	13	nw.	E. J. Taintor.
Pembina	Pembina	789	63	55.2	+1.1	86	2	24	29	44	0.90	−1.32	0.39	0	7	18	4	8	nw.	E. N. Russell.
Sharon	Steele	1,516	13	56.8	+0.2	92	21	27	25	45	1.19	−0.66	0.31	0	11	12	9	9	n.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	60.4	+2.2	98	2	26	26	46	3.03	+1.15	2.34	0	5	15	9	6	ne.	I. C. Robertson.
Wahpeton	Richland	962	45	61.3	+2.1	97	21	31	16†	44	0.84	−1.54	0.34	0	8	15	8	7	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	59.0	+0.8	96	21	33	16	41	1.56	−0.66	1.04	0	8	9	12	9	s.	U. S. Weather Bureau.
Average for Eastern Division		......	....	58.0	+1.3	100	1	22	28	58	1.21	−0.68	2.34	T.	6	12	9	9	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	41	60.0	+2.7	102	1	24	25	49	0.73	−0.87	0.21	0	6	19	7	4	nw.	R. C. Miles.
Bisbee	Towner	1,601	1	55.2	......	89	2	26	26	50	1.66	....	0.50	0	7	14	9	7	n.	I. K. Lund.
Bismarck	Burleigh	1,670	63	60.4	+2.3	94	2	32	25	44	1.19	−0.04	1.04	0	6	12	11	7	ne.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	57.1	+2.2	88	3	27	25	47	2.06	+0.43	0.72	0	9	6	11	13	e.	N. D. School of Forestry
Carrington	Foster	1,579	39	56.4	−0.2	94	2	28	28	45	1.13	−0.38	0.53	0	6	20	6	4	nw.	L. A. Swanson.
Carson	Grant	2,500	25	61.1	+4.7	100	2	25	25	43	0.98	−0.62	0.60	0	7	16	7	7	se.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	58.4	+2.7	91	2	31	25†	47	1.69	+0.53	0.45	0	8	11	12	7	nw.	R. L. Williams.
Drake	McHenry	1,634	8	56.5	......	94	2	30	25†	48	1.35	....	0.74	0	7	9	12	9	nw.	Peter Anton.
Dunseith	Rolette	1,682	41	53.4	−1.0	85	2	28	26	49	1.68	−0.06	0.60	2.0	8	9	14	7	n.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	56.6	+1.4	88	2	28	17†	57	3.10	+1.64	0.72	2.0	9	9	16	5	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	59.6	+2.8	96	2	24	26	53	0.91	−0.56	0.35	0	6	15	11	4	w.	H. S. Solenberger.
Fessenden	Wells	1,610	25	57.6	+1.9	98	2	26	26	51	0.82	−0.82	0.47	0	5	12	12	6	se.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	62.0	+2.2	97	1†	27	26	51	0.98	−0.54	0.54	0	3	19	10	1	n.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	57.1	+2.7	90	2	27	29	48	1.87	+0.37	0.68	2.2	9	8	9	13	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	7	59.0	......	94	1	28	25	41	1.77	....	1.20	0	5	14	4	12	w.	A. H. Haut.
Garrison	McLean	1,901	60	58.6	+3.7	95	2	26	27	54	1.54	−0.01	0.78	0	7	16	7	7	ne.	E. L. Vorachek.
Granville	McHenry	1,504	30	57.6	+2.8	93	2	30	25†	52	2.05	+0.44	0.68	0	8	16	7	7	nw.	W. A. Christianson.
Hansboro	Towner	1,597	29	55.4	+1.9	88	2	25	29	56	1.38	−0.60	0.70	3.0	4	14	10	6	nw.	C. E. Blackorby.
Linton	Emmons	1,711	20	61.2	+2.7	101	1	20	25	51	0.81	−0.79	0.33	0	6	13	13	4	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	59.0	+3.4	93	2	32	15†	45	1.34	−0.09	0.48	0	5	21	4	5	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	58.4	+2.7	94	2	27	19	52	1.24	−0.57	0.32	0	7	6	12	12	nw.	A. T. Felland.
Mandan	Morton	1,750	23	59.5	+2.1	94	2	30	25	48	1.37	−0.12	1.29	0	5	12	8	10	se.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	56.2	......	92	2	25	25	51	2.47	....	0.88	0	8	.....	.....	.....	.....	A. W. Rice.
Minot	Ward	1,557	41	58.5	+2.6	92	2	30	25	50	2.31	+0.65	1.06	0	9	4	17	9	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	56.4	+2.4	88	3†	28	29	48	3.05	+1.49	1.10	T.	6	4	16	10	nw.	John Behan.
Napoleon	Logan	1,955	45	59.6	+2.9	101	1	24	26	49	1.86	+0.38	0.60	0	9	18	4	8	nw.	C. J. Hoof.
New Salem	Morton	2,163	33	58.3	+0.8	96	2	25	25	47	1.85	+0.49	1.71	0	7	18	7	5	ne.	J. Christianson.
Pettibone	Kidder	1,856	28	57.2	+2.0	95	2	25	25	48	2.04	+0.72	0.85	0	8	12	12	6	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	58.8	+1.9	96	2	24	25	48	1.61	+0.09	1.13	0	8	15	6	9	sw.	R. S. Armstrong.
Towner	McHenry	1,482	35	58.8	+2.6	94	2	28	25†	53	2.30	+0.54	1.08	T	6	14	9	7	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	58.6	+2.3	96	2	25	26	46	0.90	−0.48	0.37	0	5	22	7	1	n.	Albert H. Slettum.
Velva	McHenry	1,511	10	58.5	......	93	2	28	26	51	1.73	+0.69	0.51	T.	8	11	10	9	nw.	Oscar Anderson.
Washburn	McLean	1,731	36	60.2	+1.7	95	2	30	25	42	0.65	−0.69	0.31	0	4	22	1	7	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	56.5	+1.6	89	2	28	29	55	2.59	+1.16	0.68	0	9	15	7	8	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	45	56.4	+2.2	89	14	25	26	57	1.94	+0.21	0.50	0	8	12	12	6	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	60.8ᵈ	+5.2	104ᵈ	1	23ᵈ	27	51ᵈ	0.62	−0.57	0.33	0	3	.....	.....	.....	.....	E. W. Davis.
Average for Middle Division		......	....	58.2	+2.1	104	1	20	25	57	1.60	+0.14	1.71	0.2	7	13	10	7	nw.	....
Western Division																				
Amidon	Slope	......	31	.....	......	...	..	....	....	.....	2.72	+1.22	2.34	0	5	.....	.....	.....	.....	J. G. Jacobson.
Beach	Golden Valley	2,759	15	60.8	+4.4	91	2	29	25	41	0.65	−0.64	0.31	0	7	8	15	7	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	58.2	+1.3	96	2	24	25	52	1.33	−0.26	0.60	0	4	17	8	5	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	.....	......	...	..	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Larsen.
Crosby	Divide	1,954	29	55.0	+0.9	90	2	29	25†	56	1.51	+0.12	0.90	0	4	12	9	9	w.	J. H. Phelps.
Dickinson	Stark	2,543	45	58.4	+2.4	94	2	27	25	45	1.00	−0.32	0.73	0	7	15	8	7	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	57.5	+1.3	93	2	29	26	50	1.01	−0.43	0.54	0	7	12	11	7	nw.	W. F. Moede.
Epping	Williams	2,224	27	59.4	+4.0	88	2†	28	25†	46	1.27	−0.12	0.60	0	4	8	17	5	nw.	T. Beachler.
Fryburg	Billings	2,790	19	60.6	......	93	2	29	25	39	1.28	−0.09	0.85	T.	4	18	7	5	se.	Verne King.
Hettinger	Adams	2,675	30	60.8	+3.2	92	2	29	15	47	0.69	−0.71	0.67	0	2	13	7	10	w.	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	57.1	+2.8	90	19	27	25†	47	1.77	+0.39	0.84	T.	6	13	14	3	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	58.8	......	87	10	31	29	49	2.66	+1.05	0.78	3.0	10	15	9	6	w.	Synthia M. Costello.
Marmarth	Slope	2,714	28	.....	......	...	...	....	....	......	1.19	−0.10	.....	0	3	.....	.....	.....	.....	S. P. Grane.
Mott	Hettinger	2,424	30	61.4	+4.8	98	2	26	25	44	2.09	+0.68	1.84	0	6	15	9	6	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	60.5	+4.1	100	1	29	24	50	1.48	+0.10	1.24	0	4	16	7	7	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	56.0	......	91	2	22	25†	51	1.85	+0.31	0.62	0	8	5	22	3	nw.	C. E. Shubert.
Portal	Burke	1,954	32	55.2	+0.8	89	2	27	25	48	2.08	+0.49	1.30	T.	7	18	1	11	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	60.4	+6.3	97	5	30	25	46	3.93	+2.42	1.80	2.0	5	13	8	9	w.	Geo. B. Gee.
Richardton	Stark	2,467	21	62.0	+5.2	94	2	29	25	41	1.01	−0.35	0.84	0	6	9	13	8	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	58.4	+2.2	95	2	26	25	52	2.00	+1.20	0.82	0	7	11	12	7	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	24	60.4	+4.1	90	1†	29	25	42	1.52	+0.20	0.63	0	6	12	13	5	e.	J. C. Zeller.
Williston	Williams	1,878	58	59.4	+2.8	87	2	30	28	41	1.31	+0.22	0.93	0	6	15	10	5	se.	U. S. Weather Bureau.
Average for Western Division		......	....	59.5	+3.5	100	1	22	25†	56	1.61	+0.33	2.84	0.2	6	15	8	7	nw.	....
Average for the State		......	....	58.6	+2.0	104	1	20	25	58	1.47	−0.07	2.84	0.1	6	13	9	8	nw.	....

Notes explanatory of symbols used in this table printed on last page.

Daily Precipitation for September 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red						1.25																					T	T.	T.			1.25
Cavalier	do		.25																					.25						.31	.26		1.07
Cooperstown	Sheyenne	.04	.12		.04	.01	.22		T.	.02	T.	T.													.02			T.	T.	.22	.13		0.82
Courtenay	James	.25	T.				.54			.20																				.13	.14		1.26
Devils Lake ***	Devils Lake.	T.	.52		.04		.12		.01		.01				T.		T.				T.	T		.09	.28	T.			.14	.50	.09		1.80
Edgeley	James					.56			.11	.11																		.11					0.89
Edmore	Devils Lake.	T.	.12		.11							T.			T.						T.		T.	T.	.25			T.	.17	.57	.09		1.31
Ellendale	James	.46					.72			.33	.04	.20												.07						.11			1.93
Forman	Sheyenne		.41				.26			.08	.03													.05					T.	.11			0.94
Fullerton	James	.09			T.		T			.30	.12													.05	T.					.18			0.74
Grafton	Red	.03	.16	.31	.04			T.																.05	.13				.20	.37	.14		1.43
Grand Forks ***	do	.02	T.	.02	T.												T.							T.	.04				.05	.20	.13		0.46
Hankinson ||||	do	.60					.22																	.12	.05				T.				0.99
Hannah	Pembina	T.	.03		.05																			.15	.15				.43	.15			0.96
Hillsboro	Red		.72		T.		.16			.48														T.	T.				.08	.12	.10		1.66
Jamestown	James	.12	T.						.05	.10	.04													T.							.24		0.55
Langdon ||||	Pembina		.02	.02		.04																			.58				.22		.68		1.56
Larimore	Red		.02																					T.	T				.22	.40	.08		0.72
Lisbon	Sheyenne		1.03			T.	.13	.32			.05	T.												.06	.01				T.	.19	.06		1.85
McHenry	James	.09	.01		.02		T.		.22		.02											T.		T.	.04				.02	.31	.04		0.77
McLeod	Sheyenne		.16				.55	.17		.15																			.06	.05			1.14
Mayville	Red	.08	.10				.08			.41														T.						.18	.18		1.03
Oakes	James		.59				.13				.12	.12												.06	.01					T.	.09		1.12
Park River	Red	.14	.05		.07										T.									.64				.16		.69			1.75
Pembina	do	.02	.03	.01																				.15	.07					.39	.23		0.90
Petersburg	do		.02		.02		T.																	T.	.15				.21	.47	.05		0.92
Sharon	do	.02	.31	.02	.02		.01			.10		.01					T.							T.	T			.23	.05	.23	.19		1.19
Valley City	Sheyenne	.52					2.34			.10														.01						.06			3.03
Wahpeton	Red	.06	.11				.34				.03													.14	.07				.02	.07	T.		0.84
Moorhead, Minn. ***	do	.32			T.	T.	1.04			.08	T.						T.							.05	.02				.02	.02	.01		1.56
Middle Division																																	
Ashley	Missouri	.20	.03				.21			.15		.02																	T	.12			0.73
Bisbee	Devils Lake.		.05		.25				T.		T.													.17	.22				.28	.50	.19		1.66
Bismarck ***	Missouri	T.			T.		1.04		.01	.04	.01													.03				T		.06			1.19
Bottineau	Mouse		.29		.14	.29						.04												.09	.42			.02	.05		.72		2.06
Carrington ||||	James	.27	.02		.08				.05		.18																			.53			1.13
Carson	Heart	.14		.04			.60			.02																		.11		.02	.05		0.98
Dogden Butte	Mouse		.04		.17		.45				T.	.04											T.	T.	.12				.18	.43	.26		1.69
Drake ||||	do	T.				.07	.05		T.			.05											T.	T.	.17	T.			.24	.03	.74		1.35
Dunseith	do		.30		.13	.20	T.																	.02	.30			.01	.12		.60		1.68
Eckman	do	.20	.70		.46				.02		T.													.20	.42				.08	.72	.30		3.10
Energy	Missouri						.16				.05													.10					.10	.15	.35		0.91
Fessenden ||||	James						T					.06												T.	.13				.08	.08	.47		0.82
Fort Yates	Missouri	.15					.54				.29																						0.98
Foxholm (near)	Mouse	.03	.34		.06				.03		T											T.		.07	.25	T.		T.	.03	.68	.38		1.87
Gackle	James	.40					.10			.05																				.02	1.20		1.77
Garrison ||||	Missouri						.38		.02															.02	.14				.12	.08	.78		1.54
Granville	Mouse		.24		.05				.06		T.													.04	.29				.15	.68	.54		2.05
Hansboro	Devils Lake.	T.	.07			T.					T												T.	.30	.31				T.	.70	T.		1.28
Linton	Missouri	.04	.03		T.		.33			.32														T.				T.	T.	.07	.02		0.81
McClusky	do						.21				.42	T.												.05					T.	.48	.18		1.34
Maddock	Sheyenne	T.	T.		T.		.27		T.		.07										T.		T.	.16	.16				.14	.32	.12		1.24
Mandan ||||	Missouri					1.29	T.		.01	T	T												T.	T.				.03	.03	T.	.01		1.37
Manfred	James				T		.21				.05											T		.07	.16				.24		.16		0.89
Max ||||	Missouri		.62		.05		.25																	.04	.18				.33	.12	.88		2.47
Minot	Mouse	.07	.48		.11	.14	T.		.04	.02															.29	T.			.10		1.06		2.31
Mohall	do		1.10	T.	.37						T.													.18	.28				.96	.16			3.05
Napoleon ||||	Missouri	.35	.02				.60	.05	.01		.37	.08													.13						.25		1.86
New Salem	Heart	.02					1.71			.02														T.				.02	.03	.03	.02		1.85
Pettibone	James	.03					.05			.41		.41												.03	.09					.12	.10		2.04
Rugby (near)	Mouse		.03		.03	T.			.05		.29													.04	.31				.18	.50	.23		1.66
Ryder	Missouri		.13			.50																		.23			.02		.47	.52	.62		2.49
Selfridge	do			T	T.	.70	T			.40	T.																	.10		T.			1.20
Steele	do	.08		.04			1.13			.14		.01												T.	.05					.06	.10		1.61
Tagus	Mouse	.01	.48		.03				T.															.16					.02	.80	.37		1.87
Towner	do		1.08		.02																	T.		.04					.15	.65	.36		2.30
Turtle Lake	Missouri										.01														.06				.20	.37	.26		0.90
Tuttle	do	.23					.81			.20														T						.19	.05		1.48
Velva	Mouse		.05		.05		.08				T													.03	.19				.36	.51	.46		1.73
Washburn ||||	Missouri						.31					.05																	T	.08	.21		0.65
Westhope	Mouse	.01	.35		.51				T.		.05													.10	.68			.04		.51	.34		2.59
Willow City	do		.11		.43				.03		.03											T.	T.	T.	.35				.25	.50	.24		1.94
Wishek ||||	Missouri						.33		T.		.25																			.04			0.62
Zap	Knife					1.14																								.50			1.64
Western Division																																	
Alpha	Lit. Missouri					2.84		.12																	.01			.18	.07		.15		3.37
Amidon	do	.09					2.34	.04																	.06			.19		T.			2.72
Beach	do	.01					.31	.02														T.		.02	.22			.06	.01				0.65
Berthold Agency	Missouri						.35																	T.	.20				T.	.18	.60		1.33
Bowman	Grand																																
Corinth	Missouri																																
Crosby	Mouse		.18			T.																	.27		.16						.90		1.51
Dickinson ||||	Heart	.04	T.				.73	.01	T													T			.03	.02			.09	T.	.08		1.00
Dunn Center	Knife.	.03					.54		.01			.08																	.04	.07	.24		1.01
Epping	Missouri																						.01	.08						.58	.60		1.27
Fryburg	Heart						.85		T.	T	T.														.13			.13	T.		.17		1.28
Hettinger	Grand			.02			.67																										0.69
Howard (near)	Missouri	.46		T				T		.01													T.				.18	.10		.84	.18		1.77
Kenmare	Mouse	.08	.75		.05						.01													.08	.36			.02	.03	.78	.50		2.66
Marmarth	Lit. Missouri			T.			.33	.10																							*.76		1.19
Mary	do		.03				.14																		.16	.04		.34		.35			1.06
Medora						.51																		.08	.07			.12		.02	.16		0.96
Mott	Cannon Ball	T.		.03	T.		1.84			.06																		.14	.01	.01			2.09
New England ||||	do					1.24	.04																					.14	.06				1.48
Parshall	Missouri	.05				.19	.16		.03																.17				.23	.40	.62		1.85
Portal ||||	Mouse		.30		.05																		.04	.31					.05	1.30	.03		2.08
Powers Lake	Missouri	.41	1.26																								.04			1.80	.42		3.93
Richardton	Heart	.05					.84	T.		.02															.03			.03		T.	.04		1.01
Smith ||||	Missouri				.12		.07																		.11			.08	.65	.15	.82		2.00
Tioga	do	.05			.22					T													.02	T.				T.	T.	1.09	T.		1.38
Trotters	Lit. Missouri						.27																		.21				.03		.29		0.80
Watford City	Missouri		.15				.10																	.12					.63	.10	.42		1.52
Williston ***	do	.07						T.	T.													.01		.11	.01		T.	.18		.93	T.		1.31

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. |||| Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum	84	82	80	74	79	80	80	80	79	78	76	81	80	76	80	76	78	79	80	82	80	84	92	90	70	74	70	68	64	60	....	77.9
	Minimum	50	48	46	39	40	42	38	40	38	38	36	34	34	36	37	29	40	36	38	40	42	46	36	34	40	38	40	40	38	38	....	39.0
Devils Lake	Maximum	80	91	66	51	78	69	75	85	80	81	67	75	88	70	58	61	80	63	72	85	90	74	71	51	55	66	66	44	45	46	....	69.4
	Minimum	61	63	46	40	46	48	40	56	51	42	44	39	46	43	35	37	37	39	32	51	49	55	51	39	34	32	40	36	33	41	....	43.5
Edgeley	Maximum	100	95	92	79	68	71	87	83	65	65	73	67	69	63	60	55	77	74	70	90	96	90	85	79	60	67	62	58	54	49	....	73.4
	Minimum	62	59	59	44	41	54	51	56	52	35	44	52	44	41	36	31	30	30	29	48	62	52	40	43	28	26	37	47	39	42	....	43.8
Fullerton	Maximum	97	92	82	63	79	73	73	86	78	76	70	71	79	73	61	67	76	67	71	88	96	80	87	63	59	67	68	55	51	53	....	73.4
	Minimum	66	63	58	48	45	59	52	54	60	50	54	39	43	42	38	34	33	43	32	46	66	57	63	44	28	26	36	44	38	44	....	46.8
Grafton	Maximum	81	93	92	59	72	71	78	88	80	78	76	74	87	87	66	59	78	79	68	80	88	87	74	66	52	67	66	63	47	49	....	73.5
	Minimum	61	63	58	45	49	54	41	52	55	47	53	30	44	55	39	36	31	44	30	50	41	59	42	45	34	26	30	39	34	42	....	44.3
Grand Forks	Maximum	83	93	68	57	72	70	74	86	80	74	65	72	82	72	58	60	75	62	65	78	87	77	85	55	56	67	70	49	48	50	....	69.7
	Minimum	62	64	47	38	48	50	39	54	53	42	40	31	43	46	35	33	32	38	30	48	41	57	55	40	32	28	34	39	35	44	....	42.6
Hillsboro	Maximum	84	92	90	62	58	70	71	83	83	72	72	62	80	79	63	63	74	74	65	79	91	88	88	82	49	67	70	64	48	51	....	72.5
	Minimum	61	62	59	42	48	55	45	56	56	46	50	33	40	54	38	35	34	43	32	45	47	50	50	46	32	34	34	41	40	46	....	45.1
Jamestown §	Maximum	99	77	69	79	65	72	90	71	80	66	75	87	72	60	60	76	72	72	90	96	80	84	56	57	70	78	51	49	50	50	....	71.8
	Minimum	63	66	60	45	48	48	54	59	58	50	53	39	42	51	39	33	31	34	32	35	53	54	55	45	30	28	30	37	36	41	....	45.0
Langdon §	Maximum	82	89	79	74	74	70	75	79	82	78	72	75	85	74	70	63	78	72	71	88	85	78	73	66	65	65	66	64	56	64	....	73.7
	Minimum	57	54	48	39	40	48	33	35	47	39	38	32	40	44	34	34	31	33	29	40	45	50	49	39	29	30	32	33	27	29	....	38.6
Larimore	Maximum	83	93	90	58	74	70	73	90	81	78	74	73	83	80	65	61	76	74	67	81	86	84	83	69	56	67	72	62	44	48	....	73.2
	Minimum	61	63	54	36	47	54	41	54	53	45	52	28	44	55	38	28	28	42	25	47	42	58	47	44	32	29	33	38	30	43	....	43.0
Lisbon §	Maximum	96	91	77	65	70	66	76	86	77	77	70	73	84	72	58	66	75	66	72	88	97	80	89	52	61	71	70	50	51	55	....	72.7
	Minimum	62	64	59	45	46	57	55	54	56	49	51	35	41	45	38	30	29	32	30	45	49	51	52	45	30	30	38	38	42	42	....	44.7
Oakes	Maximum	98	91	79	64	79	64	73	86	78	77	70	72	82	92	59	67	76	67	73	88	96	80	90	51	59	69	67	52	52	56	....	73.6
	Minimum	63	66	57	48	48	52	55	56	57	49	52	35	38	51	36	29	29	30	30	31	55	55	58	43	28	27	28	36	42	42	....	44.2
Sharon	Maximum	83	91	75	53	73	68	75	88	75	76	67	71	85	71	55	60	76	66	65	87	92	75	85	55	57	67	72	53	46	47	....	70.3
	Minimum	60	63	53	38	45	52	45	55	54	46	51	34	49	51	35	31	31	40	31	42	47	55	49	42	27	28	34	37	31	42	....	43.3
Valley City	Maximum	90	98	90	70	79	73	72	87	83	79	75	73	82	79	69	66	75	74	70	88	96	94	86	72	59	68	69	65	51	52	....	76.1
	Minimum	55	55	49	41	46	55	49	55	58	58	53	35	43	54	36	30	29	43	31	46	52	56	53	43	31	26	31	43	39	46	....	44.7
Wahpeton	Maximum	94	92	89	68	69	69	73	85	85	71	71	69	79	78	66	60	71	71	66	88	97	93	90	88	58	69	70	64	50	56	....	75.0
	Minimum	69	67	60	46	47	57	49	55	62	51	49	34	44	53	38	31	31	45	31	47	56	58	59	44	31	34	43	46	43	47	....	47.6
Moorhead, Minn.	Maximum	91	88	77	63	70	65	72	84	73	72	67	67	79	72	56	60	70	64	65	86	96	78	89	55	55	67	68	57	51	53	....	70.3
	Minimum	69	67	52	44	50	57	52	57	61	51	45	39	46	50	39	33	35	43	36	48	55	59	55	39	35	37	41	43	42	47	....	47.6
Middle Division																																	
Ashley	Maximum	102	95	88	69	79	72	72	89	80	81	75	74	85	77	67	68	76	73	73	94	96	84	84	60	58	68	65	54	55	50	....	75.4
	Minimum	63	60	55	46	45	54	54	53	58	47	50	37	47	55	34	36	28	45	30	45	52	52	55	40	24	29	32	38	34	42	....	44.7
Bismarck	Maximum	90	94	76	71	82	70	73	91	73	82	69	77	86	74	63	64	79	68	77	88	93	78	73	52	59	65	60	49	58	49	....	72.8
	Minimum	64	62	55	50	48	56	57	60	61	50	51	45	53	57	40	37	35	44	41	50	59	53	46	38	32	34	37	40	40	42	....	47.9
Bottineau	Maximum	78	78	88	63	50	75	65	72	83	80	82	67	77	84	71	61	61	84	84	76	85	81	69	69	47	55	65	64	64	41	....	70.6
	Minimum	62	57	51	45	49	52	44	53	46	48	52	42	42	42	30	35	35	40	37	49	59	49	53	38	27	34	38	34	33	32	....	43.6
Carson	Maximum	99	100	84	75	85	75	75	94	83	84	78	81	82	78	72	70	80	75	80	92	92	76	70	59	60	66	67	49	64	55	....	76.7
	Minimum	62	60	51	51	47	52	53	57	57	46	49	47	50	52	33	35	39	43	43	49	55	49	42	37	25	32	35	40	35	40	....	45.5
Fessenden §	Maximum	85	98	73	61	83	69	77	90	80	85	78	79	90	72	62	63	80	67	77	89	96	78	78	52	60	68	70	48	46	47	....	73.4
	Minimum	58	60	50	37	44	51	43	54	52	40	49	46	48	53	31	34	31	39	28	40	45	52	52	39	27	26	29	33	29	35	....	41.8
Foxholm (near)	Maximum	83	90	77	60	80	67	70	83	83	86	74	81	87	75	64	67	85	74	79	85	87	75	63	48	57	65	63	55	40	40	....	71.4
	Minimum	61	57	50	44	41	41	40	55	50	41	44	46	54	50	31	37	37	38	33	51	55	49	46	35	29	35	35	35	27	34	....	42.8
Garrison §	Maximum	87	95	76	72	81	71	70	88	78	84	72	79	90	75	68	67	82	72	77	92	86	77	68	53	60	66	63	47	46	47	....	73.0
	Minimum	61	62	51	46	46	53	51	55	58	44	43	42	48	48	36	37	33	42	39	38	56	53	51	38	29	29	26	34	35	41	....	44.2
Granville	Maximum	85	93	76	61	83	70	74	84	84	87	72	80	87	74	64	63	85	70	80	79	90	77	68	52	57	67	65	52	43	45	....	72.2
	Minimum	63	60	52	44	46	53	40	57	50	38	46	36	48	48	33	36	33	38	34	42	54	52	50	39	30	30	34	35	33	40	....	43.1
Hansboro	Maximum	77	88	72	70	73	67	75	84	80	82	68	78	86	70	59	61	82	72	73	85	85	76	64	54	56	65	66	53	40	41	....	70.1
	Minimum	57	57	41	40	43	48	35	51	49	39	48	45	35	48	33	35	33	35	29	49	39	50	49	39	30	29	35	33	25	38	....	40.6
Linton	Maximum	101	96	92	74	83	80	75	92	88	82	77	77	88	80	71	69	80	76	74	94	96	89	80	54	58	67	64	55	60	55	....	77.6
	Minimum	64	55	56	49	47	55	54	55	57	45	49	36	52	53	34	26	29	35	38	52	60	49	52	41	20	26	28	43	38	43	....	44.7
McClusky	Maximum	84	93	89	69	78	72	71	85	82	82	68	74	84	74	62	62	78	60	74	90	90	77	66	55	77	77	63	52	48	44	....	72.7
	Minimum	60	58	50	43	58	51	51	56	53	41	48	42	48	53	32	34	33	39	38	48	56	55	48	38	38	50	32	38	32	39	....	45.4
Maddock	Maximum	82	94	92	68	81	75	76	86	84	84	78	76	89	83	71	67	81	80	75	87	93	90	72	66	55	62	67	62	43	46	....	75.5
	Minimum	60	60	49	35	44	50	38	52	53	38	48	34	42	50	31	30	29	36	27	45	46	53	53	38	29	35	33	35	30	40	....	41.4
Minot	Maximum	84	92	68	57	80	77	72	84	82	86	79	80	88	75	63	63	85	66	79	84	85	75	66	60	60	67	63	44	44	43	....	71.7
	Minimum	65	60	52	46	45	53	41	56	49	40	49	42	57	53	37	35	35	40	37	55	56	53	60	37	30	32	33	38	33	39	....	45.3
Mohall	Maximum	82	84	88	78	72	76	70	73	83	78	87	80	88	75	67	62	68	68	79	85	83	78	76	61	67	71	55	52	43	40	....	72.3
	Minimum	52	51	51	43	46	45	44	45	48	39	39	36	46	50	32	32	34	31	33	44	41	46	48	32	29	33	50	31	28	33	....	40.4
Napoleon §	Maximum	101	96	80	71	82	62	79	81	71	81	68	77	89	74	62	66	78	70	76	96	97	82	83	50	59	69	64	53	54	48	....	74.0
	Minimum	61	58	53	44	45	55	53	55	58	44	50	39	52	51	34	32	29	41	33	56	55	52	59	40	26	24	32	42	36	43	....	45.1
New Salem	Maximum	91	96	78	79	88	74	70	89	75	83	90	79	85	75	67	65	80	69	78	87	90	78	70	47	62	67	52	52	55	54	....	74.2
	Minimum	59	52	48	43	48	49	48	56	54	44	50	43	45	51	32	34	34	39	34	40	50	46	44	34	25	29	35	38	33	35	....	42.4
Steele	Maximum	93	96	88	70	81	72	76	89	76	80	69	76	85	73	60	62	78	66	78	88	92	80	76	56	58	65	65	54	50	50	....	73.4
	Minimum	65	59	54	40	46	53	54	56	55	45	50	39	48	54	32	30	30	40	32	49	54	51	49	39	24	26	29	41	39	43	....	44.2
Towner	Maximum	87	94	84	66	82	69	75	80	84	88	84	88	88	82	66	70	84	81	76	86	89	83	69	54	60	69	67	61	42	45	....	75.1
	Minimum	61	59	53	43	48	52	40	50	46	39	40	39	46	49	31	40	31	38	34	51	50	50	53	38	28	28	34	34	28	39	....	42.4
Westhope	Maximum	82	89	66	62	72	67	75	85	88	87	72	80	87	75	66	65	85	68	77	87	86	70	61	51	59	68	65	43	38	42	....	70.4
	Minimum	60	58	49	43	45	45	40	62	48	46	48	39	48	49	31	35	30	38	35	45	44	55	51	36	30	30	39	33	28	37	....	42.6
Western Division																																	
Beach	Maximum	82	91	77	80	85	75	74	82	78	84	75	86	86	77	66	71	82	82	88	88	81	81	75	52	58	64	61	49	70	57	....	75.2
	Minimum	59	58	50	54	53	54	50	52	55	46	49	50	50	50	39	41	41	42	51	49	56	45	45	35	29	36	33	38	39	38	....	46.4
Berthold Agency	Maximum	88	96	77	74	87	68	67	87	85	80	74	82	90	77	69	68	84	72	82	94	85	78	75	55	60	68	58	50	50	47	....	74.2
	Minimum	60	57	49	44	47	50	48	54	51	40	45	40	50	50	32	30	32	36	40	43	53	50	42	35	24	27	26	35	35	37	....	42.1
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Crosby §	Maximum	84	90	71	67	75	67	70	82	84	87	64	85	80	70	64	65	87	73	78	88	84	61	56	47	59	65	57	45	35	40	....	69.3
	Minimum	55	58	48	40	39	42	40	42	48	43	45	43	49	45	31	34	31	32	36	48	47	50	47	36	29	30	39	29	30	32	....	40.6
Dickinson §	Maximum	83	94	75	76	86	57	70	84	78	85	75	83	87	76	65	69	82	74	83	89	86	79	60	51	58	64	57	43	66	48	....	72.8
	Minimum	60	53	49	50	49	48	48	52	56	48	48	46	48	50	36	34	37	37	43	48	46	46	45	38	27	28	37	40	38	37	....	44.1
Dunn Center §	Maximum	83	93	74	74	83	62	66	81	79	85	73	80	86	74	61	65	81	71	82	88	85	77	61	51	58	64	58	47	53	44	....	71.3
	Minimum	61	55	48	49	49	52	47	53	55	46	49	44	48	52	34	35	31	41	40	46	50	47	47	38	30	29	34	36	36	38	....	44.0
Hettinger	Maximum	90	92	89	86	78	85	76	74	80	84	84	82	76	79	72	81	82	79	76	70	72	70	75	68	70	62	68	65	56	66	....	76.2
	Minimum	58	54	50	52	49	56	58	47	50	54	48	46	41	36	29	34	39	42	46	50	52	46	48	31	32	36	40	46	43	50	....	45.4
Kenmare	Maximum	84	86	84	66	76	65	68	85	84	87	78	81	85	79	70	66	86	84	79	86	84	81	70	50	66	66	64	54	43	40	....	73.2
	Minimum	62	58	50	46	43	47	42	55	50	43	45	48	56	49	33	38	37	42	42	52	54	52	48	37	33	37	37	32	31	33	....	44.4
Marmarth	Maximum	85	93	75	78	84	78	78	89	75	83	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	60	56	56	58	50	56	55	55	65	46	47	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Mott	Maximum	90	98	88	72	85	82	75	91	81	85	78	81	86	78	70	69	82	75	81	89	90	80	75	53	61	69	60	50	67	63	....	76.8
	Minimum	58	54	50	52	49	54	54	57	60	50	51	47	49	52	40	35	38	41	44	47	52	45	44	40	26	34	34	42	40	42	....	46.0
New England §	Maximum	100	77	74	86	57	70	89	76	87	83	81	91	81	69	80	86	76	89	88	92	82	67	54	70	71	54	47	68	55	61	....	75.4
	Minimum	55	51	53	47	54	53	52	61	49	48	49	46	52	40	37	36	39	43	48	55	48	57	39	29	34	33	42	39	42	37	....	45.6
Watford City	Maximum	90	89	81	78	87	69	67	83	86	88	75	86	86	74	63	67	84	78	85	89	90	79	69	52	63	66	61	52	44	45	....	74.2
	Minimum	60	58	51	48	52	51	48	55	51	48	47	51	50	54	38	39	42	46	45	53	65	51	45	39	29	34	37	36	37	36	....	46.5
Williston	Maximum	86	87	75	69	80	67	67	84	82	86	72	85	83	74	63	66	86	75	86	87	85	74	66	50	58	65	58	49	44	44	....	71.8
	Minimum	61	62	51	51	53	51	51	50	50	48	50	51	51	53	38	41	45	46	53	52	57	52	44	37	34	40	37	30	37	36	....	47.1

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

NOTES EXPLANATORY FOR PAGE 34. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days. etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

[WBO, Minneapolis, 10-26-37—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVI   BISMARCK, N. D., OCTOBER 1937   No. 10

GENERAL SUMMARY

Temperatures were slightly above and precipitation below the 1892-1937 October averages. Temperatures were high at the beginning and again near the close of the month, but cold weather prevailed at the middle of the month and again at the beginning of the third decade. The highest temperature ever recorded so late in the season occurred at many places on the 28th. The precipitation was very light in the southeastern part of the State, but was considerably above average in the north-central and northwestern sections where most needed. Almost all of the precipitation occurred during the first decade. The snowfall was light. October was an excellent month for outdoor work, but the ground was too dry for plowing in most sections. The ground was very dry for potato digging and a small percentage of fall plowing was done, but the weather was favorable for corn husking. Some livestock was shipped out of the western part of the State due to lack of feed. Dust storms, mostly light, were general over the State on the 18th and 31st.

TEMPERATURE

The mean temperature for the State was 43 9°, or 0.2° above the 1892-1937 average for October. The mean for the eastern division was 43.0°; for the middle division, 43.5°; and for the western division, 45.3°. The highest mean temperature was 48.4° at Hettinger, and lowest, 38.5° at Dunseith, making a range in mean temperature of 9.9°. The absolute range in temperature was 93°, from 94° at Wishek on the 3d, to 1° at Ashley on the 14th. The average daily deficiency in temperature for the State since January 1, 1937, is 0.1°.

PRECIPITATION

The average precipitation for the State was 0.80 inch, or 0.22 inch less than the 1892-1937 average for October. In the eastern division the average amount was 0.40 inch; in the middle division, 0.92 inch; and in the western division, 1.08 inches. The greatest monthly amount reported was 3.15 inches at Hansboro; there was a trace at Hankinson and McLeod. The greatest amount recorded in any 24 consecutive hours was 2.50 inches at Hansboro on the 5th. The accumulated excess in precipitation since January 1, 1937, is 0.23 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	7	4	1	..	5	2	5	7	1	..	2	..	1	..	..	..	..	..	..	2	10	10	10	5	3	2	2	..	..
Dust storms	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	1	7	..	..	..	..	..	2	..	..	..	..	1	..	8
Fogs	1	6	13	7	2	..	..	3	1	2	3	..	..	..	..	2	4	1	..	..	1	2	..	..	..	..	..	..	..	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..
Solar halos	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
Sleet	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	7	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.02	30.64	14	29.39	17	9.4	30	nw.	5	77	52	52	51
Devils Lake	30.02	30.65	14	29.42	18	9.8	25	nw.	5	84	59	66	48
Williston	30.02	30.59	13	29.42	17	9.2	32	nw.	18	78	57	57	54
Moorhead, Minn	30.02	30.66	14	29.45	24	9.7	22	n.	11	78	56	57	42
Averages & ext's	30.00	30.66	14	29.39	17	9.5	32	nw.	18	79	56	58	49

† And other dates.

COMPARATIVE DATA FOR OCTOBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	47.2	95	7	0.25	1.20	0.30	0.58	T.	3	15	8	8
1893	40.6	79	0	1.17	1.08	0.89	1.05	0.9	5	11	11	9
1894	43.0	77	16	2.28	1.76	0.94	1.66	0.0	6	14	8	9
1895	40.5	85	−12	0.31	0.15	0.27	0.24	0.0	2	16	8	7
1896	40.2	88	5	1.25	0.43	0.40	0.69	0.0	3	14	8	9
1897	45.9	93	6	1.01	0.75	0.56	0.77	0.8	4	13	9	9
1898	38.8	84	8	2.60	2.42	1.67	2.23	4.7	6	8	8	15
1899	42.1	86	7	1.16	1.21	1.15	1.17	1.3	5	11	8	12
1900	48.2	87	14	2.34	1.30	0.98	1.54	T.	6	15	4	12
1901	47.5	88	11	2.96	1.22	0.65	1.61	T	5	17	7	7
1902	43.7	87	10	1.70	1.20	0.95	1.28	0.7	4	16	6	9
1903	47.0	81	11	1.42	0.80	0.60	0.94	0.2	3	19	5	7
1904	46.6	87	10	1.55	0.60	0.46	0.90	T.	5	1[illegible]	7	12
1905	40.3	93	0	0.59	0.22	0.28	0.36	1.2	5	8	12	11
1906	45.0	89	0	0.75	0.45	0.27	0.49	1.4	4	14	9	8
1907	44.4	88	4	1.02	0.66	0.16	0.61	0.2	3	21	5	5
1908	43.0	86	8	1.46	1.36	2.07	1.63	0.7	6	11	7	13
1909	43.1	97	0	0.88	0.63	0.45	0.65	0.9	3	14	8	9
1910	48.2	95	0	0.49	0.66	0.38	0.51	0.1	3	16	8	7
1911	42.5	86	−10	1.25	1.27	1.20	1.24	0.5	6	11	8	12
1912	44.4	90	0	0.68	1.09	1.44	1.07	3.5	4	16	6	9
1913	39.3	90	− 2	2.40	1.34	1.03	1.59	0.7	4	12	9	10
1914	50.0	97	0	1.20	0.93	0.65	0.93	T.	4	16	8	7
1915	46.6	87	10	1.22	0.91	1.14	1.09	0.2	4	17	8	6
1916	40.0	85	− 2	0.49	0.88	0.73	0.70	2.0	4	12	8	11
1917	34.7	82	− 4	0.87	0.76	0.71	0.78	6.4	5	8	11	12
1918	46.2	90	4	0.80	0.45	0.35	0.53	0.8	4	14	8	9
1919	33.5	84	−18	0.93	1.14	1.35	1.14	9.3	6	11	9	11
1920	49.3	95	6	0.53	0.28	0.83	0.55	0.1	3	16	8	7
1921	47.3	88	16	0.80	1.09	0.10	0.66	T.	4	16	8	7
1922	45.7	98	8	0.37	0.65	0.73	0.58	2.3	3	15	7	9
1923	44.0	84	− 8	0.56	1.02	1.08	0.89	0.5	4	14	7	10
1924	50.3	86	19	2.31	2.14	2.82	2.42	0.3	7	17	5	9
1925	33.3	66	−16	0.83	0.64	0.96	0.81	3.7	6	8	9	14
1926	42.6	85	4	2.54	0.86	0.68	1.36	1.0	6	10	10	11
1927	47.0	88	12	1.53	1.49	0.96	1.33	1.0	5	14	8	9
1928	43.5	85	3	0.69	0.18	0.51	0.46	0.6	2	15	8	8
1929	46.8	88	10	2.87	1.63	1.05	1.85	5.1	6	17	5	9
1930	40.8	86	0	2.04	1.90	1.48	1.81	0.3	7	10	9	12
1931	47.7	90	10	2.63	0.93	0.60	1.39	0.2	6	15	6	10
1932	38.3	90	− 3	2.33	2.41	2.06	2.27	9.1	8	9	7	15
1933	41.5	88	5	0.39	0.48	0.74	0.54	1.7	4	14	8	9
1934	49.0	94	5	2.11	0.83	0.08	1.01	0.1	3	14	8	9
1935	43.5	86	−10	0.29	0.08	0.12	0.16	0.7	2	15	9	7
1936	42.3	90	− 5	0.23	0.16	0.24	0.21	1.1	3	14	9	8
1937	43.9	94	1	0.40	0.92	1.08	0.80	0.2	4	12	9	10
Period	43.7	98	−18	1.27	0.97	0.83	1.02	1.4	4	14	8	9

Climatological Data for October 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Idso.
Cavalier	Pembina	894	27	41.4	.....	78	4	14	15	38	0.36	−1.05	0.36	0	1	13	4	14	n.	Burke Bechtel.
Cooperstown	Griggs	1,428	40	41.0	−2.4	83	3	10	22	43	0.55	−0.57	0.30	0	5	20	6	5	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	42.6	+0.2	83	3	16	14	38	0.37	−0.88	0.26	T.	6	7	10	14	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	45.2	−0.1	81	2	10	14†	51	0.30	−0.79	0.16	0	3	6	21	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	13	39.8^{h}	−2.4	83^{h}	3	11^{h}	14	37^{h}	0.75	−0.13	0.62	T.	5	.....	.....	.....	.....	A. G. Braund.
Ellendale	Dickey	1,457	42	45.8	+0.2	84	3	11	14	44	0.46	−0.65	0.18	0	4	12	7	12	nw.	J. E. Demmer.
Fargo	Cass	895	1	43.6	.....	86	3	11	14	47	0.03	.....	0.03	0	1	4	17	10	se.	W. B. Aerological Sta.
Forman	Sargent	1,249	44	43.7	−2.4	86	3	9	14	47	0.07	−1.38	0.07	0	1	13	9	9	nw.	Helge Dyste.
Fullerton	Dickey	1,439	39	45.8	+1.0	87	3	10	14	45	0.52	−0.91	0.41	0	3	6	15	10	nw.	F. O. Alin.
Grafton	Walsh	827	45	44.1	+2.0	84	3	15	15	41	0.28	−0.94	0.28	T.	1	5	12	14	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	42.0	−1.6	87	3	16	12†	41	0.19	−1.21	0.11	0	4	6	11	14	nw.	H. E. Simpson.
Hankinson	Richland	1,068	8	43.9	.....	86	3	13	13	52	T.	.....	T	0	0	23	2	6	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	45	40.2	−0.4	78	3	12	14	42	1.79	+0.65	1.45	T.	4	9	10	12	nw.	James Muir.
Hillsboro	Traill	901	31	42.7	−2.5	80	3	13	14	42	0.14	−1.33	0.12	0	2	12	8	11	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	44.9	+0.4	81	4	13	14	45	0.66	−0.62	0.53	T.	3	15	11	5	nw.	S. Calvelage.
Langdon	Cavalier	1,615	41	41.1	+0.2	81	3	12	14	41	0.78	−0.36	0.52	0	5	8	8	15	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	43.4	−0.5	83	3	10	14	39	0.16	−1.40	0.08	0	2	14	4	13	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	33	46.0	+2.2	88	3	8	14	48	0.09	.....	0.09	0	1	8	10	13	nw.	J. O. Halverson.
McHenry	Eddy	1,509	15	42.4	−0.5	85	3	9	14	46	1.36	+0.37	1.12	0	4	7	12	12	nw.	C. E. Blasky.
McLeod	Ransom	1,075	26	45.7	−0.5	88	3	7	14	47	T.	−1.48	T.	T.	0	18	6	7	n.	J. G. Carlson.
Mayville	Traill	975	41	42.6	−3.3	83	3	11	14	45	0.18	−1.16	0.18	0	1	5	9	17	nw.	H. B. Addicott.
Oakes	Dickey	1,318	8	43.4	.....	86	3	6	14	44	0.15	.....	0.05	0	5	14	8	9	s.	S. F. Rossman.
Park River	Walsh	998	33	43.2	−0.6	84	3	12	15	42	0.68	−0.60	0.56	T.	5	8	8	15	nw.	E. J. Taintor.
Pembina	Pembina	789	63	41.3	−0.1	76	4	18	15	37	0.42	−0.89	0.30	0	3	15	4	12	nw.	E. N. Russell.
Sharon	Steele	1,516	13	42.2	−0.7	86	3	13	14	44	0.32	−1.74	0.19	0	4	8	10	13	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	44.9	+0.3	85	3	10	14	48	0.25	−0.93	0.23	0	2	10	11	10	se.	I. C. Robertson.
Wahpeton	Richland	962	45	45.4	−1.2	86	3	9	14	44	0.14	−1.43	0.09	T	3	13	5	13	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	44.1	−0.4	86	3	16	14	40	0.11	−1.58	0.09	T.	2	5	12	14	s.	U. S. Weather Bureau.
Average for Eastern Division		.....	.....	43.0	−0.9	88	3	7	14	52	0.40	−0.87	1.45	T	3	11	9	11	nw.	.....
Middle Division																				
Ashley	McIntosh	2,001	41	44.4	+0.3	87	3	1	14	47	0.11	−1.05	0.09	0	2	14	9	8	nw.	R. C. Miles.
Bisbee	Towner	1,601	1	41.2	.....	74	28	14	14	39	1.50	.....	1.03	0	5	13	9	9	n.	I. K. Lund.
Bismarck	Burleigh	1,670	63	46.2	+1.3	86	3	15	14	43	0.49	−0.45	0.40	T.	3	11	12	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	41.2	+0.2	78	29	14	22	39	0.94	−0.14	0.61	T	4	8	9	14	nw.	N. D. School of Forestry
Carrington	Foster	1,579	39	42.2	−1.6	85	3	12	13	48	0.56	−0.42	0.38	0	2	14	1	16	nw.	L. A. Swanson.
Carson	Grant	2,500	25	47.5	+4.2	89	3	14	14	43	0.57	−0.40	0.43	0	3	12	10	9	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	44.2	+0.1	82	3	14	14	40	0.90	−0.23	0.48	T	4	10	9	12	nw.	R. L. Williams.
Drake	McHenry	1,634	8	42.8	.....	86	3	16	14	47	0.64	.....	0.31	0	6	9	10	12	nw.	Peter Anton.
Dunseith	Rolette	1,682	41	38.5	−2.9	73	29	15	14	32	0.85	−0.10	0.69	T.	7	8	14	9	n.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	42.8	+1.0	85	28	12	14	51	1.11	+0.18	0.63	1.0	6	7	16	8	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	45.6	+1.6	88	3	13	15	46	0.96	+0.02	0.40	0	4	10	15	6	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	25	43.0	0.0	87	3	11	14	49	0.91	−0.18	0.56	0	6	10	6	15	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	47.4	+1.0	82	3	7	14	44	0.38	−0.74	0.38	0	1	11	13	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	42.7	+1.0	79	28	16	14	39	1.02	−0.08	0.82	0.5	5	7	12	12	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	7	43.5	.....	83	4	9	14	36	0.96	.....	0.73	0	4	9	3	19	nw.	A. H. Haut.
Garrison	McLean	1,901	60	44.0	+1.3	86	3	16	14	43	1.19	+0.25	0.75	0	9	15	5	11	nw.	E. L. Vorachek.
Granville	McHenry	1,504	30	44.5	+1.2	83	3	15	14	46	1.04	+0.11	0.59	3.5	6	11	10	10	nw.	W. A. Christianson.
Hansboro	Towner	1,597	29	42.0	+1.3	75	3	15	14	38	3.15	+2.04	2.50	0	4	13	10	8	nw.	C. E. Blackorby.
Linton	Emmons	1,711	20	45.3	+0.6	86	3	3	14	52	0.29	−0.82	0.22	0	3	11	14	6	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	43.8	+1.5	85	3	14	14	40	0.99	−0.04	0.28	0	7	14	11	6	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	43.0	+0.1	83	3	13	22	44	1.18	+0.09	1.05	0	4	11	7	13	nw.	A. T. Felland.
Mandan	Morton	1,750	23	45.5	+1.5	86	3	12	14	45	0.43	−0.56	0.34	0	3	9	12	10	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	42.3	.....	82	3	15	14	44	1.30	.....	0.90	0	5	13	5	13	.....	A. W. Rice.
Minot	Ward	1,557	41	44.3	+1.0	81	3	11	14	42	1.54	+0.53	1.04	0	7	2	14	15	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	42.4	+0.7	80	26	13	12†	45	2.26	+1.09	1.35	0	8	7	15	9	nw.	John Behan.
Napoleon	Logan	1,955	45	44.0	+0.3	85	3	4	14	48	0.28	−0.82	0.15	0	6	17	3	11	nw.	C. J. Hoof.
New Salem	Morton	2,163	33	43.1	−1.7	89	3	3	16	47	0.47	−0.49	0.19	0	5	15	11	5	nw.	J. Christianson.
Pettibone	Kidder	1,856	28	42.4	+0.6	84	3	9	14†	46	0.21	−0.72	0.10	0	3	5	13	13	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	43.6	−0.2	86	3	9	14	46	0.36	−0.81	0.29	0	3	14	6	11	nw.	R. S. Armstrong.
Towner	McHenry	1,482	35	43.4	0.0	84	3	14	14	47	0.73	−0.26	0.49	1.0	5	15	7	9	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	44.0	+0.7	84	3	17	14	47	0.81	−0.10	0.40	0	6	21	2	8	nw.	Albert H. Slettum.
Velva	McHenry	1,511	10	44.7	.....	82	3	15	14	43	1.16	+0.11	0.67	T.	4	4	13	14	nw.	Oscar Anderson.
Washburn	McLean	1,731	36	45.0	+0.5	85	3	16	14	42	0.61	−0.44	0.35	0	4	18	3	10	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	42.6	+0.5	79	28	13	14	43	1.60	+0.74	0.92	T.	7	13	9	9	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	45	41.4	0.0	80	3	9	14	41	0.43	−0.45	0.33	0	3	11	12	8	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	42.7^{e}	−1.2	94	3	6	14	53	0.72	−0.06	0.45	0	3	.....	.....	.....	.....	E. W. Davis.
Average for Middle Division		.....	.....	43.5	+0.3	94	3	1	14	53	0.92	−0.05	2.50	0.2	5	11	10	10	nw.	.....
Western Division																				
Amidon	Slope	.....	31	47.2	+3.6	93	3	18	14	43	0.40	−0.74	0.23	0	6	19	5	7	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	15	46.3	+2.7	84	3	20	14	39	0.88	−0.06	0.52	T.	3	11	12	8	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	45.0	+0.4	88	3	15	14	47	0.99	+0.10	0.55	0	4	13	4	14	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Larsen.
Crosby	Divide	1,954	29	41.6	−0.2	70	22†	20	13†	47	2.01	+1.17	1.82	0	4	8	5	18	w.	J. H. Phelps.
Dickinson	Stark	2,543	45	45.0	+1.4	90	3	18	14	49	0.37	−0.61	0.14	0.5	6	11	14	6	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	46.3	+1.9	88	3	16	14	45	0.72	−0.19	0.54	0	4	9	15	7	nw.	W. F. Moede.
Epping	Williams	2,224	27	44.6	+1.2	79	29	18	13	35	1.63	+0.84	1.10	0	5	11	13	7	nw.	T. Beachler.
Fryburg	Billings	2,790	19	46.4	.....	86	3	19	14	45	0.91	−0.14	0.44	1.0	7	16	8	7	nw.	Verne King.
Hettinger	Adams	2,675	30	48.4	+2.8	89	5	16	14	47	0.05	−0.72	0.05	0	1	.....	.....	.....	.....	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	41.4	−0.2	80	28	9	18	45	2.54	+1.75	1.65	1.8	5	14	11	6	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	44.0	.....	78	28	20	14	36	2.02	+0.96	1.82	2.0	7	12	13	6	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	47.2	+1.7	86	3	23	14	45	0.39	−0.46	0.17	T.	5	13	9	9	nw.	S. P. Grane.
Mott	Hettinger	2,424	30	47.8	+4.5	89	3	15	14	44	0.18	−0.76	0.09	0	5	14	8	9	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	46.8	+3.4	89	3	17	13	47	0.27	−0.57	0.17	T.	3	13	10	8	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	44.4	.....	81	3	14	14	47	1.20	+0.39	0.77	0	8	12	11	8	nw.	C. E. Shubert.
Portal	Burke	1,954	32	41.2	−0.2	67	23†	16	14	36	2.12	+1.23	1.37	2.0	5	13	7	11	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	32	44.2	+0.3	80	28	13	13	28	0.46	−0.76	0.19	0	5	12	12	7	se.	Geo. B. Gee.
Richardton	Stark	2,467	21	47.4	+4.0	88	3	16	14	40	0.39	−0.49	0.16	0	3	11	14	6	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	44.3	+1.1	81	3	18	14†	46	1.28	+0.66	0.76	0	6	9	7	15	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	24	46.8	+3.9	81	3†	22	14	39	2.13	+1.26	1.48	0	5	13	11	7	nw.	J. C. Zeller.
Williston	Williams	1,878	58	45.9	+2.5	80	28	22	13	36	1.61	+0.75	1.46	T.	5	13	9	9	se.	U. S. Weather Bureau.
Average for Western Division		.....	.....	45.3	+1.8	93	3	9	18	49	1.08	+0.25	1.82	0.3	5	13	9	9	nw.	.....
Average for the State		.....	.....	43.9	+0.2	94	3	1	14	53	0.80	−0.22	2.50	0.2	4	12	9	10	nw.	.....

Notes explanatory of symbols used in this table printed on last page.

Daily Precipitation for October 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red								T.																								T.
Cavalier	do					.36																											0.36
Cooperstown	Sheyenne	.02		T		.18	T.	.03	.30	.02								T.						T.									0.55
Courtenay	James				T.	.45	.02		.10					T.						T.				T									0.57
Devils Lake ***	Devils Lake	T.	T.	.01	.16	.11	.06		.02	T.		T.					T.	T.	.01	T.	T	T.											0.37
Edgeley	James							.13		.16							.01																0.30
Edmore	Devils Lake		T.	.01	T.	.62	T.		.04	.04	.04	T.		T.				T.	T.		T.	T.											0.75
Ellendale	James					.15			.09	.04	.18																						0.46
Fargo		T.	T.	T		T	T.		.03	T.				T.			T.	T.		T		T.		T.									0.03
Forman	Sheyenne	T.	T.	T.					.07	T.	T.							T.	T.														0.07
Fullerton	James	T.	T.	T.	.04	T			T.	.41		.07						T.		T.													0.52
Grafton	Red					.28								T					T.														0.28
Grand Forks ***	do		T.	T.	.11	.06			.01									.01			T.						T.						0.19
Hankinson ||||	do	T.	T.						T.																								T.
Hannah	Pembina			T.	.22	1.45	.05					T						T.	T.		T.						.07						1.79
Hillsboro	Red		T.				.02		.12										T.														0.14
Jamestown	James				.53				.09			.04		T.																			0.66
Langdon ||||	Pembina			.04		.52	.18		.03			.01									T.												0.78
Larimore	Red					.08			.08																								0.16
Lisbon	Sheyenne	T.	T.			T.	T.		.09			T.					T.	T.	T.			T.		T.									0.09
McHenry	James		T		1.12	.04	.02	.18										T.		T.		T.											1.36
McLeod	Sheyenne																T.					T.											T.
Mayville	Red	T.	T.			T.	.18		T.		T.			T.				T.	T.	T.	T.												0.18
Oakes	James	T.				.04			.02	.05	.03								.01														0.15
Park River	Red		.03		.56	.05		.02		.02	T.							T.		T.													0.68
Pembina	do					.30	.07												.05														0.42
Petersburg	do					.40	.07		.06	.03									T.		T.												0.56
Sharon	do	T.	T.		T.	.19	.01		.10	T.	.02							T.	T	T.	T.	T.											0.32
Valley City	Sheyenne			T		.23	T.			.02								T.															0.25
Wahpeton	Red	T.							.09		T.						T	.02	.03	T.	T.												0.14
Moorhead, Minn. ***	do	T.	T.	T.	T.	T.	T.		.09	T.	T.			T			T.	.02	T.	T.	T.	T.		T.			T.						0.11
Middle Division																																	
Ashley	Missouri								.09	T.		T	.02																				0.11
Bisbee	Devils Lake			.19	.22	1.03			.04									T.	.02														1.50
Bismarck ***	Missouri	T.	T.		.36	.04		T.	.09	T.		T.						T.		T.			T.										0.49
Bottineau	Mouse	T		.01		.61	.21		.11									T.	T.	T.	T.												0.94
Carrington ||||	James				.38	T.		.18																									0.56
Carson	Heart				.43	.07				.07																							0.57
Dogden Butte	Mouse	T.			.09	.48			.23	T.	.10	T.						T.		T.													0.90
Drake ||||	do	T.	T	T.	T	.31	.12		.16		.02	T.							.02	.01													0.64
Dunseith	do			.01		.69	.06			.01	.01							T.	.03	.04													0.85
Eckman	do			.02	.37	.63					.02							.04	.03	T.													1.11
Energy	Missouri	T.			.36	.40		.10				.10																					0.96
Fessenden ||||	James		.01			.56	.06		.24			.02						T.	.02	T.													0.91
Fort Yates	Missouri				.38	T.																											0.38
Foxholm (near)	Mouse	.01	T.		.11	.82			T	.05								.03	T.				T.										1.02
Gackle	James			.01		.73				.02	.20																						0.96
Garrison ||||	Missouri	.02	.02	.01		.75	.11	.07	.12		.08								.01														1.19
Granville	Mouse	T.	T.		.35	.59	.03		.02	T.	.03							.02	T.	T.													1.04
Hansboro	Devils Lake				.37	2.50	.03		.25																								3.15
Linton	Missouri					.22			.05			T.	.02							T.													0.29
McClusky	do				.28	.15	.16		.09	.15	.10							.06															0.99
Maddock	Sheyenne				.04	1.05	.02	.07						T.				T.	T.														1.18
Mandan ||||	Missouri	T.	T.		.34	.01	T.	.08	T.	T.		T.						T.	T.	T.			T.										0.43
Manfred	James			.01	.20	.80	.04		.22									.03	T.														1.30
Max ||||	Missouri	.04				.90	.12		.16			.08																					1.30
Minot	Mouse	.01	.02			1.04	.29		.09		.03								.06														1.54
Mohall	do	.35	.06	.05	.15	1.35	T.		.01	T.	.24					T.	.05																2.26
Napoleon ||||	Missouri		.01			.15		.03	.05	.01	.03																						0.28
New Salem	Heart	.01			.18	.19			.03	.06																	T.						0.47
Pettibone	James					.09			.10	.02																							0.21
Rolla				.01	.26	1.32	T.			T.	.01	T.						.05	.05	T.													1.66
Rugby (near)	Mouse	T.		T	.02	.44	.42	T.										T.	.05														0.93
Ryder	Missouri	.02			.58	.13	.14			.18							T.																1.05
Selfridge	do				.30	.04			.10			T.																					0.44
Steele	do					.29	.03		.04	T.																							0.36
Tagus	Mouse	.01			.04	1.06		T.	.08	T.		T.						.02															1.21
Towner	do				.03	.49	.15			T									.05	.01													0.73
Turtle Lake	Missouri		T.		.07	.40	.02		.15	.15	.02							T															0.81
Tuttle	do	T.			.80	.09			.05	.09	.04																						1.07
Velva	Mouse	T.			.27	.67	T.		.16	T.	T							.06	T.														1.16
Washburn ||||	Missouri	T.			T.	.35	.09		.11		.06																						0.61
Westhope	Mouse	.02		.04	.52	.92	.02		.04									T.	.04														1.60
Willow City	do				.07	.33													.03														0.43
Wishek ||||	Missouri					.45			.15			.12																					0.72
Zap	Knife				T.		.65	.12																									0.77
Western Division																																	
Alpha	Lit. Missouri				T.	.13						T.	.06								.14					.03							0.36
Amidon	do				T.	.23			.04				.01						T.		.08	.03	T.			.01		T.					0.40
Beach	do				.07	.52						T.	T.								.29												0.88
Berthold Agency	Missouri				.27	.55	.10		.07			T.																					0.99
Bowman	Graud																																....
Corinth	Missouri	T.			.03	1.64		T.	.02		.10	T.											T.										1.79
Crosby	Mouse			T.	.08	1.82				.09	.02																						2.01
Dickinson ||||	Heart	T.	T.		T	.14	.13		.02	.01	T		.03					T.	T.	.04				T.									0.37
Dunn Center	Knife				.08	.54			.08	.02																							0.72
Epping	Missouri				.30	1.10			.12	.03	.08																						1.63
Fairfield		T				.45			T.	.10	T.								T.							.01						T.	0.56
Fryburg	Heart	T.			.18	.44			.07	.14		T.	.03						.04			T.				.01							0.91
Hettinger	Grand					.05																											0.05
Howard (near)	Missouri	.18			17	1.65	T.	T	T.	.28	.26	T.							T													T.	2.54
Kenmare	Mouse	.01		.01	.03	1.82			.02	.06	T.							.07	T	T.													2.02
Marmarth	Lit. Missouri				.01	.13			T.			T.						.03	T.		.17					.05							0.39
Mary	do				.57	.02	T		.05	.20		T.																			T		0.84
Medora					.06	.35			.02	.10		T.						T.	T.	.04	.02	.02											0.61
Mott	Cannon Ball				.05	.09			.02	.01									.01														0.18
New England ||||	do					.17		.03				T.							.07														0.27
Parshall	Missouri	T.		.02	.08	.77	.10		.13	.02	.06							.02															1.20
Portal ||||	Mouse				.03	1.37	.45				.26							.01															2.12
Powers Lake	Missouri	.03		.05		.19			.06									.13															0.46
Richardton	Heart			T.	.09	.16				.14		T																					0.39
Sanish ||||	Missouri	.03				.76	.27		.13	.01	.08																						1.28
Tioga	do	.02	T.	T.	T.	1.40	.11	.11																									1.64
Trotters	Lit. Missouri				.06	.69			.02	.14												.08				.02							1.01
Watford City	Missouri				.42	1.48			.10	.06	.07																						2.13
Williston ***	do	T.		T.	.60	.87		.07		.06		.01						T	T.			T.	T.			T.							1.61

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || ||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum..	72	74	60	57	56	55	54	52	50	55	40	40	36	38	34	32	33	34	36	34	33	34	36	40	42	44	42	44	55	60	60	46.2
	Minimum ...	42	40	34	34	33	34	36	34	33	32	30	18	16	14	12	10	12	14	12	16	14	12	18	20	30	32	33	34	36	40	41	26.3
Devils Lake	Maximum..	44	50	83	78	51	44	46	54	54	58	52	35	35	40	48	38	44	47	47	40	35	43	63	68	59	55	64	76	63	47	55	52.1
	Minimum ..	39	43	48	51	35	31	29	37	39	38	27	25	20	16	23	24	34	38	36	34	18	17	35	30	38	35	37	37	38	32	38	33.0
Edgeley	Maximum...	46	81	80	70	63	53	59	67	66	67	60	42	32	40	44	40	56	51	52	51	42	54	65	76	67	67	77	80	76	64	53	59.4
	Minimum ...	38	44	63	51	36	26	32	36	33	33	32	25	13	10	14	30	30	32	36	27	31	10	25	28	28	30	26	36	53	30	26	31.1
Fullerton	Maximum...	48	57	87	80	70	49	53	60	66	68	68	43	36	41	45	40	43	58	56	43	38	45	63	71	62	58	68	80	76	54	61	57.6
	Minimum ...	39	35	47	62	42	34	29	39	35	46	34	27	15	10	18	32	35	35	36	29	26	11	33	29	49	38	26	35	52	37	35	33.9
Grafton	Maximum...	47	51	84	79	70	47	49	50	53	59	56	39	39	41	49	46	45	53	47	45	41	42	64	59	59	56	69	74	71	62	54	54.8
	Minimum ...	41	43	43	59	42	34	31	36	37	35	38	24	23	20	15	10	35	33	38	36	25	25	30	23	37	35	30	34	53	30	31	33.4
Grand Forks	Maximum...	48	50	87	75	61	48	50	50	52	62	55	36	35	41	48	41	46	53	45	43	36	38	61	56	54	55	66	72	64	48	55	52.6
	Minimum ...	40	42	46	61	39	32	27	33	33	36	30	16	16	16	17	26	35	32	38	36	28	24	22	25	34	27	27	33	40	28	38	31.5
Hillsboro	Maximum...	48	65	80	70	68	48	46	50	50	61	52	41	37	39	39	37	48	52	49	40	40	37	60	59	55	52	61	77	67	60	52	52.9
	Minimum ...	38	42	44	44	45	34	30	36	37	36	32	20	19	13	14	30	37	30	35	36	27	25	25	26	30	35	27	35	52	37	37	32.5
Jamestown §	Maximum...	50	50	80	81	49	47	52	59	67	65	62	39	37	42	47	40	44	55	54	42	39	47	64	75	61	56	71	79	71	52	60	56.0
	Minimum ...	39	42	48	46	38	34	29	38	42	35	34	25	19	13	23	28	35	35	38	32	24	15	35	30	47	39	28	35	51	37	35	33.8
Langdon §	Maximum...	52	55	81	66	60	62	66	58	54	61	56	36	39	42	45	38	42	43	45	37	33	36	56	59	58	57	62	74	62	53	52	52.9
	Minimum ...	32	34	40	48	47	31	25	25	33	37	35	23	17	12	14	22	23	33	34	32	25	20	23	29	38	32	33	34	37	20	20	29.3
Larimore	Maximum...	45	51	83	76	67	48	49	53	50	65	54	39	37	40	47	40	44	53	48	44	40	41	63	57	60	55	66	72	64	52	54	53.5
	Minimum ...	40	43	47	58	42	32	27	35	37	41	35	17	18	10	15	22	35	35	37	35	27	25	32	24	41	37	27	36	55	30	36	33.3
Lisbon §	Maximum...	55	51	88	80	70	48	55	62	70	70	69	44	38	46	51	43	47	58	53	46	42	42	61	69	64	61	69	80	76	60	61	59.0
	Minimum ...	41	45	50	59	43	35	30	35	38	31	34	22	15	8	16	31	35	32	40	35	30	13	31	25	43	35	21	32	48	35	39	33.1
Oakes	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Sharon	Maximum...	43	47	86	76	63	45	49	50	56	66	52	36	37	39	47	37	41	50	49	40	36	40	62	61	61	57	68	78	64	45	51	52.6
	Minimum ...	38	42	45	57	36	31	26	33	36	38	32	19	16	13	16	23	32	34	36	33	25	17	33	28	37	32	33	34	42	34	36	31.8
Valley City	Maximum...	50	49	85	83	72	47	52	57	69	65	62	44	36	42	48	39	44	53	53	49	42	42	61	65	62	57	70	76	71	68	55	57.0
	Minimum ...	39	43	48	60	43	35	30	35	39	33	35	23	17	10	19	26	34	36	38	36	29	14	34	25	43	37	22	31	31	33	39	32.8
Wahpeton	Maximum...	53	53	86	80	69	48	54	52	67	70	71	47	48	44	49	45	46	55	54	48	43	40	58	57	55	59	67	77	76	63	58	57.8
	Minimum ...	43	44	48	57	45	34	28	35	37	32	33	21	14	9	20	34	35	33	39	33	29	25	19	26	39	31	24	33	50	31	38	32.9
Moorhead, Minn.	Maximum...	50	52	86	71	64	48	50	54	60	66	64	37	35	40	48	39	47	53	48	43	38	37	58	56	52	56	67	74	69	46	56	53.7
	Minimum ...	40	45	51	60	41	34	32	36	41	41	30	22	19	16	21	30	37	36	39	37	28	23	20	29	40	37	27	36	46	38	39	34.5
Middle Division																																	
Ashley	Maximum...	48	58	87	78	68	50	55	59	64	67	67	41	36	39	40	37	47	56	55	49	38	51	64	74	70	57	68	79	74	63	59	58.0
	Minimum ...	36	32	49	57	35	32	23	36	38	37	30	18	11	1	24	25	30	35	36	26	30	10	25	27	48	38	28	33	48	35	25	30.9
Bismarck	Maximum...	51	62	86	72	52	46	54	61	66	63	60	38	36	42	41	37	64	55	56	46	43	51	67	74	60	57	74	82	70	46	60	57.2
	Minimum ...	40	39	54	52	38	38	28	43	43	39	31	22	17	15	29	33	37	40	40	30	24	19	29	33	47	41	37	39	40	39	36	35.2
Bottineau	Maximum...	43	45	51	75	54	42	45	46	61	58	57	49	33	37	40	45	42	43	43	48	39	39	42	65	67	60	55	63	78	61	48	50.8
	Minimum ...	30	38	45	50	40	29	25	37	39	36	34	16	18	16	25	24	33	39	30	37	28	14	23	37	36	32	33	35	45	22	32	31.5
Carson	Maximum...	50	66	89	81	71	60	62	62	68	66	65	50	41	42	38	36	65	56	57	51	47	54	70	63	64	57	77	82	73	61	62	60.8
	Minimum ...	40	40	50	50	34	36	25	43	44	37	34	22	22	14	30	28	32	35	35	23	25	17	32	45	46	32	34	43	44	35	33	34.2
Fessenden §	Maximum...	45	53	87	77	48	46	50	55	65	60	55	37	31	44	50	39	50	51	51	40	36	41	64	72	60	56	69	80	64	68	58	54.9
	Minimum ..	38	38	44	53	43	32	26	29	41	37	33	25	18	11	13	20	30	34	36	27	30	13	15	30	33	37	31	35	40	35	84	31.2
Foxholm (near)	Maximum...	42	55	69	54	48	44	47	62	63	51	49	34	35	39	41	39	62	51	52	44	42	51	67	69	61	55	65	79	68	54	57	53.2
	Minimum ...	35	38	48	46	30	34	26	36	42	39	33	22	18	16	18	21	33	38	35	25	22	20	30	37	39	35	36	40	47	30	29	32.2
Garrison §	Maximum...	45	62	86	56	41	45	52	62	64	60	54	38	38	40	42	37	65	54	55	44	44	51	68	72	60	58	68	80	64	44	59	55.1
	Minimum ...	39	37	49	39	40	36	28	40	41	41	34	25	20	16	23	23	28	36	36	28	30	21	30	29	32	37	32	38	38	38	35	32.9
Granville	Maximum...	45	55	83	61	53	45	49	62	63	56	52	42	37	42	45	41	62	50	52	43	45	50	69	70	62	58	65	81	68	48	60	55.3
	Minimum ...	39	40	50	51	34	35	28	40	40	40	34	23	22	15	22	23	36	40	48	25	30	18	25	33	41	37	34	35	48	34	35	34.0
Hansboro	Maximum...	43	51	75	66	66	45	50	59	53	50	58	30	36	41	48	40	42	45	44	48	37	56	63	66	58	65	72	68	67	54	53	53.2
	Minimum ...	38	38	45	45	35	30	27	38	36	35	28	20	18	15	17	18	18	32	35	35	22	18	30	31	39	31	35	47	45	28	22	30.8
Linton	Maximum...	53	59	86	82	62	48	56	61	63	61	67	40	36	41	41	39	57	52	53	47	43	49	65	73	70	58	74	82	75	62	67	58.8
	Minimum ...	39	38	54	59	35	35	20	41	33	29	29	24	15	3	31	30	32	39	36	26	30	6	24	23	50	38	31	30	38	32	35	31.8
McClusky	Maximum...	42	54	85	68	50	42	47	61	58	59	54	38	35	40	42	47	55	50	52	42	38	46	65	69	58	54	67	78	78	53	57	54.3
	Minimum ..	38	38	50	50	34	35	26	37	39	38	32	31	18	14	20	29	35	37	35	25	25	15	25	37	44	35	35	40	48	35	34	33.4
Maddock	Maximum...	43	50	83	78	54	46	47	56	60	60	53	39	36	41	47	43	47	47	51	48	39	44	63	69	56	58	64	78	75	56	58	54.5
	Minimum ...	37	38	45	48	34	32	28	33	40	35	34	22	20	14	23	21	34	36	33	28	28	13	27	27	35	36	28	34	52	31	32	31.5
Minot	Maximum...	44	57	81	52	40	44	47	63	64	55	51	36	36	42	45	40	65	52	53	40	42	50	68	70	61	57	65	80	62	43	58	53.6
	Minimum ...	40	41	51	52	38	37	25	42	42	42	37	27	23	11	24	22	36	40	37	29	29	18	27	29	45	41	38	38	52	37	35	35.0
Mohall	Maximum...	42	53	58	51	38	45	47	63	63	53	52	48	40	39	62	50	52	40	49	50	70	68	64	56	66	80	72	50	52	50	58	54.2
	Minimum ...	34	33	48	29	29	33	24	46	39	40	20	13	13	18	27	39	36	36	24	18	27	30	30	34	34	35	45	24	40	18	33	30.6
Napoleon §	Maximum...	48	57	85	83	45	48	55	62	63	65	66	39	36	41	42	38	54	57	56	43	40	50	64	74	62	58	71	81	73	47	61	56.9
	Minimum ...	38	34	53	45	42	35	23	38	39	34	28	23	9	4	24	30	33	34	37	22	29	7	25	28	47	35	31	33	47	25	29	31.0
New Salem	Maximum...	46	62	89	72	54	42	55	53	59	62	60	56	39	35	38	26	59	48	52	45	37	51	68	74	68	68	68	82	72	51	46	56.2
	Minimum ...	34	32	42	47	31	32	23	38	37	35	31	21	15	7	20	3	30	32	33	32	22	15	32	32	44	32	27	40	46	35	29	30.0
Steele	Maximum...	45	60	86	77	56	42	50	60	66	65	52	38	33	42	43	38	56	55	55	44	35	48	67	75	60	53	72	80	69	45	60	55.7
	Minimum ...	37	35	51	56	35	35	26	39	38	35	30	23	15	9	24	23	35	33	35	19	30	10	24	29	45	35	29	34	43	30	32	31.4
Towner	Maximum...	50	52	84	80	52	47	49	61	61	59	52	38	38	40	47	44	54	51	50	45	45	47	66	72	61	57	66	80	66	56	58	55.7
	Minimum ...	36	36	37	55	32	32	25	32	41	35	35	18	21	14	20	21	35	29	34	25	25	16	26	31	31	35	35	35	48	29	32	31.0
Westhope	Maximum...	43	53	67	57	49	47	48	63	62	58	53	37	39	42	43	40	52	52	53	41	43	46	69	70	61	59	65	79	64	52	57	53.7
	Minimum ...	38	38	37	48	32	32	25	39	40	37	33	26	19	13	21	21	31	37	35	26	29	17	27	31	36	34	35	36	46	21	35	31.5
Western Division																																	
Beach	Maximum...	62	74	84	69	48	46	62	62	64	62	58	38	39	44	40	41	62	52	55	47	48	46	69	71	62	59	73	73	67	55	62	57.9
	Minimum ...	32	43	45	46	30	34	30	46	39	40	35	26	26	20	25	32	30	29	39	34	29	25	35	37	44	34	38	45	42	32	35	34.7
Berthold Agency	Maximum...	48	62	88	60	50	45	53	62	65	60	55	40	38	42	42	40	65	55	58	46	48	60	68	72	58	55	72	85	75	62	64	57.8
	Minimum ...	38	37	44	48	32	35	23	38	50	35	30	25	20	15	23	23	35	40	38	24	22	18	28	25	35	36	36	45	35	33	32	32.2
Bowman	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Crosby §	Maximum...	45	59	56	52	46	47	49	62	60	52	47	30	35	40	40	38	60	50	52	38	40	70	70	63	58	55	57	56	58	53	59	50.2
	Minimum ...	33	33	49	45	41	30	27	35	42	38	28	24	20	20	20	25	32	38	36	35	31	27	32	36	44	35	37	33	30	30	35	32.9
Dickinson §	Maximum...	57	71	90	54	41	45	63	61	65	64	62	38	37	43	37	38	64	53	56	49	48	62	69	73	62	57	72	80	69	54	60	57.9
	Minimum ...	38	40	41	43	34	33	28	28	41	39	32	26	25	18	20	31	31	32	37	27	30	19	25	30	40	35	33	33	40	32	34	32.1
Dunn Center §	Maximum...	51	69	88	73	54	42	60	60	63	60	57	40	33	42	40	38	65	53	55	52	46	61	68	72	61	57	69	79	64	55	64	57.8
	Minimum ...	39	38	43	51	34	36	30	45	42	34	38	25	24	16	22	25	35	42	50	26	29	20	33	33	49	37	31	47	44	31	31	34.8
Hettinger	Maximum...	70	68	70	76	89	74	76	70	71	63	58	60	40	41	74	38	42	61	55	58	63	57	64	72	62	63	54	63	80	80	84	64.4
	Minimum ...	38	34	39	40	42	42	40	34	32	34	28	26	22	16	38	22	28	31	24	30	28	33	28	35	33	31	36	32	34	35	31	32.5
Kenmare	Maximum...	41	54	57	56	47	43	47	62	64	56	50	36	38	38	40	38	62	52	53	49	45	55	69	65	64	62	64	78	74	54	56	53.8
	Minimum ...	38	40	50	47	32	36	27	37	42	41	36	25	23	20	23	25	34	37	37	26	23	25	33	43	40	36	37	43	44	31	32	34.3
Marmarth	Maximum...	64	74	86	70	47	51	64	57	68	64	60	45	40	46	47	45	63	53	57	50	48	64	66	71	63	60	73	79	69	56	68	60.3
	Minimum ...	36	44	41	47	35	38	31	45	33	30	34	26	30	23	28	33	31	33	30	35	32	25	36	30	48	34	32	36	35	30	37	34.1
Mott	Maximum...	55	71	89	85	55	48	66	61	70	68	65	43	38	42	39	37	66	56	58	53	47	58	70	75	68	59	78	82	76	61	67	61.5
	Minimum ...	40	40	50	51	35	37	30	44	37	37	32	26	26	15	32	31	34	33	37	26	32	18	33	31	47	32	34	38	41	29	33	34.2
New England §	Maximum...	58	69	89	54	42	44	63	64	68	71	70	38	38	43	37	38	67	56	57	59	56	66	75	55	63	64	71	80	72	62	66	59.8
	Minimum ...	39	39	51	35	35	32	45	40	37	35	27	26	17	28	30	32	35	40	29	32	23	26	28	28	32	31	41	43	41	33	35	33.7
Watford City	Maximum...	53	68	81	64	48	42	56	63	64	59	52	42	41	44	40	40	63	53	56	49	50	66	71	72	63	60	67	81	67	52	62	57.7
	Minimum ...	39	41	47	48	33	34	29	43	44	39	37	26	23	22	25	26	32	36	39	29	30	27	36	39	46	39	39	44	48	36	39	36.0
Williston	Maximum...	50	65	74	53	47	43	55	61	62	55	50	35	34	43	41	40	60	53	55	48	48	66	69	72	63	58	67	80	62	47	59	55.3
	Minimum ...	39	43	51	43	34	36	35	43	47	41	29	26	22	24	28	29	34	38	34	30	31	30	35	40	46	38	40	45	42	38	40	36.5

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

NOTES EXPLANATORY FOR PAGE 38. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, [b] represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

[WBO, Minneapolis, 11-29-37—1500]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

UNIVERSITY OF ILLINOIS LIBRARY

NORTH DAKOTA SECTION

28

O. W. ROBERTS

Vol. XLVI   Bismarck, N. D., November 1937   No. 11

GENERAL SUMMARY

Temperatures and precipitation averaged below normal. The precipitation was well distributed geographically and throughout the month, but amounts were light at all stations, except a few in the northeastern section. Temperatures were considerably below normal from the 18th to the 21st and from the 27th to the 30th, but pleasant weather prevailed during the remainder of the month. High wind, accompanied by dust storms in many places, prevailed throughout the State on the 1st. Cattle shipments out of the State were rather heavy during the month and considerable hay and other feed had to be shipped into the west portion.

TEMPERATURE

The mean temperature for the State was 25.2°, or 1.4° below the 1892-1937 average for November. The mean for the eastern division was 25.0°; for the middle division, 24.2°; and for the western division, 26.5°. The highest mean temperature was 28.8° at Amidon, and the lowest, 19.6° at Dunseith, making a range in mean temperature of 9.2°. The absolute range in temperature was 98°, from 73° at Gackle on the 10th, to -25° at Willow City on the 20th. The average daily deficiency in temperature for the State since January 1, 1937, is 0.2°.

PRECIPITATION

The average precipitation for the State was 0.41 inch or 0.19 inch less than the 1892-1937 average for November. In the eastern division the average amount was 0.51 inch; in the middle division, 0.40 inch; and in the western division, 0.33 inch. The greatest monthly amount reported was 1.50 inches at Hansboro; the least a trace at Zap. The greatest amount recorded in any 24 consecutive hours was 1.05 inches at Towner on the 13th. The accumulated excess in precipitation since January 1, 1937, is 0.04 inches. The average snowfall was 3.5 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	1	2	..	1	4	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	5	8	9	6	..
Dust storms	7	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Fogs	..	..	..	..	..	..	2	4	2	4	1	3	..	3	..	4	1	..	3	8	2	2	6	8	10	4	..	..	..	1	..
Lunar halos	..	..	..	..	..	..	1	..	..	..	2	..	..	..	..	..	1	..	2	1	..	..	..	1	1	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	2	..	..	..	..	2	1	..	..	1	1	..	..	..	1	..	..	2	2	..	..	..
Sleet	2	..	..	..	..	..	..	..	..	..	..	2	1	1	..	..	..	..	..	..	1	..	..	..	1	6	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.09	30.62	25	29.28	12	9.4	34	nw.	1	75	63	69	42
Devils Lake	30.07	30.64	20	29.37	12	9.8	26	nw.	1†	90	75	79	46
Williston	30.09	30.61	19	29.42	12	8.9	32	nw.	27	80	66	70	41
Moorhead, Minn	30.06	30.60	21	29.32	12	9.9	26	nw.	1	86	70	76	46
Averages & ext's	30.08	30.64	20	29.28	12	9.5	34	nw.	1	83	68	74	44

† And other dates.

COMPARATIVE DATA FOR NOVEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	22.3	75	−26	0.80	0.95	0.61	0.79	7.4	4	8	9	13
1893	22.4	74	−27	0.72	0.75	0.24	0.57	4.6	3	9	10	11
1894	23.1	71	−25	0.44	0.54	0.43	0.47	2.6	4	10	8	12
1895	20.6	76	−25	1.18	1.01	1.08	1.09	8.2	5	8	9	13
1896	8.1	62	−32	2.06	2.47	2.17	2.23	21.7	9	8	7	15
1897	20.0	86	−28	0.27	0.33	0.36	0.32	2.8	3	12	9	9
1898	23.0	69	−30	0.42	0.30	0.30	0.34	3.1	3	13	8	9
1899	36.0	68	2	0.26	0.51	0.16	0.31	1.0	2	15	4	11
1900	20.4	64	−29	0.28	0.29	0.40	0.32	5.2	5	14	7	9
1901	26.8	70	− 7	0.10	0.09	0.19	0.13	1.6	1	15	8	7
1902	29.6	69	−12	0.25	0.11	0.36	0.24	1.9	3	11	6	13
1903	25.3	78	−20	0.27	0.22	0.28	0.26	2.5	2	13	4	13
1904	35.7	80	−10	0.10	0.09	0.07	0.09	0.7	1	18	5	7
1905	31.6	88	−38	1.66	1.54	0.89	1.36	11.0	9	7	13	10
1906	23.8	68	−16	1.90	1.34	1.23	1.49	10.2	7	10	7	13
1907	30.2	85	−15	0.08	0.10	0.05	0.08	0.7	1	16	8	6
1908	31.1	75	−15	1.10	0.91	0.80	0.94	8.2	4	12	8	10
1909	29.4	88	−23	0.68	0.31	0.44	0.48	4.6	3	11	9	10
1910	23.9	68	−23	0.34	0.44	0.43	0.40	3.2	2	8	10	12
1911	16.7	58	−33	0.70	0.60	0.63	0.64	7.1	6	12	8	10
1912	31.8	70	1	0.09	0.06	0.06	0.07	0.5	1	14	9	7
1913	34.1	77	− 2	0.21	0.23	0.21	0.22	1.6	2	15	8	7
1914	30.7	83	−30	0.45	0.31	0.23	0.33	2.6	2	13	10	7
1915	28.1	71	−10	0.81	0.83	1.21	0.95	3.7	4	10	10	10
1916	28.8	75	−13	0.10	0.25	0.46	0.27	1.7	2	16	8	6
1917	36.8	77	− 7	0.20	0.13	0.05	0.13	1.4	1	16	6	8
1918	28.9	71	−18	1.31	1.09	0.49	0.96	5.3	4	13	6	11
1919	15.6	57	−36	1.88	0.96	0.62	1.15	11.8	5	11	8	11
1920	28.0	65	−14	0.55	0.33	0.14	0.34	2.1	3	10	9	11
1921	21.0	69	−30	0.52	0.71	0.83	0.69	6.3	5	7	8	15
1922	31.8	65	− 8	2.97	2.26	1.50	2.24	6.3	6	7	7	16
1923	36.5	72	− 5	0.58	0.45	0.39	0.47	0.6	3	13	8	9
1924	27.6	69	−15	0.19	0.17	0.17	0.18	1.9	2	11	9	10
1925	28.8	69	−17	0.42	0.17	0.13	0.24	1.3	2	14	8	8
1926	21.5	68	−23	0.72	0.54	0.60	0.62	6.2	5	6	7	17
1927	20.7	59	−24	0.71	0.72	0.65	0.69	7.1	6	7	8	15
1928	31.0	70	−11	1.08	0.28	0.09	0.48	0.2	1	15	8	7
1929	24.8	70	−21	0.57	0.46	0.56	0.53	5.2	5	9	8	13
1930	29.4	72	−21	1.56	0.62	0.43	0.87	6.2	5	13	7	10
1931	30.3	78	−10	0.98	0.40	0.27	0.55	5.0	3	13	7	10
1932	25.2	70	−17	0.70	0.38	0.45	0.51	4.6	4	10	10	10
1933	28.3	78	−15	0.81	0.58	0.56	0.65	6.6	5	9	8	13
1934	33.9	73	− 1	0.51	0.22	0.10	0.28	1.0	3	13	7	10
1935	17.2	57	−25	0.70	0.79	0.69	0.73	8.1	6	8	8	14
1936	28.0	69	−28	0.37	0.33	0.31	0.34	4.0	4	13	8	9
1937	25.2	73	−25	0.51	0.40	0.33	0.41	3.5	4	10	7	13
Period	26.6	88	−38	0.72	0.58	0.49	0.60	4.6	4	11	8	11

Climatological Data for November 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	28.0	0.0	52	10	−15	21	28	0.30	−0.33	0.30	T	1	4	9	17	nw.	I. Idso.
Cavalier	Pembina	894	27	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Burke Bechtel.
Cooperstown	Griggs	1,428	40	22.0	−5.6	54	5†	−13	20	40	0.27	−0.41	0.09	2.0	7	13	1	16	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	22.2	−2.3	62	9	−10	28	36	0.41	−0.31	0.28	3.1	6	8	7	15	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	27.3	−2.5	67	6†	−13	21	43	0.23	−0.23	0.13	0.8	3	11	14	5	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	13	22.6	−2.2	63	9	−11	20†	38	0.36	−0.24	0.26	0.9	4	9	6	15	nw.	A. G. Braund.
Ellendale	Dickey	1,457	42	27.1	+1.0	67	6†	−15	21	42	0.36	−0.26	0.15	3.5	5	13	3	14	nw.	J. E. Demmer.
Fargo	Cass	895	1	25.6	....	65	6†	−15	21	46	0.31	....	0.10	1.0	7	5	16	9	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	44	27.0	−3.0	68	9	−12	21	46	0.14	−0.48	0.07	1.1	3	13	2	15	nw.	Helge Dyste.
Fullerton	Dickey	1,439	39	26.8	−2.4	68	6†	−13	21	45	0.64	−0.22	0.38	4.7	5	10	9	11	nw.	F. O. Alin.
Grafton	Walsh	827	45	26.0	+1.3	65	9	−13	21	42	0.89	+0.15	0.74	6.0	2	7	10	13	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	23.3	−2.7	65	9	−11	21	45	1.24	+0.42	0.95	7.5	7	7	8	15	nw.	H. E. Simpson.
Hankinson	Richland	1,068	8	26.6	....	72	9	−16	22	48	0.74	....	0.57	5.0	4	17	4	9	w.	Joseph Rindt.
Hannah	Cavalier	1,568	45	21.2	+0.9	58	9	−15	29	37	0.70	−0.05	0.55	7.0	3	7	9	14	nw.	James Muir.
Hillsboro	Traill	901	31	24.7	−3.1	55	9†	−12	21	37	0.59	−0.23	0.20	2.0	7	7	9	14	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	25.1	−2.2	65	9	−9	20†	46	0.68	0.00	0.20	7.0	6	11	10	9	nw.	S. Calvelage.
Langdon	Cavalier	1,615	41	21.4	−2.6	60	9†	−12	28	33	0.64	−0.18	0.47	1.4	5	6	12	13	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	24.0	−1.8	63	9	−12	21	45	0.42	−0.49	0.36	4.2	2	10	6	14	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	33	26.9	−2.0	69	9	−12	21	50	0.28	−0.38	0.10	2.0	5	11	3	16	nw.	J. O. Halverson.
McHenry	Eddy	1,509	15	22.2	−5.2	62	6†	−14	20	46	0.35	−0.27	0.11	2.2	7	9	7	14	nw.	C. E. Blasky.
McLeod	Ransom	1,075	26	27.8	−2.5	69	9	−13	21	45	0.43	−0.23	0.35	1.1	5	17	6	7	n.	J. G. Carlson.
Mayville	Traill	975	41	23.8	−4.4	62	9	−12	21	48	0.13	−0.56	0.08	1.0	2	8	11	11	n.	H. B. Addicott.
Oakes	Dickey	1,318	8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	S. F. Rossman.
Park River	Walsh	998	33	24.2	−3.6	61	9	−10	21†	39	0.36	−0.33	0.14	5.0	4	10	5	15	nw.	E. J. Taintor.
Pembina	Pembina	789	63	23.8	+0.5	63	9	−8	21†	36	0.85	+0.04	0.58	3.5	3	11	1	18	nw.	E. N. Russell.
Sharon	Steele	1,516	13	22.4	−2.1	64	9	−11	28	42	0.53	−0.34	0.38	4.8	6	8	7	15	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	27.4	−0.6	66	6	−13	21	49	0.52	−0.17	0.22	5.0	8	15	4	11	nw.	I. C. Robertson.
Wahpeton	Richland	962	45	28.4	−0.4	68	9	−11	21	48	0.57	−0.19	0.32	2.2	6	8	10	12	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	26.2	−0.9	66	6	−8	21	47	0.44	−0.46	0.18	2.8	8	6	4	20	nw.	U. S. Weather Bureau.
Average for Eastern Division		....	....	25.0	−1.7	72	9	−16	22	50	0.51	−0.21	0.95	3.7	5	10	7	13	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	41	26.3	−1.7	65	6†	−16	20	46	0.35	−0.27	0.10	6.0	6	13	4	13	nw.	R. C. Miles.
Bisbee	Towner	1,601	1	22.6	....	60	9	−11	21†	39	0.25	....	0.20	2.5	2	7	8	15	nw.	I. K. Lund.
Bismarck	Burleigh	1,670	63	26.8	−1.7	65	9	−5	20	41	0.41	−0.16	0.18	4.6	6	10	5	15	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	21.6	−2.0	55	11	−15	20	41	0.33	−0.16	0.10	2.0	6	7	11	12	nw.	N. D. School of Forestry
Carrington	Foster	1,579	39	22.4	−5.4	63	8	−12	20	44	0.62	+0.04	0.44	2.8	6	12	3	15	nw.	L. A. Swanson.
Carson	Grant	2,500	25	27.5	−2.5	67	11	−14	20	42	0.31	−0.26	0.12	2.0	4	10	5	15	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	25.0	−1.3	60	9	−17	20	38	0.34	−0.17	0.30	4.5	2	10	3	17	nw.	R. L. Williams.
Drake	McHenry	1,634	8	22.8	....	61	9	−12	20	39	0.54	....	0.35	4.7	4	4	10	16	nw.	Peter Anton.
Dunseith	Rolette	1,682	41	19.6	−4.8	58	10	−18	20	35	0.24	−0.31	0.08	3.0	5	9	10	11	nw.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	23.4	−2.4	60	9	−21	20	40	0.37	−0.10	0.14	4.0	7	8	13	9	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	26.6	−1.9	64	9	−14	20	44	0.27	−0.17	0.18	3.5	3	10	10	10	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	25	23.1	−4.0	63	6†	−16	20	42	0.49	−0.20	0.25	3.5	5	15	6	9	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	28.0	−1.8	65	9†	−15	20	44	0.16	−0.34	0.16	2.0	1	13	5	12	n.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	24.0	−1.1	60	11	−15	20	36	0.62	−0.05	0.37	4.8	4	9	6	15	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	7	24.7	....	73	10	−11	20	45	0.28	....	0.09	3.5	6	5	11	14	nw.	A. H. Haut.
Garrison	McLean	1,901	60	26.4	+0.1	63	10	−13	21	34	0.37	−0.08	0.11	3.0	6	12	6	12	nw.	E. L. Vorachek.
Granville	McHenry	1,504	30	25.4	−1.3	63	9	−17	20	42	0.27	−0.29	0.11	2.0	6	11	7	12	nw.	W. A. Christianson.
Hansboro	Towner	1,597	29	21.5	−2.0	69	9	−11	28	37	1.50	+0.91	0.75	6.0	3	18	2	10	nw.	C. E. Blackorby.
Linton	Emmons	1,711	20	25.4	−3.6	65	9	−18	20	54	0.46	−0.04	0.26	2.6	4	8	9	13	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	23.9	−1.6	60	9†	−14	21	30	0.11	−0.46	0.11	1.1	1	7	8	15	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	24.2	−2.4	63	5†	−19	20	38	0.21	−0.25	0.15	2.3	2	6	6	18	nw.	A. T. Felland.
Mandan	Morton	1,750	23	26.6	−2.6	65	9	−8	21	46	0.34	−0.17	0.16	1.4	5	7	6	17	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	24.0	....	62	12	−17	21	43	0.12	....	0.08	1.5	3	9	1	20	nw.	A. W. Rice.
Minot	Ward	1,557	41	26.0	−1.5	62	9†	−15	20	39	0.34	−0.33	0.12	2.6	6	8	6	16	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	22.8	−2.0	58	11	−18	20	39	0.31	−0.23	0.18	2.0	3	5	13	12	nw.	John Behan.
Napoleon	Logan	1,955	45	24.1	−2.6	66	9	−21	20	47	0.74	+0.17	0.30	6.2	5	17	2	11	nw.	C. J. Hoof.
New Salem	Morton	2,163	33	24.2	−5.6	65	11	−10	20	32	0.32	−0.17	0.13	2.0	6	11	6	13	nw.	J. Christianson.
Pettibone	Kidder	1,856	28	23.7	−2.7	62	9	−18	20	35	0.24	−0.34	0.15	4.5	4	4	6	20	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	23.2	−3.1	65	9	−20	20	48	0.30	−0.23	0.12	3.6	5	8	6	16	nw.	R. S. Armstrong.
Towner	McHenry	1,482	35	22.9	−2.3	63	9	−22	20	40	1.09	+0.57	1.05	8.0	2	10	5	15	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	25.3	−2.9	62	9†	−16	21	37	0.09	−0.33	0.05	1.0	2	14	0	16	nw.	Albert H. Slettum.
Velva	McHenry	1,511	10	25.3	....	63	9	−16	20	36	0.37	−0.09	0.32	4.5	3	6	6	18	nw.	Oscar Anderson.
Washburn	McLean	1,731	36	25.6	−4.7	65	9	−10	20	40	0.19	−0.27	0.09	2.0	3	11	6	13	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	22.8	−2.8	59	9	−19	20	41	0.54	+0.02	0.45	5.0	5	11	13	6	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	45	20.8	−1.8	56	11	−25	20	47	0.64	+0.08	0.40	4.6	3	8	7	15	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	26.2^{d}	−3.6	72^{d}	8	−14^{d}	20†	53^{d}	0.30	−0.05	0.09	3.2	5	....	....	....	nw.	E. W. Davis.
Average for Middle Division		....	....	24.2	−2.8	73	10	−25	20	54	0.40	−0.18	1.05	3.4	4	10	6	14	nw.	....
Western Division																				
Amidon	Slope	....	31	28.8	−2.1	66	10	−9	20	35	0.12	−0.35	0.07	0.9	4	11	6	13	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	15	27.9	−3.1	65	9	−11	20	38	0.18	−0.30	0.07	1.8	3	6	8	16	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	26.1	−2.4	63	11	−17	20	49	0.43	+0.06	0.25	9.0	4	14	0	16	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	George Larsen.
Crosby	Divide	1,954	29	24.8	−1.9	62	11	−12	20	40	0.14	−0.46	0.14	1.0	1	10	3	17	nw.	J. H. Phelps.
Dickinson	Stark	2,543	45	25.5	−2.8	66	11	−15	20	49	0.53	+0.06	0.22	4.5	8	4	7	19	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	27.4	−0.5	63	9†	−11	20	44	0.12	−0.34	0.10	1.0	2	8	6	16	nw.	W. F. Moede.
Epping	Williams	2,224	27	26.6	−1.3	61	10	−8	20	36	0.30	−0.14	0.14	5.0	3	14	7	9	nw.	T. Beachler.
Fryburg	Billings	2,790	19	27.6	....	63	10	−10	20	40	0.21	−0.28	0.10	2.6	4	8	7	15	nw.	Verne King.
Hettinger	Adams	2,675	30	26.6	−5.0	66	10	−18	19	50	0.34	−0.08	0.20	2.5	3	....	....	....	....	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	25.4	−0.9	70	11	−10	20	40	0.50	−0.05	0.35	5.1	2	14	8	8	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	25.9	....	64	11	−12	20	32	0.30	−0.25	0.22	2.0	5	14	12	4	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	28.3	−3.1	65	9†	−14	20	43	0.18	−0.21	0.04	1.9	5	8	6	16	nw.	S. P. Grane.
Mott	Hettinger	2,424	30	28.0	−1.2	68	9	−15	20	47	0.19	−0.29	0.10	2.0	3	10	7	13	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	26.6	−2.5	68	9	−13	19	43	0.18	−0.26	0.14	1.5	2	8	6	16	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	23.8	....	63	11	−19	20	44	0.31	−0.06	0.15	3.0	4	5	17	8	nw.	C. E. Shubert.
Portal	Burke	1,954	32	23.3	−2.1	64	11	−17	20	42	0.32	−0.23	0.20	3.0	3	13	5	12	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	32	25.8	+1.2	58	10	−10	20	31	0.24	−0.25	0.13	4.0	2	5	12	13	e.	Geo. B. Gee.
Richardton	Stark	2,467	21	27.8	−0.5	63	11	−7	20	38	0.40	−0.08	0.26	3.8	6	8	6	16	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	25.4	−3.4	63	11	−13	20	43	0.65	+0.18	0.17	4.0	4	8	6	16	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	24	28.2	−0.1	66	11	−8	20	38	0.74	+0.24	0.22	7.5	7	8	14	8	nw.	J. C. Zeller.
Williston	Williams	1,878	58	27.6	+0.4	62	9	−5	20	34	0.38	−0.20	0.17	3.2	0	9	8	13	nw.	U. S. Weather Bureau.
Average for Western Division		....	....	26.5	−1.9	70	11	−19	20	50	0.33	−0.16	0.40	3.3	4	10	7	13	nw.	....
Average for the State		....	....	25.2	−1.4	73	10	−25	20	54	0.41	−0.19	1.05	3.5	4	10	7	13	nw.	....

Notes explanatory of symbols used in this table printed on last page.

Daily Precipitation for November 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red													.30	T.			T.	T.	T.			T.						T.		T.		0.30
Cavalier	do																																
Cooperstown	Sheyenne	T.	T.						.04			T.		.09	T.	T.	.03	.05	T.	T.		.02	T.	.02		T.					.02		0.27
Courtenay	James	T.	T.						.05					.11	T.	.02	T.	.07	.05		T.		T.	.01			.09	T.		.01			0.41
Devils Lake ***	Devils Lake	.03							T.		T.		.13	.15	T.	T.	T.	.03	T.	T.			T.	T.		T.	.05				.02		0.41
Edgeley	James								.13					.05													.05						0.23
Edmore	Devils Lake													.26	T.	T.		.02	T.							T.	.07				.01		0.36
Ellendale	James	.08							.05					.15				.06	T.									.02			T.		0.36
Fargo	Red	.02	T.		T.			T	.10		T.	T.		.10	.04	T.	T.	.03	T.	T.	T.		T	T.		T.	.01	T.			.01		0.31
Forman	Sheyenne	T.							.05					.02				.07	T.	T.													0.14
Fullerton	James	.11							.06					.38		T.		.06	T				T.				.03	T.			T		0.64
Grafton	Red	T.												.74		T.		T.	T.								.15						0.89
Grand Forks ***	do	.17	T.										T.	.95	T.	.04		.01	T.	.01	T.		T.	.01			.05	T.					1.24
Hankinson ‖‖	do								.07					.57	.05		T.	.05					T.					T.					0.74
Hannah	Pembina	T.	T.											.55	T.	.06								T		T.	T.	.09			T.		0.70
Hillsboro	Red	.12							.12					.20	.05				.03				.03					.04			T.		0.59
Jamestown	James	T.							.12					.16	.08			.04					.20				.08						0.68
Langdon ‖‖	Pembina		.03											.47						.03	.02							.09					0.64
Larimore	Red	T.												.36		T.	T.	T		T.	T.						T.	.06					0.42
Lisbon	Sheyenne	.04						T.	.06	T				.10	T.	T.		.04	T.									.04			T.		0.28
McHenry	James	.02						.03					.11	.04	T.	T.		.06					T.				.07				.02		0.35
McLeod	Sheyenne	.02												.35	.01				.01	T.								.04			T.		0.43
Mayville	Red	.05	T.					T.	T.					T		T	T.	T.									T	T.		.08	T.		0.13
Oakes	James																																
Park River	Red	.03											.14	.09													.10						0.36
Pembina	do													.58						T.							.17	.10					0.85
Petersburg	do	.02												.22		.02		.01									.09				T.		0.36
Sharon	do	.03							T.				T	.38	.01	T.		.03		T.			T.	T.		T.	.05	T.			.03		0.53
Valley City	Sheyenne	T.							.10					.22	.05	T.		.04	.04	T.							.03		.01		.03		0.52
Wahpeton	Red	.01	.01						.12					.32	T.		T.	T.	.10	T.				.01							T.		0.57
Moorhead, Minn. ***	do	.05	T.		T.			T.	.12			T.		.18	.01	T.	T.	.03	.01	.02	T.		T.	T.		T.	.02	T.			T.		0.44
Middle Division																																	
Ashley	Missouri	.03						T	.10					.05	T.			.04	.03								.10						0.35
Bisbee	Devils Lake	T.										T.		.20		T		T	T.	T.											.05		0.25
Bismarck ***	Missouri	T.						.15			T.		.04	.14		T.	T.	.06	T.			.01	.01	T.			T.	T.		T.	T.		0.41
Bottineau	Mouse	.02							.09					.10	T.	T.		.05								.05					.02		0.33
Carrington ‖‖	James							T.					.44	.04		T.		.06					.01				.06			.01			0.62
Carson	Heart							.10	.05					.04				.12															0.31
Dogden Butte	Mouse	T.							.04					.30		T.		T.	T.	T.											T.		0.34
Drake ‖‖	do		T.						.01					.35	.16		T.	T.	.02	T.				T			T.	T.	T		T.		0.54
Dunseith	do		.04						.05					.08		T.	T.		.03							.04	T.		T		T.		0.24
Eckman	do	.01							.05					.14		T.		.05	T.							.05	.05	T.			.02		0.37
Energy	Missouri													.18				.05	.04														0.27
Fessenden ‖‖	James								.06					.25	.08				.06	T.				T.				.04					0.49
Fort Yates	Missouri													T.	T.	.16											T						0.16
Foxholm (near)	Mouse	T.						.03	.10					.37		T.		.12	T								T.				T.		0.62
Gackle	James	T.												.05	.06	T.	.03	.02	.09								.03				T.		0.28
Garrison ‖‖	Missouri		T.						.10					.11	.06			.02	.04	T.			.04					T			T.		0.37
Granville	Mouse	.08						.03					T.	.11				.02								.02	T.				.01		0.27
Hansboro	Devils Lake	.75											T.	.50																	.25		1.50
Linton	Missouri	T.						T	.26					.02				.17	T.								.01	T.			T.		0.46
McClusky	do	T.						T.						.11	T.				T.										T.		T.	T.	0.11
Maddock	Sheyenne	T.												.15		T															.06		0.21
Mandan ‖‖	Missouri							.16					.06	T.	T.	T.	.02	.08				.02	T.				T.			T.			0.34
Manfred	James	.01							.08					.25		T.		.07						.01			.03				T		0.45
Max ‖‖	Missouri									T.					T.	.08		.02					.02								T		0.12
Minot	Mouse	.02						.07	.08				T	.12				.04	T	T.		T		T.		T.	T.				.01		0.34
Mohall	do	T.						T	.18				T.	.07	T	T.	T.	.06	T.			T.					T.	T.			T.		0.31
Napoleon ‖‖	Missouri								.12						.30		T		.20	.02								.10			T.		0.74
New Salem	Heart	T.						.13	.03					.03	T.	T.		.07	.04			T.	.02					T.			T.		0.32
Pettibone	James								.04						.15			T	T.								.02		T.		.03		0.24
Rolla		.05	T						T.				T.	.69	T.	.01	T.	.04	T.							T.		.05			T.		0.84
Rugby (near)	Mouse	T.							.07				.36					.01								.06					T.		0.50
Ryder	Missouri	.02						.20	T.				.03		T.		.02	T	.02											.01	.02		0.32
Selfridge	do							.22					.03			T.		.05	T.			T					T.			T.			0.30
Steele	do	T						T.	.12					.09	.01	T.	.04	T.									.04	T.			T.		0.30
Tagus	Mouse	.02						.06					T.	.07	T.			.04	.01			T	T.				T.				T		0.20
Towner	do	.04							T.					1.05			T.	T	T.						T.	T		T.			T.		1.09
Turtle Lake	Missouri													.05				.04															0.09
Tuttle	do							T.	.15					.11	T.	T.		.03	.02				.02				.04				T		0.37
Velva	Mouse	T											T.	.32		T.		.04	T.			T.									.01		0.37
Washburn ‖‖	Missouri								T.					.07			T	.03					.09										0.19
Westhope	Mouse	.03							.02				T	.45		T	.02		T	T.					T	T	T.	T.			.02		0.54
Willow City	do	T.							.19					.40				T.	T.							T	.05				T.		0.64
Wishek ‖‖	Missouri								.04					.08		.02	T.	.07		T.		T.						.09					0.30
Zap	Knife												T.					T.	T.			T.								T	T.		T.
Western Division																																	
Alpha	Lit. Missouri	T											T.			T.	T.	.09				T.			T.			T					0.09
Amidon	do	T	.01	T.									T.	.01		T.	.03	.07	T.									T.					0.12
Beach	do	T.						T.					.06				.05	.07	T	T.										T.	T.		0.18
Berthold Agency	Missouri							.25					T.	.05	T.				.05			.08									T.		0.43
Bowman	Grand																																
Corinth	Missouri	.01						T.					.15	T.		T.	T.	.29	T.			T.					T.			T.			0.45
Crosby	Mouse													.14																			0.14
Dickinson ‖‖	Heart	.03	T.						.05					.22	T.		.02	.08	.02	.04	T.	T.	.07						T.		T.		0.53
Dunn Center	Knife	.02												.10																			0.12
Epping	Missouri													.14				.06					.10										0.30
Fairfield								.10					T.	T.			.02		.04				T.										0.16
Fryburg	Heart												.10	T	T.	T	.02	T	.07	T.	T	.02					T.	T.	T	T			0.21
Hettinger	Grand						.09							.05			T.	.20												T.			0.34
Howard (near)	Missouri	T.						T.					T.	T.	T.	T.	T.	.15	.35			T.					T.			T	T.		0.50
Kenmare	Mouse	.03						T.						.22		.01										T.	.03				.01		0.30
Marmarth	Lit. Missouri	.04	T.										T.			T	.04	.04				.02							.04	T.	T		0.18
Mary	do							.13					.40			.05	T.	.03	.10														0.71
Medora		.05	.01					T					.05			T.		.08					.02										0.21
Mott	Cannon Ball							.06						.03				.10															0.19
New England ‖‖	do							T.					.04					.14															0.18
Parshall	Missouri							.15						.08				.04					.04										0.31
Portal ‖‖	Mouse		.02										.20					.10									T.						0.32
Powers Lake	Missouri								.11									.13															0.24
Richardton	Heart	T.							.04					.26		T.	T.	.05	T.	T.		.02						.01		.02			0.40
Sanish ‖‖	Missouri							.16						.17		T.	.16						.16								T.		0.65
Tioga	do	T.						T.					.12			.21							T.	T		T			T.	T.	T.		0.22
Trotters	Lit. Missouri							.18					.10				T.	.07	.04							.06					.03		0.48
Watford City	Missouri	.05						.22					.18	.12			T.	.05	.04			.08											0.74
Williston ***	do	.02						.02					.17	.01		.01	.05	T.	T.	T.		.10	T.				T.	T.		T.	T.		0.38

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum	44	38	36	36	40	42	41	46	50	52	48	46	44	38	30	28	28	20	18	15	10	30	32	34	38	36	35	36	34	34	....	35.3
	Minimum	16	15	18	18	24	30	32	31	36	38	36	36	36	20	18	15	5	3	0	0	-15	5	20	26	30	29	26	24	26	24	....	20.7
Devils Lake	Maximum	43	31	52	47	53	58	46	39	62	45	55	45	32	29	21	15	17	13	11	10	14	24	34	34	34	35	6	7	9	14	....	31.2
	Minimum	20	11	16	30	20	24	23	31	30	26	33	32	25	21	9	1	4	-2	-7	-10	-4	14	21	23	24	6	-3	-10	-8	1	....	13.4
Edgeley	Maximum	50	38	50	53	60	67	60	55	67	55	60	52	58	50	36	26	20	16	15	5	13	36	38	40	39	40	20	10	12	20	....	38.7
	Minimum	26	13	7	20	34	45	27	34	31	20	37	36	36	25	14	9	-3	6	5	-10	-13	9	20	25	16	15	2	-3	-3	-2	....	15.9
Fullerton	Maximum	52	37	53	55	58	68	54	50	68	54	56	60	45	31	28	18	22	17	15	5	18	29	38	38	40	38	22	12	18	21	....	37.3
	Minimum	33	15	10	28	19	23	36	29	29	23	30	39	24	26	16	10	0	9	0	-7	-13	6	24	26	25	22	5	-3	-2	3	....	16.2
Grafton	Maximum	51	33	51	50	44	59	52	48	65	57	53	50	46	34	30	23	23	20	16	15	10	25	33	34	40	35	33	6	13	13	....	35.4
	Minimum	32	18	14	28	26	17	19	26	33	31	35	36	31	28	20	8	10	2	9	5	-13	-2	19	20	25	28	3	-5	-3	-5	....	16.5
Grand Forks	Maximum	45	29	50	50	44	60	41	47	65	43	55	52	44	32	25	20	20	15	15	11	13	23	35	34	36	33	13	5	14	13	....	32.7
	Minimum	25	13	12	31	27	15	23	26	28	20	35	42	32	25	15	5	4	-1	2	-8	-11	0	20	25	24	13	-3	-8	-7	-6	....	13.9
Hillsboro	Maximum	50	32	47	47	44	54	54	43	55	55	49	49	48	32	25	20	18	13	16	11	11	22	34	32	33	34	32	7	10	13	....	33.2
	Minimum	30	17	12	28	26	17	29	31	31	23	30	35	30	25	20	9	7	2	9	0	-12	0	20	24	25	24	5	-4	-3	-5	....	16.2
Jamestown §	Maximum	50	35	56	52	58	64	46	46	65	50	61	49	40	30	27	18	20	15	15	6	11	27	36	37	38	35	21	8	14	21	....	35.0
	Minimum	33	15	10	23	20	23	32	31	35	17	33	38	26	26	13	6	4	5	4	-9	-9	-9	23	29	25	20	3	-5	-5	0	....	15.2
Langdon §	Maximum	44	29	42	45	39	50	51	43	60	41	60	40	27	26	25	22	19	16	14	9	15	23	32	34	36	32	26	4	10	12	....	30.9
	Minimum	32	8	9	29	22	21	18	21	27	23	31	31	25	25	13	-2	-1	-2	-1	-3	-7	-6	15	19	20	26	2	-12	-11	-11	....	12.0
Larimore	Maximum	51	32	49	49	49	59	46	46	63	48	53	49	43	33	25	18	21	16	16	10	9	25	32	34	38	33	23	4	12	12	....	33.3
	Minimum	32	14	12	32	22	14	24	24	30	22	31	35	30	25	18	1	3	2	6	0	-12	0	20	25	22	23	2	-8	-3	-1	....	14.8
Lisbon §	Maximum	67	38	53	56	57	68	45	42	69	55	64	52	48	38	32	22	18	12	11	9	11	26	38	41	44	39	30	6	11	17	....	37.3
	Minimum	35	16	7	28	18	18	33	33	29	24	33	33	28	12	21	12	4	11	8	-3	-12	1	23	29	28	26	6	-1	-4	-2	....	16.5
Oakes	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Sharon	Maximum	43	30	51	47	56	62	42	39	64	45	57	46	39	29	24	19	18	14	13	13	10	24	33	37	35	32	18	1	11	11	....	32.1
	Minimum	27	10	10	27	16	20	26	27	32	25	32	29	27	24	13	-2	1	-2	2	-10	-9	3	19	22	22	18	-3	-11	-7	-5	....	12.8
Valley City	Maximum	55	36	54	53	56	66	65	37	64	60	58	57	58	34	31	22	21	20	15	15	14	28	37	37	38	35	20	10	13	22	....	37.7
	Minimum	33	15	9	30	19	17	31	34	31	30	32	35	29	30	22	12	7	12	11	-2	-13	0	21	25	26	20	5	-3	-6	-3	....	17.0
Wahpeton	Maximum	57	42	53	59	54	66	58	40	68	63	59	55	52	32	31	24	24	19	18	15	16	24	37	38	37	48	40	13	19	19	....	39.3
	Minimum	38	16	7	31	22	18	30	32	30	23	35	40	30	30	22	10	3	10	3	-6	-11	0	22	32	29	28	7	-1	-1	-1	....	17.6
Moorhead, Minn.	Maximum	52	29	50	50	51	66	44	43	65	49	58	53	47	33	26	19	21	17	16	11	15	24	37	37	37	41	16	5	17	16	....	34.8
	Minimum	28	16	10	32	28	19	34	31	31	27	37	41	31	26	16	12	8	10	5	-1	-8	0	23	31	28	16	3	-3	-1	0	....	17.7
Middle Division																																	
Ashley	Maximum	55	38	55	53	57	65	55	49	65	61	64	65	53	28	25	20	18	16	15	10	14	29	38	43	38	39	25	12	19	19	....	38.1
	Minimum	33	15	9	30	18	25	32	25	32	24	30	28	23	22	15	8	-1	5	3	-16	-14	5	22	22	27	18	0	-6	-5	5	....	14.5
Bismarck	Maximum	46	37	55	51	63	61	46	49	65	56	62	42	33	29	23	20	21	19	13	8	17	29	37	38	42	40	13	15	21	21	....	35.7
	Minimum	35	18	14	32	22	30	30	28	39	29	34	32	26	23	15	12	11	7	-1	-5	-5	17	26	22	25	11	5	1	-2	6	....	17.9
Bottineau	Maximum	40	31	51	37	50	49	45	35	54	40	55	34	27	28	24	17	15	14	14	5	16	24	34	34	31	30	25	8	14	20	....	30.0
	Minimum	31	10	10	29	17	23	16	20	32	22	30	27	24	24	17	3	8	-1	-1	-15	-7	9	14	18	20	25	-3	-10	-10	14	...	13.2
Carson	Maximum	50	50	52	51	64	60	50	52	66	61	67	50	35	25	24	23	20	18	15	13	24	28	36	44	45	42	22	17	20	22	....	38.2
	Minimum	35	22	13	27	22	28	30	19	36	35	30	26	21	20	17	8	9	1	-3	-14	13	16	21	23	22	20	1	-3	-2	10	....	16.8
Fessenden §	Maximum	52	34	54	53	54	63	49	49	63	61	59	40	29	27	20	17	17	16	10	5	22	28	35	37	32	36	20	7	19	19	....	34.2
	Minimum	33	12	12	26	17	23	23	24	25	24	26	25	25	25	17	-3	-1	-4	-3	-16	-4	-9	20	22	24	20	-1	-7	-8	-8	....	12.0
Foxholm (near)	Maximum	51	35	53	48	56	54	47	44	59	50	60	48	32	28	24	19	19	18	10	7	20	25	38	39	38	35	13	10	15	20	....	33.8
	Minimum	31	14	18	34	20	31	23	22	38	20	30	26	22	22	13	5	4	-1	-4	-15	-12	17	20	19	22	13	-2	-7	-6	7	....	14.1
Garrison §	Maximum	59	39	38	55	50	59	59	45	49	63	53	62	35	26	28	22	22	20	19	13	12	26	28	36	39	38	36	10	11	18	....	35.8
	Minimum	38	24	15	32	22	32	31	21	23	30	32	32	25	24	20	11	9	7	3	-12	-13	12	24	26	23	23	2	-2	-2	-2	....	17.0
Granville	Maximum	45	35	55	51	57	60	62	50	63	50	60	45	35	32	25	20	22	17	15	5	24	30	38	37	38	35	20	10	16	20	....	35.7
	Minimum	32	11	17	27	20	29	20	20	42	23	26	27	25	25	14	10	10	3	-1	-17	-10	20	23	19	22	20	5	-5	-7	2	....	15.1
Hausboro	Maximum	42	28	50	45	42	56	49	40	69	45	50	40	33	28	23	22	19	14	13	6	14	23	31	34	37	29	8	8	9	14	....	30.8
	Minimum	25	10	13	25	26	19	20	31	35	25	30	25	20	20	16	10	-5	3	0	-7	-9	6	11	14	20	6	-1	-11	-5	-5	....	12.2
Linton	Maximum	56	38	55	53	62	63	49	49	65	58	63	54	34	38	25	18	19	18	17	16	18	30	33	38	41	37	22	15	19	20	....	37.4
	Minimum	33	22	1	20	10	14	31	26	32	28	34	32	24	24	16	10	2	4	0	-18	-11	13	24	8	19	16	2	-9	-13	9	....	13.4
McClusky	Maximum	46	33	36	56	54	58	47	47	60	49	60	46	32	25	23	20	18	15	15	12	15	24	32	35	34	36	22	12	15	17	....	33.1
	Minimum	31	12	16	28	35	28	21	22	35	30	31	27	24	22	16	1	3	-1	0	9	-14	-3	22	21	27	14	0	-7	-9	1	....	14.7
Maddock	Maximum	54	53	54	53	63	53	44	63	55	58	59	58	35	28	25	18	16	16	14	6	13	23	34	35	33	35	22	5	9	20	....	35.1
	Minimum	32	15	30	27	26	17	26	35	21	28	28	27	23	24	15	-5	-1	-4	-2	-19	-13	11	20	19	27	18	-1	-10	-10	-1	....	13.4
Minot	Maximum	39	36	55	49	59	58	50	46	62	56	62	49	34	28	20	21	21	18	11	9	22	27	29	43	33	37	15	12	17	19	....	34.9
	Minimum	34	18	16	36	20	29	21	25	42	25	33	28	25	25	15	10	11	2	2	-15	-3	20	25	24	26	15	2	-2	-3	10	....	17.2
Mohall	Maximum	38	35	54	43	46	52	47	45	57	43	58	35	34	28	25	20	20	20	14	6	25	26	39	32	30	30	20	10	13	20	....	32.2
	Minimum	30	8	15	30	18	22	18	19	36	25	25	26	23	25	17	10	10	-1	-3	-18	-9	18	14	22	25	10	-3	-7	6	5	....	13.5
Napoleon §	Maximum	43	37	54	52	60	61	45	49	66	57	64	47	36	28	23	16	18	16	9	8	18	28	38	40	37	40	15	10	18	19	....	35.1
	Minimum	31	12	7	29	16	25	27	21	31	28	35	36	25	23	16	6	-5	2	0	-21	-12	8	18	20	21	15	-1	-10	-14	2	....	13.1
New Salem	Maximum	38	37	46	47	42	50	37	44	62	56	65	37	35	29	24	19	20	12	13	12	20	26	36	38	41	31	22	21	19	19	....	33.3
	Minimum	30	23	14	25	22	31	27	21	31	26	37	24	20	24	15	6	10	0	1	-10	-7	15	21	22	24	17	-2	-4	-4	-6	....	15.2
Steele	Maximum	42	35	50	51	60	62	41	47	65	55	62	46	30	25	23	15	16	20	15	8	21	28	35	39	31	38	19	11	15	16	....	34.2
	Minimum	32	12	5	29	12	19	26	25	31	26	30	30	24	23	12	5	-1	-3	0	-20	-14	9	23	17	19	16	0	-9	-14	6	....	12.3
Towner	Maximum	38	35	55	46	55	59	53	48	63	54	59	36	35	30	24	19	17	18	14	10	17	27	35	35	37	35	25	15	15	20	....	34.3
	Minimum	20	12	15	18	29	29	15	21	35	22	25	25	23	22	14	-4	3	-5	-4	-22	-12	15	20	20	27	17	-13	-10	-13	0	....	11.5
Westhope	Maximum	47	35	54	49	52	53	47	44	50	46	57	37	34	29	27	19	14	19	15	6	20	27	36	34	34	31	16	12	12	20	....	32.5
	Minimum	31	10	13	35	18	21	17	23	34	23	28	28	24	22	14	4	8	-1	-2	-19	-10	12	15	27	27	13	-2	-9	-12	5	....	13.2
Western Division																																	
Beach	Maximum	49	39	55	51	59	55	48	53	65	59	64	42	29	25	25	22	22	14	16	15	32	30	46	43	45	43	22	15	22	25	....	37.7
	Minimum	32	26	18	23	26	31	26	20	41	30	26	28	20	17	19	13	9	-1	0	-11	12	20	25	27	26	17	2	-3	10	15	...	18.1
Berthold Agency	Maximum	52	62	55	50	60	60	45	50	62	55	63	62	32	30	23	20	20	18	12	11	22	28	40	40	40	38	20	11	28	30	....	38.0
	Minimum	33	13	13	27	18	20	16	20	40	25	20	22	20	22	13	10	5	5	-5	-17	5	20	20	18	24	12	0	-5	-8	20	....	14.2
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Crosby §	Maximum	50	40	54	46	60	52	46	46	57	55	62	39	31	28	28	19	16	17	10	12	24	26	36	42	49	35	10	10	16	20	....	34.5
	Minimum	30	18	18	32	20	30	23	19	34	26	26	26	20	23	12	12	7	3	0	-12	4	19	21	21	20	0	0	-6	-4	8	....	15.0
Dickinson §	Maximum	41	38	56	50	60	57	47	55	64	62	66	35	27	24	21	19	16	16	9	16	28	30	39	40	42	39	26	15	22	22	....	36.1
	Minimum	35	28	12	15	23	26	26	16	15	29	22	23	24	19	19	10	9	6	7	-15	-12	14	19	22	23	26	2	-3	-2	10	....	14.9
Dunn Center §	Maximum	54	40	57	50	60	57	47	51	63	57	63	51	32	26	26	21	17	15	11	11	23	35	38	40	42	39	15	11	20	22	....	36.5
	Minimum	39	24	13	37	40	31	20	21	36	25	23	20	23	21	19	11	11	5	5	-11	18	20	21	24	23	14	4	-1	0	12	....	18.3
Hettinger	Maximum	57	58	57	50	62	45	43	48	65	66	65	42	37	37	22	19	20	16	15	18	24	40	38	35	46	41	18	17	25	26	....	38.4
	Minimum	32	8	35	23	25	23	26	25	31	23	22	23	17	14	16	10	8	-2	-18	-8	-6	19	20	21	26	15	-2	-3	-2	19	....	14.7
Kenmare	Maximum	55	38	51	49	57	52	48	44	61	54	64	55	33	27	25	20	18	21	12	11	22	25	39	40	37	31	13	23	18	21	....	35.5
	Minimum	32	16	22	34	25	32	26	22	38	25	33	27	24	24	17	11	10	3	0	-12	-3	20	15	21	23	13	-10	-8	-2	10	....	16.3
Marmarth	Maximum	49	47	56	54	60	54	57	56	65	65	64	37	32	24	24	23	20	15	14	17	32	31	43	36	45	40	20	18	26	23	....	38.2
	Minimum	34	29	14	25	25	20	27	20	30	30	21	27	22	16	19	18	8	7	4	-14	15	21	30	20	36	20	2	-2	13	16	....	18.4
Mott	Maximum	54	42	59	52	65	60	50	55	68	64	67	57	33	26	25	21	20	19	16	13	21	29	37	43	47	29	23	18	28	26	....	38.9
	Minimum	36	29	12	30	21	24	29	18	31	25	24	26	24	20	19	10	9	5	1	-15	11	20	21	22	24	22	5	0	-1	15	....	17.2
New England §	Maximum	45	50	57	52	62	60	58	58	68	65	65	34	28	25	23	18	19	17	19	21	29	31	40	45	45	26	12	17	21	27	....	37.9
	Minimum	28	22	15	24	22	24	18	24	27	22	28	23	19	19	12	12	4	6	-13	-5	11	18	23	26	25	5	-4	5	14	9	....	15.4
Watford City	Maximum	49	43	56	49	61	53	43	47	63	57	66	49	32	29	25	21	17	20	15	17	26	29	41	40	44	39	13	15	18	20	....	36.6
	Minimum	33	28	18	33	37	38	25	22	34	37	30	32	22	21	20	12	8	7	5	-8	15	21	24	24	26	13	3	-1	3	9	....	19.7
Williston	Maximum	42	38	56	50	59	53	41	47	62	56	62	40	29	27	24	17	17	19	14	21	28	27	42	41	44	39	11	13	23	21	....	35.4
	Minimum	32	25	24	35	29	30	25	24	42	37	28	29	23	24	17	14	6	10	-2	-5	21	22	26	24	28	5	3	-1	9	9	....	19.8

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

NOTES EXPLANATORY FOR PAGE 42. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods: Dogden Butte, near Butte: Energy, Underwood; Grand Forks, University; Howard, Grenora.

[WBO, Minneapolis, 12-28-37—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVI   BISMARCK, N. D., DECEMBER 1937   No. 12

GENERAL SUMMARY

Temperatures during December averaged slightly below normal, with the lowest averages in the eastern division. The lowest readings were recorded at Christmas time in the eastern division and on the 10th at most western stations. A warm period, with temperatures above freezing, occurred during the middle of the month. The precipitation averaged slightly above the normal in all three sections and it was well distributed throughout the month. No severe storms were reported, but the snowfall averaged about 20% above normal. Ranges have a moderate snow covering but carry considerable roughage for grazing and livestock are mostly in good condition, with losses very light.

TEMPERATURE

The mean temperature for the State was 11.4°, or 1.2° below the 1892-1937 average for December. The mean for the eastern division was 9.7°; for the middle division, 10.5°; and for the western division, 14.1°. The highest mean temperature was 18.1° at Amidon, and the lowest, 4.7° at Bottineau, making a range in mean temperature of 13.4°. The absolute range in temperature was 84°, from 51° at Carson on the 2d, to −33° at Marmarth on the 10th. The average daily deficiency in temperature for the State since January 1, 1937, is 0.3°.

PRECIPITATION

The average precipitation for the State was 0.54 inch, or 0.04 inch more than the 1892-1937 average for December. In the eastern division the average amount was 0.62 inch; in the middle division, 0.51 inch; and in the western division, 0.49 inch. The greatest monthly amount reported was 1.93 inches at Fullerton; the least was 0.07 inch at Mayville. The greatest amount recorded in any 24 consecutive hours was 1.00 inch at Westhope on the 19th. The accumulated excess in precipitation since January 1, 1937, is 0.08 inch. The average snowfall for the State was 6.5 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	11	8		2					2	1															5	1					1
Dust storms								1	1																		1				
Fogs		3	18	1	1	2	3					4	1	6	1	2	1	2	2	3		1	4	1	1	1		1	1	4	3
Lunar halos							1				1		1		6	5	1					2		1							
Solar halos			1	4	1		2	7														2		1	2	1				2	1
Sleet											3	13	2	1				1		1	3									3	2
Thund'rst'ms																															

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level) Mean	Highest	Date	Lowest	Date	Wind (true velocities) Average hourly velocity	Maximum velocity	Direction	Date	Relative humidity 6:30 a. m.	Local noon	6:30 p. m.	Percentage of sunshine
Bismarck	30.14	30.75	4	29.59	27	9.3	36	w.	31	84	74	80	40
Devils Lake	30.13	30.70	5	29.50	27	10.0	30	nw.	21	90	86	90	53
Williston	30.11	30.80	4	29.35	26	8.0	34	nw.	30	84	71	77	54
Moorhead, Minn	30.14	30.63	28	29.47	21	9.6	26	nw.	31	91	82	85	44
Averages & ext's	30.13	30.80	4	29.35	26	9.2	36	w.	31	87	78	83	48

† And other dates.

COMPARATIVE DATA FOR DECEMBER

Year	Temperature: Mean	Highest	Lowest	Precipitation Averages: Eastern division	Middle division	Western division	State	Snowfall	Number of days: Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	7.1	60	−39	0.44	0.49	0.78	0.57	7.7	4	13	8	10
1893	4.7	55	−36	0.71	0.83	1.02	0.85	8.4	6	11	9	11
1894	19.1	70	−32	0.38	0.17	0.32	0.29	1.6	2	18	7	6
1895	13.8	62	−32	0.24	0.29	0.39	0.31	2.6	3	12	9	10
1896	16.4	53	−35	0.50	0.46	0.13	0.36	2.6	3	13	9	9
1897	10.8	69	−35	0.24	0.21	0.21	0.22	2.2	3	12	8	11
1898	12.1	51	−38	0.24	0.24	0.24	0.24	2.1	3	14	9	8
1899	12.8	60	−26	0.31	0.31	0.34	0.32	3.3	3	13	7	11
1900	17.3	58	−29	0.35	0.29	0.29	0.31	3.0	4	13	8	10
1901	12.4	61	−43	0.72	0.74	0.75	0.74	7.2	5	10	7	14
1902	7.8	49	−35	0.50	0.30	0.72	0.51	4.2	4	14	7	10
1903	11.6	57	−33	0.63	0.74	0.93	0.77	7.2	6	11	7	13
1904	14.2	55	−43	0.60	0.62	0.73	0.65	6.2	5	7	8	16
1905	15.3	55	−34	0.21	0.16	0.12	0.16	1.6	4	16	2	13
1906	8.4	48	−40	1.09	0.91	1.27	1.09	10.7	6	11	7	13
1907	20.1	68	−26	0.36	0.23	0.31	0.30	3.1	3	15	7	9
1908	14.4	62	−37	0.53	0.26	0.28	0.36	3.7	3	13	10	8
1909	5.2	54	−42	1.88	1.10	0.86	1.28	12.1	7	9	8	14
1910	12.9	56	−34	0.45	0.42	0.42	0.43	4.6	4	12	8	11
1911	14.9	61	−33	0.45	0.26	0.34	0.35	4.5	4	10	8	13
1912	18.9	72	−28	0.62	0.55	0.13	0.43	4.0	4	14	8	9
1913	22.7	61	−21	0.05	0.12	0.01	0.06	0.3	1	18	6	7
1914	5.4	57	−42	0.58	0.40	0.42	0.47	5.7	4	12	9	10
1915	15.8	57	−27	0.56	0.56	0.44	0.52	5.4	5	11	9	11
1916	2.7	61	−50	1.39	1.34	0.81	1.18	13.9	5	15	8	8
1917	0.7	58	−44	0.51	0.64	0.61	0.59	7.4	6	9	9	13
1918	18.5	65	−41	0.97	0.92	0.76	0.88	9.9	5	9	8	14
1919	7.4	49	−38	0.65	0.48	0.28	0.47	4.8	3	14	9	8
1920	15.2	59	−32	0.48	0.33	0.16	0.32	3.2	3	11	9	11
1921	16.5	59	−33	0.52	0.33	0.38	0.41	3.9	4	14	7	10
1922	8.5	55	−34	0.75	0.76	0.53	0.68	7.4	5	11	8	12
1923	22.2	62	−36	0.38	0.35	0.23	0.32	3.6	3	16	8	7
1924	2.9	58	−46	0.40	0.39	0.54	0.44	5.3	4	12	7	12
1925	16.5	67	−38	0.24	0.30	0.30	0.28	2.6	3	12	8	11
1926	9.2	55	−36	0.60	0.50	0.59	0.56	5.5	3	14	8	9
1927	−1.8	43	−38	0.96	0.52	0.91	0.80	8.7	5	14	7	10
1928	20.7	57	−30	0.47	0.23	0.27	0.32	3.2	3	14	7	10
1929	12.5	59	−28	0.68	0.88	0.88	0.81	9.9	5	12	8	11
1930	19.9	53	−30	0.21	0.16	0.21	0.19	2.0	3	12	8	11
1931	21.0	58	−21	0.25	0.15	0.29	0.23	2.7	2	13	8	10
1932	12.4	60	−31	0.17	0.14	0.28	0.20	1.7	3	14	10	7
1933	8.6	62	−38	1.09	0.79	0.83	0.90	9.7	6	9	8	14
1934	12.6	53	−44	0.40	0.22	0.29	0.30	3.9	5	9	8	14
1935	12.6	51	−34	0.65	0.52	0.34	0.50	5.6	5	10	7	14
1936	15.0	59	−36	0.50	0.32	0.46	0.43	5.5	4	11	8	12
1937	11.4	51	−33	0.62	0.51	0.49	0.54	6.5	6	10	9	12
Period	12.6	72	−50	0.55	0.47	0.48	0.50	5.2	4	12	8	11

Climatological Data for December 1937

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	41	......	......	....	....	......	....	......	0.23	−0.31	0.10	2.9	4	2	16	13	nw.	I. Idso.
Cavalier	Pembina	894	27	......	......	....	....	......	....	......	......	......	......	......	......	......	......	......	......	Burke Bechtel.
Cooperstown	Griggs	1,428	40	8.1	−4.2	37	21	−23	24	43	0.73	+0.17	0.20	9.0	8	16	4	11	nw.	Theo. Marquardt.
Devils Lake	Ramsey	1,471	40	7.7	−1.8	36	21	−20	24	41	0.48	−0.06	0.17	4.4	8	9	4	18	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	36	10.9	−3.7	41	2	−23	25	41	0.67	+0.27	0.17	11.2	6	9	14	8	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	13	7.2	−1.7	36	21	−24	24	35	0.36	−0.30	0.13	4.4	7	7	8	16	nw.	A. G. Braund.
Ellendale	Dickey	1,457	42	11.5	−5.3	44	2	−16	26	45	0.72	+0.26	0.20	9.6	6	8	6	17	nw.	J. E. Demmer.
Fargo	Cass	895	1	9.8	......	39	2	−30	24	50	0.41	......	0.16	9.0	6	7	8	16	nw.	W. B. Aerological Sta.
Forman	Sargent	1,249	44	10.8	−4.5	44	2	−15	25	40	0.51	−0.05	0.20	6.0	5	......	......	......	......	Helge Dyste.
Fullerton	Dickey	1,439	39	12.8	−1.6	41	2	−15	25†	44	1.93	+1.08	0.46	16.2	7	7	12	12	nw.	F. O. Alin.
Grafton	Walsh	827	45	10.0	+1.1	39	21	−25	25	34	0.37	−0.17	0.22	5.9	3	5	6	20	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	831	46	8.2	−2.4	37	21	−27	25	47	0.52	−0.08	0.16	5.6	7	7	8	16	nw.	U. S. WeatherBureau.
Hankinson	Richland	1,068	8	12.0	......	45	2	−18	25	55	0.88	......	0.40	6.5	4	18	6	7	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	5.2	−1.6	34	21	−29	26	37	0.52	−0.10	0.32	5.2	4	7	14	10	nw.	James Muir.
Hillsboro	Traill	901	31	9.5	−1.7	38	16†	−27	25	46	0.47	−0.19	0.14	5.0	5	9	9	13	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	45	11.2	−2.2	37	21	−20	25	36	1.20	+0.54	0.65	12.0	6	13	11	7	nw.	S. Calvelage.
Langdon	Cavalier	1,615	41	5.7	−2.3	34	21	−24	26	47	0.44	−0.19	0.18	4.4	5	8	9	14	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	44	9.7	−1.3	37	16†	−21	25	34	0.47	−0.10	0.14	6.7	6	10	6	15	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	33	11.4	−2.7	41	16	−25	25	34	0.95	+0.47	0.40	11.0	8	7	5	19	nw.	J. O. Halverson.
McHenry	Eddy	1,509	15	7.5	−2.0	36	21	−23	24	40	0.39	−0.44	0.11	6.2	5	9	9	13	nw.	C. E. Blasky.
McLeod	Ransom	1,075	26	12.5	−1.9	40	2	−22	25	39	0.78	+0.30	0.24	8.5	5	8	8	15	se.	J. G. Carlson.
Mayville	Traill	975	41	11.4	−1.5	38	21	−27	25	37	0.07	−0.47	0.03	0.5	3	7	9	15	n.	H. B. Addicott.
Oakes	Dickey	1,318	8	11.2	......	42	2†	−20	26	53	0.89	......	0.37	7.2	6	15	9	7	nw.	S. F. Rossman.
Park River	Walsh	998	33	8.6	−1.9	38	20	−24	26	55	0.32	−0.11	0.10	7.0	5	9	5	17	se.	E. J. Taintor.
Pembina	Pembina	789	63	7.0	+0.7	36	21	−27	26	44	0.61	−0.03	0.25	11.0	5	9	1	21	nw.	E. N. Russell.
Sharon	Steele	1,516	13	7.8	−2.8	37	16	−22	24	34	0.44	−0.01	0.10	6.2	8	7	9	15	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	31	12.2	−1.5	41	22	−22	25	43	0.76	+0.28	0.20	15.0	6	12	5	14	nw.	I. C. Robertson.
Wahpeton	Richland	962	45	12.5	−2.8	44	2	−25	25	37	0.69	+0.23	0.16	8.2	7	8	9	14	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	56	10.7	−0.8	39	2	−22	25	50	0.94	+0.22	0.37	16.6	7	6	5	20	nw.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	9.7	−2.0	45	2	−30	24	55	0.62	+0.07	0.65	8.0	6	9	8	14	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	41	11.6	−2.6	42	2	−20	24	43	0.72	+0.16	0.25	14.5	8	9	11	11	nw.	R. C. Miles.
Bisbee	Towner	1,601	1	7.4	−1.2	35	21	−22	24†	41	0.62	+0.20	0.20	6.2	6	13	6	12	w.	I. K. Lund.
Bismarck	Burleigh	1,670	63	13.6	−1.1	43	2	−18	24	50	0.51	−0.06	0.20	5.9	8	5	11	15	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	45	4.7	−2.7	34	21	−26	26	37	0.31	−0.16	0.12	4.0	8	6	11	14	nw.	N. D. School of Forestry
Carrington	Foster	1,579	39	9.8	−1.9	38	28	−15	4†	45	0.47	+0.08	0.16	8.2	6	4	4	23	......	L. A. Swanson.
Carson	Grant	2,500	25	15.4	+0.7	51	2	−25	10†	40	0.56	+0.05	0.20	10.0	6	8	10	13	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	11	11.7	−1.4	38	21	−18	26	49	0.60	+0.18	0.23	7.8	4	12	7	12	nw.	R. L. Williams.
Drake	McHenry	1,634	8	9.6	......	37	16	−16	10†	44	0.29	......	0.06	2.9	10	2	10	19	nw.	Peter Anton.
Dunseith	Rolette	1,682	41	7.1	−2.0	38	21	−29	26	38	0.20	−0.22	0.06	5.7	6	14	8	9	n.	Wilbur Keeling.
Eckman	Bottineau	1,500	32	8.8	−0.5	38	16	−27	26	44	0.43	−0.05	0.10	7.0	8	4	16	11	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	13.1	−1.2	42	15	−24	10	48	0.77	+0.32	0.24	8.5	8	5	22	4	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	25	8.2	−2.4	36	16†	−22	24	50	0.86	+0.26	0.24	9.0	10	7	10	14	se.	T. D. Monsen.
Fort Yates	Sioux	1,670	37	14.2	−4.2	43	16	−27	24	33	0.77	+0.35	0.29	11.0	4	16	3	12	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	16	11.1	−1.2	38	15†	−19	9†	43	0.36	−0.07	0.19	3.8	3	7	10	14	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	7	11.6	......	35	16	−19	24	32	0.67	......	0.15	8.0	11	4	11	16	nw.	A. H. Haut.
Garrison	McLean	1,901	60	11.8	−1.9	39	15	−22	11	47	0.55	+0.06	0.17	4.0	10	13	4	14	nw.	E. L. Vorachek.
Granville	McHenry	1,504	30	11.6	−0.4	38	15†	−22	10	39	0.20	−0.27	0.06	4.2	5	12	7	12	nw.	W. A. Christianson.
Hansboro	Towner	1,597	29	7.3	−0.7	36	20†	−28	26	46	0.22	−0.37	0.22	4.0	1	11	9	11	nw.	C. E. Blackorby.
Linton	Emmons	1,711	20	11.4	−2.5	43	16	−31	24	56	0.48	+0.10	0.24	7.2	6	8	8	15	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	19	10.6	−1.3	36	16	−23	10	36	0.36	−0.16	0.14	2.3	5	14	7	10	nw.	Edw. Tapley.
Maddock	Benson	1,604	22	9.1	−0.9	36	21	−21	24	40	0.33	−0.01	0.15	3.9	5	8	10	13	nw.	A. T. Felland.
Mandan	Morton	1,750	23	13.0	−0.7	44	2	−19	24	49	0.63	+0.16	0.21	4.7	8	11	8	12	nw.	No. Gt. Plains Field. Sta.
Max	McLean	2,093	8	10.1	......	43	20	−22	10†	53	0.50	......	0.16	6.2	5	9	2	20	......	A. W. Rice.
Minot	Ward	1,557	41	13.5	+1.6	40	27	−18	9†	42	0.51	+0.05	0.17	6.2	6	5	11	15	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	43	11.2	+0.2	42	31	−21	10	43	0.25	−0.17	0.10	2.8	3	4	19	8	nw.	John Behan.
Napoleon	Logan	1,955	45	10.2	−2.4	37	16	−26	24	55	0.80	+0.35	0.30	8.0	6	14	4	13	nw.	C. J. Hoof.
New Salem	Morton	2,163	33	12.2	−3.1	45	2	−24	10	47	0.46	−0.12	0.08	5.0	10	15	10	6	nw.	J. Christianson.
Pettibone	Kidder	1,856	28	11.0	+0.5	35	21	−23	24	44	0.17	−0.30	0.04	4.2	7	5	7	19	nw.	Sam Loeppke.
Steele	Kidder	1,857	43	10.1	−2.2	40	2	−25	10†	53	0.27	−0.30	0.12	3.5	6	7	8	16	nw.	R. S. Armstrong.
Towner	McHenry	1,482	35	9.4	−0.7	38	15	−27	26	39	0.55	+0.11	0.20	5.5	4	10	9	12	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	23	10.4	−1.2	38	2†	−27	24	53	0.44	−0.07	0.17	7.0	6	16	2	13	nw.	Albert H. Slettum.
Velva	McHenry	1,511	10	12.4	......	41	15†	−20	10	46	0.42	+0.02	0.12	5.5	6	7	11	13	sw.	Oscar Anderson.
Washburn	McLean	1,731	36	11.5	−2.5	40	2†	−22	25	49	0.71	+0.24	0.24	6.0	10	9	6	16	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	31	8.6	−1.4	38	15	−28	26	42	1.46	+1.16	1.00	17.9	6	16	8	7	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	45	5.8	−2.9	36	21	−32	24	48	1.03	+0.44	0.25	10.5	6	7	11	13	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	8	10.6^{d}	−2.4	38^{d}	2	−25^{d}	24†	60^{d}	1.04	+0.40	0.25	9.2	8	......	......	......	......	E. W. Davis.
Average for Middle Division		......	.....	10.5	−1.4	51	2	−32	24	60	0.51	+0.04	1.00	6.3	7	9	10	12	nw.	......
Western Division																				
Amidon	Slope	......	31	18.1	+1.0	47	2	−22	9	46	0.59	+0.11	0.25	5.5	6	17	8	6	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	15	17.6	+0.6	45	2†	−24	10	46	0.54	+0.04	0.19	6.0	8	5	17	9	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	12.7	−2.7	48	21	−28	10	46	0.29	−0.09	0.08	9.2	5	21	0	10	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	15.0	−0.1	44	2	−30	24	35	0.40	+0.04	0.08	6.0	9	13	7	11	nw.	George Larsen.
Crosby	Divide	1,954	29	12.4	+0.8	45	2	−22	10	37	0.42	−0.09	0.17	3.8	4	7	11	13	nw.	J. H. Phelps.
Dickinson	Stark	2,543	45	13.6	−2.8	45	2	−27	24†	49	0.42	−0.08	0.15	2.9	11	9	15	7	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	14.2	−3.5	42	1	−27	10	43	0.32	−0.14	0.20	3.2	5	8	13	10	nw.	W. F. Moede.
Epping	Williams	2,224	27	12.4	−1.2	38	2†	−23	9	37	0.38	−0.07	0.25	4.0	3	15	7	9	nw.	T. Beachler.
Fryburg	Billings	2,790	19	17.0	......	46	21	−24	10	35	0.70	+0.19	0.27	5.1	7	9	13	9	nw.	Verne King.
Hettinger	Adams	2,675	30	15.2	−1.6	....	....	......	....	......	0.68	+0.28	......	......	......	......	......	......	......	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	10.8	−0.8	40	21	−24	9†	32	0.56	−0.07	0.30	6.3	5	17	7	7	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	10.4	......	39	21	−19	18	42	0.29	−0.17	0.09	3.0	7	10	18	3	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	17.6	+0.8	43	1†	−33	10	45	0.61	+0.20	0.16	7.9	7	11	9	11	nw.	S. P. Grane.
Mott	Hettinger	2,424	30	16.6	+2.8	49	2	−30	24	42	0.57	−0.03	0.27	7.0	5	7	9	15	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	16.0	−0.5	49	2	−28	23	46	0.69	+0.28	0.19	8.0	5	10	13	8	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	10.4	......	41	27	−29	10	45	0.25	−0.15	0.13	3.5	5	5	22	4	nw.	C. E. Shubert.
Portal	Burke	1,954	32	9.1	−3.1	38	21	−25	10	56	0.24	−0.23	0.20	2.5	2	9	2	20	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	32	14.6	+1.0	39	15†	−27	26	42	0.65	+0.09	0.32	7.0	3	15	10	6	e.	Geo. B. Gee.
Richardton	Stark	2,467	21	15.4	+1.4	47	22	−20	10	46	0.70	+0.31	0.19	5.4	7	9	12	10	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	12.3	+1.4	42	26	−23	10†	52	0.49	−0.12	0.24	5.5	5	7	11	13	nw.	H. J. Bugge.
Watford City	McKenzie	2,084	24	15.3	+2.3	43	2	−21	10	40	0.72	+0.18	0.20	5.5	7	15	11	5	nw.	J. C. Zeller.
Williston	Williams	1,878	58	14.8	+1.0	40	30	−21	10	43	0.60	+0.02	0.21	4.9	11	10	13	8	nw.	U. S. Weather Bureau.
Average for Western Division		......	.....	14.1	−0.4	49	2	−33	10	56	0.49	+0.01	0.45	5.1	6	11	10	10	nw.	......
Average for the State		......	.....	11.4	−1.2	51	2	−33	10	60	0.54	+0.04	1.00	6.5	6	10	9	12	uw.	......

Notes explanatory of symbols used in this table printed on last page.

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Daily Precipitation for December 1937

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red			T.	T.		T.				T.	.03	.05	T.								.10	T.									.05	0.23
Cavalier	do																															
Cooperstown	Sheyenne			T.	T		.04	.08	T.				T.		T.	T.			.06	.13	.04			.15		.03		T.				.20	0.73
Courtenay	James			T.		.05		.08				T.	T		T.				.03	.05	.06		T.	.19					T.			.22	0.68
Devils Lake ***	Devils Lake			T.	T.		.06	.03	T.			T.	T.					T.	.08	.05	.03	.01	T.	.05		T.			T.	T	T.	.17	0.48
Edgeley	James	.01					T	.17					.14							.15		.03		.17								T.	0.67
Edmore	Devils Lake				T.		.04	.01				T	T.						.02	.09	.02	T	T.	.05		T.				T.	T.	.13	0.36
Ellendale	James						.13	T.					.10						.12	.10		.07		.20									0.72
Fargo	Red			T.	T.		.16	.04	T.				T.			T.			T.	.05	T	T		.11		T.	.01				T.	.04	0.41
Forman	Sheyenne										.08	.05									.08		.10		.20								0.51
Fullerton	James				T.		.22	.04					.39						.27	.24	T.	.31		.46							T.	T.	1.93
Grafton	Red						T.		.08											T.	T.			.07								.22	0.37
Grand Forks ***	do			T.	T		.07	.03	T.										T.	.03	.12	T.	T	.09		.02					T.	.16	0.52
Hankinson ‖	do				T.		.10						.08						T.	T.		.40		.30								T.	0.88
Hannah	Pembina				T.		.08	.02	T.										T.	.10	T.	T.		T.	T.				T.		T.	.32	0.52
Hillsboro	Red							.10												.06	.05			.14								.12	0.47
Jamestown	James												.02					.03	.20	.20				.65							.10		1.20
Langdon ‖	Pembina																			.16				.03			.05	.02			T.	.18	0.44
Larimore	Red						.06		.04										T.	.06	.06			.11								.14	0.47
Lisbon	Sheyenne			T.	T.		.08	.08	T.				.08						.08	.08	T.	.07	T.	.40								.08	0.95
McHenry	James				T.		.04	T.				T.						.06		.08			.10		T.						.11	0.39
McLeod	Sheyenne				T		T.	.18	T.							T				.06		.07			.23							.24	0.78
Mayville	Red				.02		T.			T.									.03		.02												0.07
Oakes	James						.01	T.						.13					.12	.10		.37		.16									0.89
Park River	Red						.04	T.											.08				.02								.10	.08	0.32
Pembina	do						.07	.25							T.						.05			T.					.08			.16	0.61
Petersburg	do						.02												T	.07	.02			.08								.16	0.35
Sharon	do			T.	T.		.08	.01											.07	.05	.02	.02	T.	.09		T.					T	.10	0.44
Valley City	Sheyenne						.06						.06						.12	.12		T.		.20			T.					.20	0.76
Wahpeton	Red	T.					T.	.14	.06				.05						T.	.06		.16		.12	T.							.10	0.69
Moorhead, Minn. ***	do	T.		T.	T.	T	.15	.01	T.				T.			T.			T.	.04	.09	T.		.27		T.	.01				T.	.37	0.94
Middle Division																																	
Ashley	Missouri				T.		.07	.05					.25						.12	.02	.03	.02		.16					T.				0.72
Bisbee	Devils Lake				T.		.05	.02											.20	.20	T.			.05								.10	0.62
Bismarck ***	Missouri						.05	.02				.05	.15	T.					.05	.09	T	.01	T.	.09		T.					T.	T.	0.51
Bottineau	Mouse						.02	.05	.01			.05							.04	.12				.01								.01	0.31
Carrington ‖	James					T.	.10	.02					T.					.05	.16				.08									.06	0.47
Carson	Heart						.16	.01					.04						.02	.10				.20									0.56
Dogden Butte	Mouse				T.		T	.23											.12	.18		T		.07		T.	T.					T.	0.60
Drake ‖	do	.01			T	T.	.06	.05	.04										.03	.03		.01	.01	.02		T.						.03	0.29
Dunseith	do	T					.04	T.				.01							.01	.06		.02		T.					T			.06	0.20
Eckman	do						.05	.06				.06							.08	.10		T		.02		.03						.03	0.43
Energy	Missouri						.08	.07					.05						.24	.07		.15		T.		T.	.03					.08	0.77
Fessenden ‖	James						.10	.05	.06										.06	.21		T	.02	.07	.02		.03					.24	0.86
Fort Yates	Missouri						.16												.16	.16				.29									0.77
Foxholm (near)	Mouse						.12						T.						.05	.19				T.								T	0.36
Gackle	James	.02		T	.01		.07	.04	.06				.02						.13	.12		.02	.03	T								.15	0.67
Garrison ‖	Missouri	T.				T	.03	.06	.09				T.	T.					T.	.17	.01		.01	03	.03		.03					.09	0.55
Granville	Mouse						.06	.06				.02							T.	.04	T.			T.								.02	0.20
Hansboro	Devils Lake																		.22														0.22
Linton	Missouri						.09	.04					.24						.04	.03		T		.04									0.48
McClusky	do						.03	.03											.14	.06		T.		.10		T							0.36
Maddock	Sheyenne						.06	T.	T								.02			.04				.06		T.						.15	0.33
Mandan ‖	Missouri					.06	.06					.21						.02	.13	T.			.13	.01	T.						.01		0.63
Manfred	James						.10	.04				.01							.10	.07		.02		T.	T		.02	.10					0.46
Max ‖	Missouri							.08											.16				.02	.08							.16		0.50
Minot	Mouse				T.		.17	12	T.										.02	.17		T.	T.	.01		T.		T.				.02	0.51
Mohall	do			T.			.10	T.									.10	.05															0.25
Napoleon ‖	Missouri							.05	.05				.10						.25				.05	.30									0.80
New Salem	Heart				T.		.04	.03	.01				.08	.01					.08	.08		.03		.08		T						.02	0.46
Pettibone	James				.03	T.	.01	.02				.04							.03			T.		.02								.02	0.17
Rolla				T.	.03		.10	.07	T.			T							.05	.11	.01	T.		.04		T						.13	0.54
Rugby (near)	Mouse							.04				.02								.03	.04	.02	.01										0.16
Ryder	Missouri					.04	.03	.01	T.					T.		.02			.04		T.		T	.01	.01					.01			0.17
Selfridge	do					T.	.22	T.				T.						T.	.15	.05		.05	.12	.05							.03		0.67
Steele	do				T		.02	.01					.12						.04	T.		.03		.05								T.	0.27
Tagus	Mouse			T.			.02	.03					T.						.02	.04		.01		.02								.06	0.20
Towner	do			T.	T.		.10	.20				.05							T.		T.	T.		T.								.20	0.55
Turtle Lake	Missouri						.03	T.											.15	.17				.06			.01					.02	0.44
Tuttle	do				.01		.03	.07					.16						.10	.08		.04		.05		T.	.03					.03	0.60
Velva	Mouse						.12	.05											.03	.10		T.		.07		T						.05	0.42
Washburn ‖	Missouri						.05	.02	.02				.09						.24	.10		.03		.07			.04					.05	0.71
Westhope	Mouse						.04	.26				.08							.05	1.00		T		T		T.			T.			.03	1.46
Willow City	do						.20	.20				.25							.15	.15	T.	T.		T.		T.					T	.08	1.03
Wishek ‖	Missouri						T	.13	.08					.23					.05		.12		.25	.12	.06								1.04
Zap	Knife			T.			T.	T.	T			T.						.04				.05		.07			T				T.		0.16
Western Division																																	
Alpha	Lit. Missouri						.14	T.					.19								T	.04	T	.08			T.				.03		0.48
Amidon	do							.04						.25					.03			.07	02	.18									0.59
Beach	do						.16	.04					T.	.19					.02	.02		.01	.01	.09		T					T		0.54
Berthold Agency	Missouri						T.		.05				.07						T	.06		.03		.08			T					T.	0.29
Bowman	Grand						.06	.08					.04	.08					.01	.02		.01	.02	.08			T						0.40
Corinth	Missouri				T.		.14		.42										T.	.06				T.									0.62
Crosby	Mouse						.17	.05												.15		.05											0.42
Dickinson ‖	Heart				T.		.03	.04	T.				.15	.03					.01	.02	.01		.02	.09	.01	T.			T.			.01	0.42
Dunn Center	Knife						.04	.01					.20	T.					T	T.		.02		.05		T.	T.					T	0.32
Epping	Missouri						.25		.08													.05											0.38
Fairfield							.05	.04					.22						T.	02	.08			.04									0.45
Fryburg	Heart			T.			.07	.08					.27						.10	.10		.06		T.	.02	T.		T.				T.	0.70
Hettinger	Grand																		.20						.48								0.68
Howard (near)	Missouri			T.			.13	.30				T.	T	T.					.02	.10		.01	T.									T.	0.56
Kenmare	Mouse						.04	.09											.02	.09		.03		.01								.01	0.29
Marmarth	Lit. Missouri						.16	.08					.16						T.	.01		T.		.16		.02					.02		0.61
Mary	do					.07								T.							.10									.12			0.29
Medora							.08	.02					.18	T.					.03	.03		.04	T.	.06								.04	0.48
Mott	Cannon Ball						.10								.27				T	T.	.07			.11							.02		0.57
New England ‖	do					.05	.13						.18						.14				.19								T.		0.69
Parshall	Missouri						.04							T.						.13		T.		.05			.02					.01	0.25
Portal ‖	Mouse						.20												T.	T.							.04						0.24
Powers Lake	Missouri								.06						.27			.32															0.65
Richardton	Heart							.16					.17	.02					.04	.10		.02		.19								T.	0.70
Sanish ‖	Missouri						.08	.24												.08		.05	T.	T.			.04						0.49
Tioga	do			T.			.10													.10						T.					.08		0.28
Trotters	Lit. Missouri						.45												T.			.05		.04			.04						0.58
Watford City	Missouri							.20	.05				.16							.05		.12		.04								.10	0.72
Williston ***	do					.03	.21	.12	T.			T.	.01						T.	.02		.06	T	.03		.03	.02	T.			.06	.01	0.60

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December 1937

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Eastern Division																																	
Amenia	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Devils Lake	Maximum	25	28	25	16	-3	27	10	-2	-1	4	15	17	23	26	28	33	28	22	6	34	36	8	4	-6	7	10	32	5	22	22	22	16.9
	Minimum	2	12	16	-8	-14	-5	-4	-12	-12	-16	-5	12	3	5	13	20	22	6	2	-3	8	-8	-13	-20	-15	-16	-9	-10	0	1	1	-1.5
Edgeley	Maximum	29	41	35	27	3	11	21	21	0	10	17	16	16	16	30	38	38	85	21	28	36	33	5	-2	12	5	34	15	22	23	25	21.3
	Minimum	-3	12	7	-1	-12	-13	0	-7	-13	-11	-13	14	10	0	15	25	26	15	15	-13	26	0	-4	-18	-23	-17	-4	-8	5	-4	8	0.5
Fullerton	Maximum	28	41	35	28	8	16	24	4	2	10	22	19	20	25	28	38	36	28	12	33	37	34	10	4	15	9	38	15	34	24	36	23.0
	Minimum	2	16	10	8	-10	-11	2	-5	-11	-10	-8	15	10	1	11	21	27	12	4	-11	33	5	0	-13	-15	-15	4	-6	7	5	5	2.7
Grafton	Maximum	21	35	29	25	6	8	16	13	9	13	10	20	24	25	28	36	32	21	16	19	39	24	8	5	7	4	32	7	10	19	27	19.0
	Minimum	-8	15	22	3	-10	-13	7	-10	-2	-3	-10	9	-5	3	17	19	21	14	5	-2	19	-2	-10	-19	-25	-15	-2	-7	0	2	15	0.9
Grand Forks	Maximum	21	36	26	18	-2	13	13	3	8	11	14	23	21	24	28	35	32	17	9	35	37	9	8	-2	6	6	32	12	20	27	28	18.3
	Minimum	0	18	18	-4	-14	-13	3	-9	-5	-6	-8	19	0	1	13	17	17	6	-11	-12	6	-5	-11	-20	-27	-14	-6	-9	2	1	6	-1.8
Hillsboro	Maximum	21	26	36	22	2	9	9	5	6	12	15	15	21	23	28	38	32	23	13	14	38	35	8	6	8	7	34	14	24	23	28	19.2
	Minimum	0	15	15	2	-10	-14	2	-7	-5	-6	-6	13	-3	0	10	15	20	13	6	-10	13	-2	-5	-17	-27	-12	-12	-6	5	6	0	-0.2
Jamestown §	Maximum	28	36	32	28	-1	24	25	5	2	9	15	19	23	25	29	36	35	27	15	35	37	34	6	0	12	2	32	7	34	20	34	21.5
	Minimum	0	13	10	-1	-11	-10	1	-7	-12	-13	-10	14	4	1	14	24	24	13	-4	-4	31	-2	-2	-19	-20	-14	-1	-5	3	4	7	0.9
Langdon §	Maximum	18	31	21	18	5	9	12	-4	-1	7	11	17	22	25	24	32	21	14	13	29	34	7	8	2	1	22	24	6	15	20	22	15.6
	Minimum	-3	6	18	5	-16	-14	1	-14	-12	-13	-12	1	2	3	11	12	14	13	-1	-5	-3	-9	-13	-19	-18	-24	-23	-14	-6	-3	5	-4.2
Larimore	Maximum	22	34	28	27	0	10	17	6	7	12	10	19	28	25	27	37	30	23	8	31	37	25	5	2	9	-1	30	6	22	20	25	18.7
	Minimum	-4	14	20	0	-10	-12	4	-8	-5	-5	-8	10	-3	3	14	20	23	6	1	-3	21	-4	-7	-12	-21	-14	-2	-6	1	1	9	0.7
Lisbon §	Maximum	29	34	30	30	9	12	20	2	4	12	16	19	14	25	29	41	34	26	17	18	38	35	11	7	5	9	38	18	23	23	32	21.3
	Minimum	-5	15	14	8	-10	-12	2	-5	-9	-8	-8	14	5	-2	8	22	25	17	0	-12	18	2	-4	-17	-25	-16	4	-4	5	12	11	1.5
Oakes	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Sharon	Maximum	21	36	25	24	-2	10	10	3	1	6	13	18	25	24	25	37	29	21	5	29	36	21	5	0	2	1	28	7	26	19	25	17.1
	Minimum	-7	17	17	-2	-14	-15	-3	-11	-11	-14	-9	11	0	3	13	18	20	5	-2	-5	21	-8	-11	-22	-16	-17	-1	-8	2	0	6	-1.4
Valley City	Maximum	25	36	32	31	12	10	10	5	1	10	15	20	21	22	28	35	35	27	16	27	27	41	11	18	12	14	33	15	36	30	40	22.4
	Minimum	3	19	13	9	-12	-13	-2	-6	-10	-10	-7	14	5	-1	13	25	25	17	1	5	13	-2	-5	-12	-22	-13	-2	-3	6	4	10	2.0
Wahpeton	Maximum	21	44	36	28	10	12	12	7	9	13	17	20	24	24	29	40	36	28	18	14	37	36	12	12	12	10	38	30	27	28	32	23.1
	Minimum	7	9	13	8	-8	-14	4	-6	-7	-10	-7	12	6	0	15	16	20	17	10	-17	13	1	-1	-16	-25	-15	4	-3	7	4	13	1.9
Moorhead, Minn.	Maximum	23	39	27	24	0	14	12	8	8	11	17	21	23	24	28	38	32	21	13	36	38	12	10	2	9	13	34	13	27	28	28	20.4
	Minimum	8	18	18	-2	-9	-10	1	-7	-5	-7	-4	13	4	3	13	19	21	9	-8	-14	12	0	-3	-22	-22	-10	-2	-3	6	4	9	1.0
Middle Division																																	
Ashley	Maximum	30	42	37	34	5	15	25	-1	-2	9	20	20	20	24	27	38	35	28	27	28	36	33	9	3	7	7	36	22	36	28	33	22.9
	Minimum	3	18	8	2	-15	-15	-4	-13	-18	-19	-8	12	11	7	13	21	22	14	5	-15	25	2	-4	-20	-18	-19	3	-9	3	6	9	0.2
Bismarck	Maximum	37	43	38	23	8	33	17	0	0	7	22	23	22	27	34	43	34	25	21	39	40	17	6	0	12	23	37	10	42	36	38	24.4
	Minimum	4	16	10	-3	-7	4	-6	-11	-13	-18	4	18	17	16	11	24	21	18	-10	-11	17	1	-5	-18	-5	-11	0	-4	7	14	11	2.9
Bottineau	Maximum	23	33	30	20	-10	16	8	6	3	-4	10	14	19	15	31	27	25	19	14	33	34	3	4	-3	0	8	-2	1	21	12	15	13.7
	Minimum	-1	7	9	-10	-21	-4	-2	-18	-14	-20	-6	0	9	7	12	7	16	10	4	-4	0	-13	-16	-19	-14	-26	-16	-10	-2	-2	4	-4.3
Carson	Maximum	42	51	40	28	16	37	25	-7	-4	10	20	23	21	24	39	41	39	30	30	36	37	30	20	15	14	19	39	21	47	37	39	27.7
	Minimum	2	19	21	2	-15	0	-9	-20	-21	-25	-7	12	13	12	8	22	21	20	4	4	28	3	-4	-25	-7	-10	4	-7	11	20	18	3.0
Fessenden §	Maximum	28	34	30	10	9	30	3	-1	-3	7	15	18	23	25	30	36	29	19	17	35	36	10	6	-1	10	30	25	18	36	32	8	19.5
	Minimum	-3	9	5	6	-18	-18	-1	-8	-15	-17	-16	6	1	-1	11	15	24	17	3	-7	6	1	-11	-22	-19	-20	-19	-9	-4	3	6	-3.1
Foxholm (near)	Maximum	34	35	27	25	9	34	21	2	-1	5	19	17	25	29	38	36	31	26	19	36	38	28	5	4	6	3	36	5	33	18	35	21.9
	Minimum	2	20	7	-2	-13	5	-5	-13	-9	-18	-8	9	13	8	17	22	24	16	1	-7	27	-5	-8	-14	-15	-19	-5	-11	-1	0	1	0.3
Garrison §	Maximum	37	38	33	26	11	33	2	-9	-3	11	19	19	27	27	39	36	30	26	22	38	36	8	8	-2	8	34	33	10	37	36	35	22.7
	Minimum	0	7	17	6	-10	-11	2	-14	-16	-20	-22	10	17	10	10	14	24	22	18	-8	34	2	-6	-20	-21	-13	-13	-6	-4	7	9	0.8
Granville	Maximum	33	32	29	23	15	34	25	10	-2	5	18	17	25	30	38	35	34	27	20	37	38	30	12	3	3	2	36	3	33	15	35	22.4
	Minimum	-2	14	9	3	-12	2	-3	-10	-15	-22	-12	14	5	7	14	19	25	19	2	2	30	-3	-9	-18	-15	-19	-3	-8	2	1	5	0.7
Hansboro	Maximum	26	27	24	16	0	26	16	3	0	10	13	22	20	27	31	34	27	21	9	36	36	20	10	10	5	5	36	5	16	14	28	18.3
	Minimum	-5	10	6	0	-17	-9	0	-18	-13	-15	-5	10	6	15	11	17	10	9	-16	-5	15	-5	-15	-14	-12	-28	-5	-13	-5	-6	-18	-3.7
Linton	Maximum	33	41	38	26	5	18	18	3	0	3	20	24	22	27	30	43	37	25	20	36	37	32	6	-1	13	10	35	20	29	27	36	23.0
	Minimum	-9	7	7	3	-11	-10	-4	-13	-21	-27	-6	16	14	16	7	10	17	15	4	-20	30	-1	-3	-31	-11	-17	7	-6	5	15	12	-0.2
McClusky	Maximum	28	35	30	25	5	31	21	-3	-5	-1	16	16	21	30	28	36	31	26	16	33	36	31	26	3	7	10	28	8	32	21	33	21.2
	Minimum	10	10	10	-1	-13	-1	-3	-11	-18	-23	-10	-2	10	10	8	17	22	16	2	-14	31	-5	-9	-22	-11	-16	2	-7	2	6	7	-0.1
Maddock	Maximum	28	29	29	26	4	32	29	5	-4	5	14	17	24	25	32	29	31	33	23	30	36	32	4	0	-1	2	31	6	32	16	26	20.3
	Minimum	-7	17	8	2	-19	-8	-2	-11	-17	-18	-11	11	1	3	9	15	15	21	-4	-10	28	-4	-12	-21	-20	-19	-6	-11	1	0	5	-2.1
Minot	Maximum	36	37	30	27	11	35	22	0	1	11	20	18	28	30	30	38	36	28	24	37	39	29	8	4	8	9	40	9	36	20	37	24.1
	Minimum	1	13	8	3	-9	8	-2	-9	-18	-18	-2	14	16	10	18	21	27	21	5	-5	29	-2	-4	-14	-11	-15	-2	-7	3	5	6	2.9
Mohall	Maximum	31	31	29	21	7	40	21	4	-3	4	18	26	25	27	32	35	34	30	21	37	38	23	5	5	5	0	37	5	29	16	42	21.9
	Minimum	-3	19	9	0	-15	4	-4	-9	-18	-21	-10	10	16	2	16	15	21	18	4	4	26	-9	-12	-16	-15	-14	-6	-9	2	2	2	0.6
Napoleon §	Maximum	31	36	35	9	6	26	3	0	-3	9	20	18	23	25	31	37	29	24	19	35	36	27	5	-3	10	28	30	14	32	34	10	20.5
	Minimum	-6	16	6	5	-17	-15	0	-14	-22	-25	-14	14	13	15	8	23	24	19	12	-20	27	5	-7	-26	-21	-17	4	-10	2	9	8	-0.1
New Salem	Maximum	40	45	37	27	19	37	37	-4	0	9	19	22	21	27	39	42	34	24	29	35	37	29	5	3	10	9	35	12	40	30	35	25.3
	Minimum	0	18	16	-4	-14	-4	-10	-20	-20	-24	-4	12	12	7	8	20	19	16	0	-7	22	-2	-5	-22	-16	-17	-3	-12	2	-10	13	-0.9
Steele	Maximum	30	40	35	24	4	20	19	-2	-6	0	20	19	26	25	28	39	32	26	14	33	37	29	4	-4	-4	8	28	6	32	25	35	20.1
	Minimum	8	10	4	-5	-15	-6	-2	15	-18	-25	-13	14	14	15	8	16	21	14	-8	-20	29	0	-6	-25	-14	-20	3	-8	2	8	8	0.1
Towner	Maximum	30	30	27	20	2	32	25	2	3	4	12	16	21	27	38	37	32	23	18	35	36	30	5	5	5	12	33	6	21	17	27	20.4
	Minimum	-1	13	2	0	-15	-5	-4	-12	-16	-20	-14	2	-2	5	13	13	22	18	2	7	29	-4	-10	-20	-21	-27	-2	-10	3	0	3	-1.6
Westhope	Maximum	30	30	27	17	6	33	9	1	-3	6	15	15	23	29	38	33	32	26	19	37	37	23	6	-3	3	-2	33	4	16	16	21	18.6
	Minimum	-1	10	10	-1	-16	4	-3	-11	-16	-22	-11	11	11	3	16	10	21	18	5	-5	22	-7	-11	-21	-15	-28	-5	-12	2	0	1	-1.3
Western Division																																	
Beach	Maximum	40	45	37	27	20	35	18	-8	-5	9	28	30	25	32	37	38	35	35	28	37	37	27	13	1	12	35	35	45	43	42	36	28.0
	Minimum	10	23	25	4	-7	18	-9	-20	-23	-24	3	21	17	11	16	24	20	27	14	14	25	8	-21	-12	-4	-8	2	-1	28	25	20	7.3
Berthold Agency	Maximum	40	35	32	22	12	35	18	12	4	4	20	22	25	30	40	40	37	27	30	40	48	32	8	4	10	5	42	11	36	30	40	25.5
	Minimum	-5	8	8	-2	-12	4	-10	-17	-19	-28	-10	18	10	6	13	13	18	18	4	4	28	-4	-4	-24	-14	-14	-4	-5	4	8	4	-0.1
Bowman	Maximum	43	44	36	22	15	36	22	-10	-6	6	26	22	22	27	37	37	36	30	26	33	32	25	12	-2	14	21	34	34	41	40	34	25.5
	Minimum	10	19	22	3	-9	12	-12	-23	-27	-25	0	18	13	8	6	20	18	22	12	14	22	7	-8	-30	-11	-5	9	-1	15	23	15	4.4
Crosby §	Maximum	35	45	33	20	25	33	20	-5	-7	5	20	19	24	25	35	31	36	25	25	37	38	23	6	4	7	16	32	9	28	38	38	23.2
	Minimum	2	14	17	-4	-8	15	-9	-12	-18	-22	4	8	12	5	16	15	21	15	5	7	21	-2	-3	-14	-13	-19	-5	-8	5	5	3	1.7
Dickinson §	Maximum	41	45	36	18	28	35	-1	-1	-5	10	25	23	23	30	36	39	36	30	29	37	34	23	8	12	9	35	35	31	41	40	40	26.7
	Minimum	-1	10	18	4	-10	-9	-1	-17	-19	-26	-24	10	16	8	10	21	20	21	24	10	23	8	1	-27	-27	-11	-10	-5	7	20	22	2.1
Dunn Center §	Maximum	42	41	34	24	13	35	24	3	-5	5	20	23	24	31	36	40	38	27	28	36	38	30	5	-4	10	9	32	13	39	31	38	24.5
	Minimum	-1	20	16	-2	-10	7	-9	-17	-16	-27	3	18	15	7	13	22	23	21	8	10	29	1	-7	-24	-6	-15	0	5	4	14	19	3.9
Hettinger	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Kenmare	Maximum	32	34	30	24	9	33	29	4	3	11	21	19	24	27	37	36	33	26	22	36	39	26	9	0	-5	7	5	7	34	20	17	20.9
	Minimum	3	20	10	2	-10	-5	-5	-11	-18	-19	-10	12	15	13	1	17	22	20	1	-6	26	-3	-5	-12	-14	-17	-13	-10	-1	-1	-3	0.0
Marmarth	Maximum	43	43	37	27	21	43	39	-5	-19	11	30	30	24	26	40	40	37	34	30	38	38	30	15	6	13	29	37	31	42	43	39	28.8
	Minimum	5	20	15	6	-7	21	-6	-21	-22	-33	5	20	16	16	13	12	15	29	20	20	28	15	-1	-32	-6	-8	2	4	15	15	18	6.3
Mott	Maximum	45	49	39	26	17	39	24	-1	-1	9	23	24	23	27	39	43	42	32	31	38	38	31	9	12	15	24	41	32	45	42	40	28.9
	Minimum	3	16	15	2	-6	6	-8	-16	-18	-26	-5	19	16	12	8	19	18	25	9	9	28	7	-5	-30	-8	-14	7	-3	23	17	16	4.4
New England §	Maximum	44	49	38	17	24	42	4	-2	-4	11	25	23	22	33	33	40	41	30	33	38	38	19	13	4	12	29	39	39	46	42	38	27.9
	Minimum	18	19	6	-8	6	-4	-17	-16	-27	-10	10	12	12	12	25	21	19	14	12	27	10	-9	-28	-22	-14	-6	-3	12	19	23	16	4.2
Watford City	Maximum	37	43	29	22	14	31	24	-4	-10	5	21	27	24	32	38	37	33	28	29	35	37	28	10	6	10	18	36	13	37	40	38	24.8
	Minimum	6	20	22	1	-7	14	-8	-15	-18	-21	5	19	15	8	18	21	21	23	13	12	28	3	-4	-14	-7	-11	-4	-4	10	20	15	5.8
Williston	Maximum	38	37	29	14	17	33	7	-3	-5	12	22	23	25	29	40	38	33	29	31	38	38	13	6	5	10	35	34	12	38	40	31	24.2
	Minimum	7	18	14	-4	-4	7	-10	-13	-18	-21	12	18	16	10	17	24	21	24	10	16	13	2	-5	-11	-9	-8	-3	-2	9	20	16	5.4

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ^{a} 1 day missing, ^{b} 2 days, etc.

NOTES EXPLANATORY FOR PAGE 46. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

[WBO, Minneapolis, 1-25-38—1500]

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UNIVERSITY OF ILLINOIS

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVI BISMARCK, N. D., ANNUAL 1937 No. 13

GENERAL SUMMARY

Although the average temperature for 1937 was only 0.2° below the 1892–1937 mean, all summer months averaged somewhat above normal and all winter months, except March, averaged below normal. January was unusually cold while August was unusually warm. Some stations in all divisions reported frost in June, but the first killing frost in autumn did not occur in any section until September 15th or later.

The precipitation for the year averaged slightly above normal, with the greatest excess occurring during the important months of April, June and July. The precipitation during the year was a decided increase over the preceding year at most places, but the weather continued very dry in the northwestern and extreme western counties, until September when above normal precipitation was reported in those sections. While precipitation was adequate in most sections for good crops, other factors ruined many good crop prospects. In May the wind blew seed out of the ground in some places, insects caused some damage during June, and much grain was cut for feed during July due to the ravages of cutworms and grasshoppers. Pastures and livestock were mostly fair to good during the summer and fall in the eastern and central sections.

The average temperature for the State was 39.1°, or 0.2° below the 1892–1937 average, and 0.3° higher than the average for 1936. The highest annual temperature reported was 42.4° at Marmarth; the lowest was 34.8° at Hannah. The absolute range in temperature was 155°, from 111° at Crosby, Epping, and Howard on July 5th, to -44° at Oakes, Willow City on January 22d, and Parshall on January 7th.

The average annual precipitation for the State was 17.03 inches, or 0.08 inch above the 1892–1937 average, and 8.20 inches above the average for 1936. The greatest annual precipitation reported was 27.74 inches at Hansboro; the least was 9.16 inches at Crosby. The greatest monthly amount reported was 9.48 inches at Grafton in July. The average snowfall for the State was 36.0 inches.

The average number of days with 0.01 inch or more of precipitation was 69.

There were 150 clear days, 111 partly cloudy days, and 104 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS

JANUARY.—The average temperature for the month was the lowest for January since state-wide records began in 1892, although minimum readings were not unusually low. Many stations reported sub-zero temperatures every day during the month, while maximum temperatures above freezing were recorded at less than half of the reporting stations. The precipitation was the greatest January amount since 1933, and the snowfall was exceeded only 5 times during January. At least four freezing fatalities occurred during the month.

FEBRUARY.—Although the temperature was 2.9° below the normal, it was 19.7° higher than in February 1936. The first and third decades were cold, but temperatures were somewhat higher during the second decade. The precipitation was slightly above normal, but the greatest amounts occurred in the southeastern section, causing deep snowdrifts and many roads were snow-blocked. High winds occurred on the 5th, 13th, and 23d, with dust storms at many places on the 23d. Much yard feeding of livestock was necessary.

MARCH.—Temperatures were somewhat above normal during the first week, but readings were near the seasonal average during the remainder of the month. The precipitation was very light throughout the northern half of the State, but heavy snowfalls were reported at most southern stations on the 16th–17th and 23d–24th. This snow melted slowly and there was little run-off. No severe storms were reported, but dust storms occurred at many stations in the western and central parts of the State on the 15th and 23d.

APRIL.—Heavy snowfall occurred in the central and southern parts of the State on the 3d-4th and in the southeastern section on the 24th-25th. Highways were blocked at times and some stations reported the heaviest snowfall of record during the storm on the 3d-4th. The precipitation for the month was considerably above the average in the eastern division, slightly above in the central division, and slightly below in the western division. The temperature was below the 1892-1937 average. Pastures improved somewhat near the close of the month, but they were still backward due to the dryness during 1936 and the present cool spring. Plowing and seeding were delayed considerably in the southeastern part of the State due to wet weather.

MAY.—The weather during the month was warm and dry, but killing frosts were reported at many stations on the 8th, 9th, and 13th. Dust storms occurred on many dates during the month and the wind blew the seeds out of the ground in some sections. The greatest precipitation deficiencies occurred in the western section of the State. Crops and pastures suffered somewhat from lack of moisture, but by the close of the month prospects were improved somewhat by the steady rain on the 30th and 31st. Conditions continued critical in western sections and feed for livestock was scarce.

JUNE.—The outstanding feature of the weather was the heavy rainfall in the middle division and the southwestern division. Moderate amounts occurred in the eastern division, but the extreme northwest division continued dry. Temperatures averaged slightly above normal, but frost occurred in many northern and central districts on the 7th and 8th. Light to moderate dust storms occurred at many places on the 3d, 12th, 17th, and 22d to 25th. The weather was mostly favorable for crops, but insects caused some damage. Pastures improved somewhat after the rains, but they continued poor in the extreme northwest portion.

JULY.—Temperatures were above normal in all sections, with the highest readings during the first decade. Moderate to heavy amounts of precipitation were reported from the northeastern counties northwestward to Bottineau County and thence southwestward to Dunn County, but sub-normal amounts were reported at many central, southern, and extreme western stations. A tornado occurred in Benson County on July 24th, causing considerable property damage, but no lives were lost. The weather was favorable for corn and for ripening small grains. Much of the grain was cut for feed, due to black stem rust and ravages of cutworms and grasshoppers.

AUGUST.—Hot weather persisted throughout the month. Temperatures averaged 2.5° higher than any previous August and only three Julys show higher average temperatures. Temperatures were unseasonably high from the 21st to the 31st.

[Continued on page 53]

Climatological Data for the Year 1937

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number of days				Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall	With .01 in or more precip.	Clear	Pt. cloudy	Cloudy	
Eastern Division																				
Amenia	Cass	954	42	39.3	100	July 6†	−35	Jan. 19†	42	19.95	4.85	Apr.	0.00	Oct.	39.9	56	42	130	193	nw.
Cavalier	Pembina	894	3	37.6	98	Aug. 14	−36	Jan. 22	28	20.99	4.07	July	0.05	Mar.	36.8	67	196	27	142	n.
Cooperstown	Griggs	1,428	3	36.0	98	July 9†	−37	Jan. 19	41	22.71	4.25	July	0.26	Mar.	57.7	99	234	46	85	nw.
Courtenay	Stutsman	1,523	......	......	......	......	......	......	9	18.59	4.15	June	0.41	Nov.	60.1	89	210	82	73	nw.
Devils Lake	Ramsey	1,478	41	37.0	100	Aug. 6	−33	Jan. 22	41	14.79	3.50	June	0.15	Mar.	23.5	110	108	117	140	nw.
Edgeley	LaMoure	1,568	37	39.4	105	Aug. 15	−31	Jan. 22	37	14.29	2.75	May	0.23	Nov.	54.8	59	96	209	60	nw.
Edmore	Ramsey	1,524	13	35.9	98	Aug. 6†	−36	Jan. 22	14	15.61	3.57	July	0.23	Mar.	18.1	99	108	109	148	nw.
Ellendale	Dickey	1,451	35	40.4	109	July 6	−31	Jan. 22	43	17.48	3.01	May	0.36	Nov.	50.8	75	178	77	110	nw.
Forman	Sargent	1,249	1	39.8	102	July 6	−34	Jan. 22	45	24.04	5.53	Apr.	0.07	Oct.	45.6	71	211	47	107	nw.
Fullerton	Dickey	1,439	40	40.6	108	July 6	−30	Jan. 22	40	23.17	4.39	Apr.	0.52	Oct.	96.6	77	136	139	90	nw.
Grafton	Walsh	827	46	38.5	98	Aug. 14	−35	Jan. 19†	46	24.43	9.48	July	0.07	Mar.	46.0	64	123	113	129	nw.
Grand Forks	Grand Forks	830	47	37.0	96	Aug. 5†	−36	Jan. 22	47	23.03	4.66	July	0.19	Oct.	48.0	92	84	144	137	nw.
Hankinson	Richland	1,068	9	40.0	104	July 6†	−29	Jan. 22	9	22.01	5.53	Apr.	T.	Oct.	72.7	62	203	79	83	nw.
Hannah	Cavalier	1,568	29	34.8	95	June 23†	−37	Jan. 19†	46	22.05	4.61	July	T.	Mar.	31.8	65	112	154	99	nw.
Hillsboro	Traill	901	32	38.6	99	July 6	−32	Jan. 19†	32	24.71	5.61	July	0.14	Mar.†	27.0	87	140	113	112	nw.
Jamestown	Stutsman	1,457	46	38.0	104	Aug. 5	−35	Jan. 19†	46	18.44	3.74	Apr.	0.55	Sept.	73.4	78	151	131	83	nw.
Langdon	Cavalier	1,615	42	35.4	96	July 5	−35	Jan. 7†	42	23.05	5.92	July	0.30	Mar.	27.8	106	160	81	124	nw.
Larimore	Grand Forks	1,134	45	37.8	99	Aug. 26	−34	Jan. 19	45	18.44	3.89	July	0.16	Oct.	42.8	75	159	62	144	nw.
Lisbon	Ransom	1,091	34	40.1	106	July 6	−35	Jan. 22	34	23.31	4.43	Apr.	0.09	Oct.	85.0	95	114	132	119	nw.
McHenry	Eddy	1,509	15	36.8	98	July 9	−34	Jan. 22	15	16.59	4.71	July	0.22	Mar.	34.7	95	122	126	117	nw.
McLeod	Ransom	1,075	26	40.2	103	Aug. 14	−36	Jan. 22	27	22.12	7.23	Aug.	T.	Oct.	31.1	65	217	71	87	sw.
Mayville	Traill	975	42	39.3	95	July 11†	−35	Jan. 19	42	22.27	6.53	July	0.07	Dec.	32.8	81	120	104	141	nw.
Oakes	Dickey	1,318	9	39.2	106	July 6	−44	Jan. 22	9	16.41	3.09	Apr.	0.15	Oct.	58.3	79	190	89	86	nw.
Park River	Walsh	998	34	37.2	100	Aug. 14	−31	Jan. 26	34	16.46	4.68	July	0.15	Mar.	37.0	73	134	81	150	nw.
Pembina	Pembina	789	64	36.0	95	Aug. 14	−40	Jan. 22	64	22.08	5.30	July	0.42	Oct.	45.5	80	181	53	131	nw.
Petersburg	Nelson	1,520	......	......	......	......	......	......	8	15.89	3.09	June	0.15	Mar.	24.2	74	131	98	136	nw.
Sharon	Steele	1,516	11	36.7	98	Aug. 26	−35	Jan. 22	14	21.36	5.86	July	0.29	Mar.	42.1	104	112	114	139	nw.
Valley City	Barnes	1,245	32	40.2	102	Aug. 1†	−31	Jan. 19	32	20.86	4.34	June	0.25	Oct.	69.5	85	182	80	103	nw.
Wahpeton	Richland	962	46	40.9	100	July 6†	−37	Jan. 22	46	20.07	4.20	Aug.	0.14	Oct.	53.0	98	141	116	108	nw.
Moorhead, Minn	Clay	935	57	39.2	101	July 6	−33	Jan. 22	57	19.89	4.69	Apr.	0.11	Oct.	81.2	106	68	132	165	s.
Middle Division																				
Ashley	McIntosh	2,001	42	39.7	105	Aug. 15	−30	Jan. 19	42	13.84	2.64	June	0.11	Feb.	61.5	69	190	78	97	nw.
Bismarck	Burleigh	1,674	63	41.1	104	Aug. 6	−37	Jan. 22	63	16.60	6.09	June	0.39	Feb.	49.6	76	119	136	110	nw.
Bottineau	Bottineau	1,638	46	36.7	100	Aug. 24	−38	Jan. 22	46	21.35	5.49	June	0.17	Mar.	20.6	89	167	74	124	nw.
Carrington	Foster	1,579	32	38.6	102	Aug. 13	−33	Jan. 21	40	17.43	6.79	June	0.19	Mar.	30.8	78	127	105	133	nw.
Carson	Grant	2,500	26	41.1	105	Aug. 14†	−29	Jan. 29†	26	15.80	6.07	June	0.15	Aug.	45.0	65	142	142	81	nw.
Dogden Butte	McLean	1,880	12	39.0	101	Aug. 23	−32	Jan. 22	12	18.43	6.74	June	0.12	Mar.	43.3	72	158	97	110	nw.
Drake	McHenry	1,634	8	37.6	100	July 5†	−32	Jan. 7†	9	19.59	7.61	June	0.17	Mar.	22.3	96	97	121	147	nw.
Dunseith	Rolette	1,682	42	35.0	99	Aug. 24	−33	Jan. 22	42	20.33	6.99	July	0.17	Mar.	27.2	83	139	123	103	n.
Eckman	Bottineau	1,500	33	37.2	105	Aug. 23	−42	Jan. 7	33	21.90	5.89	July	0.18	Mar.	31.5	89	97	188	80	nw.
Energy	McLean	1,750	13	40.7	103	July 5†	−37	Jan. 22	26	15.72	5.70	June	T	Mar.	30.0	57	143	174	48	nw.
Fessenden	Wells	1,610	26	37.4	103	Aug. 6	−37	Jan. 22	26	16.80	4.91	June	0.19	Mar.	35.6	88	149	93	123	nw.
Fort Yates	Sioux	1,670	38	42.2	105	Aug. 27	−41	Jan. 22	38	17.71	7.93	June	0.16	Nov.	53.5	46	195	87	83	n.
Foxholm	Ward	1,657	13	38.5	105	July 5	−81	Jan. 7	17	15.21	3.76	June	0.11	Mar.	26.6	79	102	131	132	nw.
Gackle	Logan	1,951	8	39.6	103	Aug. 6	−29	Jan. 22	8	15.68	4.15	June	0.28	Nov.	28.3	77	132	93	140	nw.
Garrison	McLean	1,901	43	39.6	104	July 5	−32	Jan. 22	43	14.66	4.71	June	T.	Mar.	21.5	84	161	114	90	nw.
Granville	McHenry	1,504	31	38.9	103	Aug. 23	−39	Jan. 22	31	16.19	5.40	June	0.06	Mar.	35.2	76	140	123	102	nw.
Hansboro	Towner	1,597	30	36.3	98	Aug. 23	−35	Jan. 26	30	27.74	5.79	June	0.20	Jan.	40.0	56	175	95	95	nw.
Linton	Emmons	1,711	20	40.6	105	Aug. 6	−38	Jan. 22	21	14.16	5.80	June	0.15	Feb.	31.3	66	125	169	71	se.
McClusky	Sheridan	1,943	13	38.4	101	Aug. 6†	−33	Jan. 22	20	19.55	9.34	June	0.11	Nov.	27.9	64	199	76	90	nw.
Maddock	Benson	1,604	23	37.9	102	Aug. 6†	−40	Jan. 22	23	16.44	5.14	June	0.03	Mar.	23.1	79	89	136	140	nw.
Mandan	Morton	1,750	24	40.4	104	Aug. 6	−31	Jan. 22	24	16.09	5.65	June	0.34	Nov.	38.4	74	131	111	119	nw.
Manfred	Wells	1,605	......	......	......	......	......	......	35	16.12	5.49	June	0.30	Mar.	31.2	89	......	......	......	......
Max	McLean	2,093	9	37.6	110	July 5	−34	Jan. 8	9	15.83	5.96	June	0.02	Mar.	15.9	65	......	......	......	......
Minot	Ward	1,557	42	40.0	105	July 5	−36	Jan. 22	42	14.84	3.94	June	0.04	Mar.	16.6	74	93	112	160	nw.
Mohall	Renville	1,646	44	37.2	107	July 6	−35	Jan. 22	44	25.20	6.99	June	0.20	Feb.	19.2	75	75	212	78	nw.
Napoleon	Logan	1,955	46	38.8	106	Aug. 6	−35	Jan. 22	46	17.46	4.33	June	0.28	Aug.†	59.7	91	200	65	100	nw.
New Salem	Morton	2,163	34	38.8	105	Aug. 6†	−30	Jan. 19	34	17.54	6.34	June	0.32	Nov.	35.0	80	198	98	69	nw.
Pettibone	Kidder	1,856	29	37.5	103	Aug. 6	−38	Jan. 22	29	10.86	3.74	June	0.21	Oct.	24.7	57	106	124	135	nw.
Rugby	Pierce	1,562	......	......	......	......	......	......	9	15.32	4.63	June	0.14	Jan.	20.3	75	127	131	107	nw.
Ryder	Ward	2.108	......	......	......	......	......	......	9	14.78	3.83	June	0.05	Mar.	12.1	75	156	132	77	nw.
Selfridge	Sioux	2,183	......	......	......	......	......	......	1	17.24	7.19	June	0.30	Nov.	55.5	55	120	157	88	nw.
Steele	Kidder	1,857	44	37.8	101	Aug. 14	−38	Jan. 22	44	19.30	8.40	June	0.27	Dec.	34.1	65	141	105	119	nw.
Tagus	Mountrail	2,179	......	......	......	......	......	......	9	13.69	3.66	July	0.02	Mar.	16.3	83	192	99	74	ne.
Towner	McHenry	1,482	36	39.0	104	Aug. 23	−37	Jan. 22	36	20.77	6.64	June	0.15	Mar.	35.7	72	171	94	100	nw.
Turtle Lake	McLean	1,899	24	39.5	103	Aug. 6	−37	Jan. 22	24	13.92	5.52	June	0.02	Mar.	21.2	62	222	47	96	nw.
Tuttle	Kidder	1,936	......	......	......	......	......	......	30	16.08	6.95	June	0.04	Aug.	38.3	89	164	117	84	nw.
Velva	McHenry	1,511	11	39.4	102	Aug. 23	−39	Jan. 22	11	16.73	6.18	June	0.01	Mar.	28.0	65	93	149	123	nw.
Washburn	McLean	1,731	36	39.9	101	Aug. 6	−34	Jan. 22	37	16.26	7.50	June	0.12	Mar.	27.0	62	158	88	119	n.
Willow City	Bottineau	1,471	46	35.9	101	July 5	−44	Jan. 22	46	21.23	5.04	June	0.27	Mar.	31.3	73	162	127	76	nw.
Wishek	McIntosh	2,010	9	39.6	105	Aug. 6†	−32	Jan. 22†	9	15.85	3.16	June	0.30	Nov.	48.4	63	......	......	......	nw.
Zap	Mercer	1,838	......	......	......	......	......	......	23	12.54	4.53	June	T.	Nov.	......	34	198	122	45	......
Western Division																				
Alpha	Golden Valley	......	......	......	......	......	......	......	11	14.07	4.81	June	0.09	Nov.	19.5	62	231	66	68	nw.
Beach	Golden Valley	2,579	32	41.2	104	Aug. 13†	−33	Jan. 7	32	13.26	4.53	June	0.18	Nov.	30.8	72	......	......	......	se.
Berthold Agency	McLean	2,082	45	39.2	107	Aug. 23	−43	Jan. 22	45	17.39	4.78	July	T.	Mar.	37.2	57	187	65	112	nw.
Corinth	Williams	2,180	......	......	......	......	......	......	10	14.19	2.93	July	0.28	Feb.	48.9	53	105	148	112	nw.
Crosby	Divide	1,954	31	37.8	111	July 5	−36	Jan. 7	31	9.16	2.01	Oct.	0.14	Nov.	19.0	48	129	102	134	s.
Dickinson	Stark	2,543	46	39.2	105	Aug. 27	−31	Jan. 22	46	16.28	6.32	June	0.37	Oct.	31.4	98	137	132	96	nw.
Dunn Center	Dunn	2,191	39	40.2	105	July 5	−35	Jan. 7	39	15.19	4.97	June	0.04	Jan.	17.7	55	154	118	93	nw.
Epping	Williams	2,224	28	40.0	111	July 5	−38	Jan. 7	28	11.03	3.62	July	0.17	Mar.	29.0	40	172	118	75	nw.
Fryburg	Billings	2,790	2	41.0	105	July 5†	−28	Jan. 7	20	14.49	4.01	June	0.21	Nov.	30.8	72	163	131	71	nw.
Hettinger	Adams	2,675	31	42.6	104	Aug. 6†	−27	Jan. 22	31	11.63	5.02	June	0.02	Feb.	23.0	45	......	......	......	......
Howard	Williams	2,275	31	37.4	111	July 5	−38	Jan. 21	31	9.90	2.54	Oct.	0.10	May	34.4	39	199	107	59	nw.
Kenmare	Ward	1,799	6	40.1	103	July 5	−34	Jan. 7	7	18.72	3.43	Aug.	0.05	Mar.	26.3	89	178	138	49	nw.
Marmarth	Slope	2,714	24	42.4	103	July 5	−38	Jan. 21	29	14.52	5.81	June	0.13	Feb.	34.9	60	156	106	103	nw.
Mary	McKenzie	......	......	......	......	......	......	......	9	11.68	2.51	June	0.03	Mar.	18.8	57	210	65	90	nw.
Mott	Hettinger	2,424	31	42.2	105	Aug. 6†	−29	Jan. 21	31	14.00	5.19	June	0.11	Aug.	31.0	63	126	155	84	nw.
New England	Hettinger	2,400	44	41.6	109	Aug. 5	−29	Jan. 20	44	16.26	7.04	June	0.13	Aug.	36.5	50	155	108	102	nw.
Parshall	Mountrail	1,929	5	37.6	106	July 5	−44	Jan. 7	23	15.83	4.24	July	0.01	Mar.	14.7	65	105	207	53	nw.
Portal	Burke	1.954	25	36.6	107	July 5	−87	Jan. 7	33	13.64	2.33	July	0.10	Feb.	19.5	55	186	57	122	w.
Powers Lake	Burke	2,205	12	39.4	104	July 5	−42	Jan. 7	33	14.21	3.93	Sept.	0.24	Mar.†	33.4	44	187	123	55	e.
Richardton	Stark	2,467	22	40.8	103	July 5†	−26	Jan. 7	22	14.74	4.77	June	0.15	Jan.	32.8	72	98	93	174	nw.
Sanish	Mountrail	1,835	13	39.2	109	July 5	−42	Jan. 7	13	13.16	2.54	July	0.00	Mar.	25.5	64	116	136	113	nw.
Tioga	Williams	2,279	......	......	......	......	......	......	9	10.13	2.04	Aug.	0.08	Feb.	13.4	42	......	......	......	nw.
Trotters	Golden Valley	......	......	......	......	......	......	......	12	11.02	2.56	June	0.16	Feb.	29.0	53	139	116	110	......
Watford City	McKenzie	2,084	25	42.0	108	July 5	−35	Jan. 7	25	14.60	3.13	July	0.10	Feb.	28.5	60	162	164	39	nw.
Williston	Williams	1,878	59	40.8	108	July 5	−38	Jan. 7	59	9.69	1.75	July	0.15	Mar.	23.0	82	173	120	72	se.

†Indicates on other dates (or in other months) also.　　T. Indicates trace.

Monthly and Annual Precipitation for the Year 1937, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.
Eastern Division																										
Amenia	0.89	+0.43	1.45	+0.95	T.	-0.49	4.85	+3.18	2.44	-0.43	4.37	+0.66	2.62	-0.17	1.55	-1.04	1.25	-0.87	0.00	-1.47	0.30	-0.33	0.23	-0.31	19.95	+0.11
Cavalier	0.93	+0.26	0.33	-0.19	0.05	-0.66	3.66	+2.31	1.96	-0.44	3.09	-0.11	4.07	+1.40	4.01	+1.65	1.07	-1.19	0.36	-1.05	0.85	+0.06	0.61	-0.23	20.99	+1.81
Cooperstown	0.52	+0.03	3.31	+2.91	0.26	-0.37	2.03	+0.64	2.21	-0.39	3.68	+0.35	4.25	+1.79	4.08	+1.45	0.82	-1.00	0.55	-0.57	0.27	-0.41	0.73	+0.17	22.71	+4.60
Courtenay	1.65	......	0.87	......	0.42	......	2.26	......	1.78	......	4.15	......	2.13	......	2.41	......	1.26	......	0.57	......	0.41	......	0.68	......	18.59	......
Devils Lake	0.47	0.00	0.46	-0.04	0.15	-0.63	1.23	-0.29	1.41	-0.62	3.50	-0.06	3.26	+0.69	1.25	-1.23	1.80	+0.17	0.37	-0.88	0.41	-0.31	0.48	-0.06	14.79	-3.26
Edgeley	1.17	+0.77	0.73	+0.40	0.50	-0.21	2.13	+0.36	2.75	+0.12	2.41	-1.25	1.40	-1.37	1.11	-1.36	0.89	-0.90	0.30	-0.79	0.23	-0.23	0.67	+0.27	14.29	-4.19
Edmore	0.50	-0.14	0.46	+0.07	0.23	-0.23	1.51	+0.40	1.84	-0.06	2.82	-0.04	3.57	+0.70	1.90	-0.24	1.31	+0.22	0.75	-0.13	0.36	-0.24	0.36	-0.30	15.61	+0.01
Ellendale	0.57	+0.08	0.49	-0.05	0.75	-0.16	2.70	+0.91	3.01	+0.24	2.45	-0.83	1.90	-0.84	2.14	-0.58	1.93	+0.17	0.46	-0.65	0.36	-0.26	0.72	+0.26	17.48	-1.71
Fargo	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	0.91	......	0.03	......	0.31	......	0.41	......	......	......
Forman	1.18	+0.72	0.66	+0.12	0.92	+0.18	5.53	+3.66	2.32	-0.83	3.59	+0.10	4.24	+1.27	3.94	+1.16	0.94	-1.23	0.07	-1.38	0.14	-0.48	0.51	-0.05	24.04	+3.24
Fullerton	2.41	+1.62	1.58	+0.65	1.99	+0.79	4.39	+2.25	3.25	+0.07	1.66	-2.11	1.61	-1.51	2.45	-0.08	0.74	-1.36	0.52	-0.91	0.64	-0.22	1.93	+1.08	23.17	+0.27
Grafton	1.24	+0.75	0.58	+0.04	0.07	-0.58	4.12	+2.91	2.07	-0.10	2.45	-0.95	9.48	+6.93	1.45	-1.13	1.43	-0.91	0.28	-0.94	0.89	+0.15	0.37	-0.17	24.43	+6.00
Grand Forks	0.94	+0.43	0.74	+0.18	0.29	-0.45	4.62	+3.00	3.33	+0.74	2.80	-0.55	4.66	+1.91	3.24	+0.60	0.46	-1.58	0.19	-1.21	1.24	+0.42	0.52	-0.08	23.03	+3.41
Hankinson	1.76	......	1.12	......	0.82	......	5.53	......	2.27	......	2.32	......	2.22	......	3.36	......	0.99	......	T.	......	0.74	......	0.88	......	22.01	......
Hannah	0.77	+0.05	0.86	+0.27	T.	-0.69	2.36	+1.32	1.78	-0.34	4.26	+0.87	4.61	+2.26	3.44	+1.32	0.96	-1.24	1.79	+0.65	0.70	-0.05	0.52	-0.10	22.05	+4.32
Hillsboro	0.77	+0.26	0.66	+0.08	0.14	-0.61	4.38	+2.54	4.37	+1.28	2.74	-0.63	5.61	+2.93	3.18	+0.48	1.66	-0.49	0.14	-1.33	0.59	-0.23	0.47	-0.19	24.71	+4.09
Jamestown	1.29	+0.74	0.98	+0.39	0.68	-0.19	3.74	+2.16	1.92	-1.08	2.84	-0.77	2.45	-0.33	1.45	-1.24	0.55	-1.29	0.66	-0.62	0.68	0.00	1.20	+0.54	18.44	-1.69
Langdon	0.72	+0.15	0.98	+0.36	0.30	-0.50	2.88	+1.73	2.36	+0.31	3.57	+0.17	5.92	+3.55	2.90	+0.44	1.56	-0.76	0.78	-0.36	0.64	-0.18	0.44	-0.19	23.05	+4.75
Larimore	0.73	+0.07	0.63	+0.05	0.34	-0.43	3.69	+2.09	2.69	-0.20	2.96	-0.90	3.89	+0.67	1.74	-1.04	0.72	-1.54	0.16	-1.40	0.42	-0.49	0.47	-0.10	18.44	-3.22
Lisbon	1.81	+1.24	1.23	+0.61	0.73	+0.09	4.43	+2.62	2.18	-0.74	3.66	-0.18	2.39	-0.80	3.71	+1.03	1.85	-0.29	0.09	-1.24	0.28	-0.38	0.95	+0.47	23.31	+2.43
McHenry	0.32	-0.32	0.53	-0.18	0.22	-0.36	1.71	-0.21	1.79	-1.04	3.52	+0.13	4.71	+1.63	0.92	-1.99	0.77	-1.13	1.36	+0.37	0.35	-0.27	0.39	-0.44	16.59	-3.81
McLeod	1.16	+0.59	0.52	-0.09	0.16	-0.55	3.98	+2.05	1.85	-1.42	3.15	-0.86	1.72	-1.25	7.23	+4.81	1.14	-1.07	T.	-1.48	0.43	-0.23	0.78	+0.30	22.12	+0.80
Mayville	0.90	+0.50	0.32	-0.10	0.17	-0.52	4.29	+2.72	2.99	+0.08	3.58	+0.23	6.53	+3.77	2.08	-0.55	1.03	-1.16	0.18	-1.16	0.13	-0.56	0.07	-0.47	22.27	+2.78
Oakes	1.71	......	0.77	......	1.44	......	3.09	......	1.59	......	2.20	......	1.10	......	2.17	......	1.12	......	0.15	......	0.36	......	0.89	......	16.41	......
Park River	0.45	+0.06	0.36	-0.04	0.15	-0.47	3.04	+1.76	2.24	+0.18	1.66	-1.73	4.68	+2.18	0.77	-1.65	1.75	-0.49	0.68	-0.60	0.36	-0.33	0.32	-0.11	16.46	-1.24
Pembina	1.34	+0.70	0.90	+0.27	0.60	-0.21	4.57	+3.37	1.75	-0.61	2.35	-0.98	5.30	+2.95	2.49	+0.30	0.90	-1.32	0.42	-0.89	0.85	+0.04	0.61	-0.03	22.08	+3.59
Petersburg	0.55	......	0.47	......	0.15	......	2.36	......	2.45	......	3.09	......	3.04	......	1.59	......	0.92	......	0.56	......	0.36	......	0.35	......	15.89	......
Sharon	0.87	+0.53	0.78	+0.45	0.29	-0.35	3.28	+1.78	3.22	+0.35	3.32	-0.41	5.86	+3.77	1.26	-0.84	1.19	-0.66	0.32	-1.74	0.53	-0.34	0.44	-0.01	21.36	+2.53
Valley City	1.27	+0.77	0.74	+0.27	0.38	-0.29	2.78	+1.24	2.91	+0.11	4.34	+0.88	2.63	-0.18	1.25	-0.96	3.03	+1.15	0.25	-0.93	0.52	-0.17	0.76	+0.28	20.86	+2.17
Wahpeton	0.86	+0.44	0.53	+0.04	0.23	-0.42	4.00	+2.07	3.01	+0.35	2.64	-1.07	2.36	-0.86	4.20	+1.52	0.84	-1.54	0.14	-1.43	0.57	-0.19	0.69	+0.23	20.07	-0.86
Moorhead, Minn.	1.55	+0.88	0.77	+0.08	0.30	-0.71	4.69	+2.51	1.37	-1.52	1.89	-2.16	2.68	-0.75	3.59	+0.70	1.56	-0.66	0.11	-1.58	0.44	-0.46	0.94	+0.22	19.89	-3.45
Middle Division																										
Ashley	0.85	+0.38	0.11	-0.38	1.20	+0.41	1.34	-0.32	1.54	-1.00	2.64	-0.60	2.62	-0.21	1.63	-0.92	0.73	-0.87	0.11	-1.05	0.35	-0.27	0.72	+0.16	13.84	-4.67
Bisbee	......	......	......	......	......	......	......	......	2.03	......	4.79	......	8.47	......	1.45	......	1.66	......	1.50	......	0.25	......	0.62	......	......	......
Bismarck	0.70	+0.25	0.39	-0.05	0.58	-0.31	1.43	-0.09	1.52	-0.80	6.09	+2.74	2.17	-0.07	1.12	-0.70	1.19	-0.04	0.49	-0.45	0.41	-0.16	0.51	-0.06	16.60	+0.26
Bottineau	0.60	+0.19	0.37	+0.02	0.17	-0.49	1.78	+1.01	2.01	-0.06	5.49	+2.17	3.85	+1.48	3.44	+1.03	2.06	+0.43	0.94	-0.14	0.33	-0.16	0.31	-0.16	21.35	+5.32
Carrington	0.43	+0.11	0.80	+0.43	0.19	-0.48	1.45	+0.20	1.72	-0.85	6.79	+3.27	2.42	-0.16	0.85	-1.31	1.13	-0.38	0.56	-0.42	0.62	+0.04	0.47	+0.08	17.43	+0.53
Carson	0.58	+0.24	0.29	-0.15	0.89	+0.14	1.35	+0.11	1.67	-0.78	6.07	+2.57	2.38	+0.35	0.15	-1.65	0.98	-0.62	0.57	-0.40	0.31	-0.26	0.56	+0.05	15.80	-0.40
Dogden Butte	0.64	+0.41	0.35	0.00	0.12	-0.46	2.03	+0.79	1.64	-1.33	6.74	+3.49	2.32	-0.82	1.06	-0.86	1.69	+0.53	0.90	-0.23	0.34	-0.17	0.60	+0.18	18.43	+1.53
Drake	0.34	......	0.37	......	0.17	......	0.98	......	1.67	......	7.61	......	4.36	......	1.27	......	1.35	......	0.64	......	0.54	......	0.29	......	19.59	......
Dunseith	0.60	+0.16	0.47	+0.04	0.17	-0.46	1.44	+0.62	1.85	+0.01	5.50	+2.38	6.99	+4.44	0.34	-2.12	1.68	-0.06	0.85	-0.10	0.24	-0.31	0.20	-0.22	20.33	+4.38
Eckman	0.56	+0.20	0.21	-0.15	0.18	-0.35	2.52	+1.66	1.82	-0.10	4.93	+1.93	5.89	+3.66	0.78	-1.19	3.10	+1.64	1.11	+0.18	0.37	-0.10	0.43	-0.05	21.90	+7.33
Energy	0.41	+0.10	0.32	-0.13	T.	-0.77	1.07	+0.11	1.64	-0.52	5.70	+2.30	2.63	+0.28	1.04	-0.89	0.91	-0.56	0.96	+0.02	0.27	-0.17	0.77	+0.32	15.72	+0.09
Fessenden	0.91	+0.43	0.81	+0.31	0.19	-0.56	0.84	-0.41	2.28	-0.03	4.91	+1.22	3.19	+0.86	0.59	-1.72	0.82	-0.82	0.91	-0.18	0.49	-0.20	0.86	+0.26	16.80	-0.84
Fort Yates	1.06	+0.65	0.70	+0.21	0.50	-0.35	0.97	-0.31	1.86	-0.44	7.93	+4.47	1.80	-0.39	0.60	-1.57	0.98	-0.54	0.38	-0.74	0.16	-0.34	0.77	+0.35	17.71	+1.00
Foxholm (near)	0.44	+0.11	0.24	-0.33	0.11	-0.56	2.56	+1.21	1.26	-0.71	3.76	+0.67	2.44	+0.21	0.53	-1.21	1.87	+0.37	1.02	-0.08	0.62	-0.05	0.36	-0.07	15.21	-0.44
Gackle	0.40	......	0.36	......	0.42	......	1.13	......	2.22	......	4.15	......	2.15	......	1.17	......	1.77	......	0.96	......	0.28	......	0.67	......	15.68	......
Garrison	0.41	+0.07	0.29	-0.24	T.	-0.85	1.81	+0.72	1.46	-0.87	4.71	+1.17	1.47	-0.99	0.86	-1.15	1.54	-0.01	1.19	+0.25	0.37	-0.08	0.55	+0.06	14.66	-1.92
Granville	0.77	+0.41	0.48	+0.04	0.06	-0.44	2.19	+1.38	1.37	-0.57	5.40	+2.18	0.78	-1.39	1.58	-0.32	2.05	+0.44	1.04	+0.11	0.27	-0.29	0.20	-0.27	16.19	+1.28
Hansboro	0.20	-0.46	0.70	+0.15	0.75	-0.19	2.85	+1.59	1.66	-0.43	5.79	+2.41	4.92	+2.46	4.62	+2.32	1.38	-0.60	3.15	+2.04	1.50	+0.91	0.22	-0.37	27.74	+9.83
Linton	0.16	-0.22	0.15	-0.33	0.43	-0.36	0.48	-0.77	1.72	-0.69	5.80	+2.64	3.09	+0.96	0.29	-2.08	0.81	-0.79	0.29	-0.82	0.46	-0.04	0.48	+0.10	14.16	-2.40
McClusky	0.60	+0.19	0.40	-0.14	0.40	-0.40	1.42	+0.22	2.70	+0.22	9.34	+5.97	1.44	-1.09	0.45	-1.49	1.34	-0.09	0.99	-0.04	0.11	-0.46	0.36	-0.16	19.55	+2.73
Maddock	1.05	+0.75	0.34	-0.04	0.03	-0.50	1.14	+0.01	2.01	-0.10	5.14	+1.77	2.65	+0.06	1.12	-1.35	1.24	-0.57	1.18	+0.09	0.21	-0.25	0.33	-0.01	16.44	-0.14
Mandan	0.86	+0.51	0.49	+0.13	0.48	-0.37	1.38	+0.21	1.29	-1.15	5.65	+2.36	1.83	-0.55	1.34	-0.38	1.37	-0.12	0.43	-0.56	0.34	-0.17	0.63	+0.16	16.09	+0.07
Manfred	0.39	-0.10	0.38	-0.08	0.30	-0.48	1.33	+0.09	1.79	-0.47	5.49	+1.92	2.67	+0.43	0.67	-1.67	0.89	-0.66	1.30	+0.17	0.45	-0.18	0.46	-0.10	16.12	-1.13
Max	0.28	......	0.20	......	0.02	......	1.30	......	1.79	......	5.96	......	1.12	......	0.77	......	2.47	......	1.30	......	0.12	......	0.50	......	15.83	......
Minot	0.18	-0.19	0.10	-0.35	0.04	-0.59	2.16	+0.96	1.40	-0.74	3.94	+0.74	1.31	-0.59	1.01	-1.06	2.31	+0.65	1.54	+0.53	0.34	-0.33	0.51	+0.05	14.84	-0.92
Mohall	0.77	+0.46	0.20	-0.11	0.20	-0.44	3.04	+2.14	1.44	-0.41	6.99	+4.10	6.27	+3.93	0.42	-1.51	3.05	+1.49	2.26	+1.09	0.31	-0.23	0.25	-0.17	25.20	‡10.34
Napoleon	1.40	+1.07	0.95	+0.55	1.05	+0.22	1.24	-0.30	2.29	-0.14	4.33	+1.04	2.24	-0.26	0.28	-2.12	1.86	+0.38	0.28	-0.82	0.74	+0.17	0.80	+0.35	17.46	+0.14
New Salem	0.83	+0.38	0.53	+0.08	0.58	-0.27	1.60	+0.56	1.70	-0.42	6.34	+2.87	2.39	+0.21	0.47	-1.35	1.85	+0.49	0.47	-0.49	0.32	-0.17	0.46	-0.12	17.54	+1.77
Pettibone	0.32	-0.09	0.26	-0.13	0.26	-0.36	0.57	-0.55	1.00	-1.40	3.74	+0.49	1.19	-1.65	0.86	-1.42	2.04	+0.72	0.21	-0.72	0.24	-0.34	0.17	-0.30	10.86	-5.75
Rugby	0.14	......	0.32	......	0.25	......	1.29	......	1.02	......	4.63	......	3.28	......	1.14	......	1.66	......	0.93	......	0.50	......	0.16	......	15.32	......
Ryder	0.20	......	0.10	......	0.05	......	1.66	......	1.25	......	3.83	......	2.82	......	0.84	......	2.49	......	1.05	......	0.32	......	0.17	......	14.78	......
Selfridge	0.94	......	0.39	......	1.10	......	1.65	......	1.40	......	7.19	......	0.79	......	1.17	......	1.20	......	0.44	......	0.30	......	0.67	......	17.24	......
Steele	0.32	-0.14	0.47	+0.03	0.34	-0.47	2.00	+0.84	0.88	-1.79	8.40	+4.89	3.33	+0.34	1.02	-1.37	1.61	+0.09	0.36	-0.81	0.30	-0.23	0.27	-0.30	19.30	+1.08
Tagus	0.17	......	0.11	......	0.02	......	1.38	......	1.11	......	3.02	......	3.66	......	0.74	......	1.87	......	1.21	......	0.20	......	0.20	......	13.69	......
Towner	0.95	+0.51	0.65	+0.21	0.15	-0.58	2.59	+1.72	1.71	-0.43	6.64	+3.49	1.91	-0.50	1.50	-0.53	2.30	+0.54	0.73	-0.26	1.09	+0.57	0.55	+0.11	20.77	+4.85
Turtle Lake	0.50	+0.13	0.20	-0.30	0.02	-0.86	0.86	-0.17	1.56	-0.67	5.52	+1.88	1.18	-1.37	1.84	-0.28	0.90	-0.48	0.81	-0.10	0.09	-0.33	0.44	-0.07	13.92	-2.62
Tuttle	0.53	+0.08	0.42	+0.04	0.52	-0.27	0.82	-0.15	1.61	-0.90	6.95	+3.61	1.67	-0.85	0.04	-1.88	1.48	+0.02	1.07	+0.31	0.37	-0.05	0.60	+0.19	16.08	+0.15
Velva	0.60	+0.19	0.32	-0.05	0.01	-0.52	2.22	+1.31	1.27	-1.36	6.18	+3.74	1.17	-1.43	1.28	-0.62	1.73	+0.69	1.16	+0.11	0.37	-0.09	0.42	+0.02	16.73	+1.99
Washburn	0.34	+0.01	0.35	-0.03	0.12	-0.62	1.16	+0.19	1.18	-1.11	7.50	+4.11	2.95	+0.47	0.47	-1.20	0.65	-0.69	0.61	-0.44	0.19	-0.27	0.71	+0.24	16.26	+0.66
Westhope	......	......	......	......	0.08	-0.45	2.11	+1.31	2.49	+0.66	7.45	+4.42	......	......	0.85	-1.15	2.59	+1.16	1.60	+0.74	0.54	+0.02	1.46	+1.16	......	......
Willow City	0.55	-0.03	0.57	+0.02	0.27	-0.47	2.34	+1.47	1.63	-0.21	5.04	+1.89	3.82	+1.68	2.97	+0.85	1.94	+0.21	0.43	-0.45	0.64	+0.08	1.03	+0.44	21.23	+5.48
Wishek	0.58	+0.08	1.11	+0.76	0.93	+0.22	0.91	-0.44	2.59	-0.25	3.16	+0.16	2.61	+0.08	1.28	-0.63	0.62	-0.57	0.72	-0.06	0.30	-0.05	1.04	+0.40	15.85	-0.30
Zap	0.10	-0.16	0.04	-0.32	0.13	-0.48	0.73	-0.17	1.03	-1.32	4.53	+0.59	1.51	-0.77	1.90	-0.01	1.64	+0.02	0.77	-0.16	T.	-0.38	0.16	-0.19	12.54	-3.35
Western Division																										
Alpha	0.20	-0.26	0.15	-0.32	0.44	-0.42	1.08	-0.09	1.16	-1.27	4.81	+1.41	1.45	-0.61	0.48	-1.23	3.37	+2.10	0.36	-0.62	0.09	-0.30	0.48	-0.02	14.07	-1.63
Amidon	......	......	......	......	......	......	......	......	2.23	-0.29	4.96	+1.87	1.52	-0.95	0.04	-1.18	2.72	+1.22	0.40	-0.74	0.12	-0.35	0.59	+0.11	......	......
Beach	0.45	-0.02	0.20	-0.21	0.95	+0.19	0.62	-0.53	1.17	-1.15	4.53	+0.83	2.28	+0.47	0.81	-0.88	0.65	-0.64	0.88	-0.06	0.18	-0.30	0.54	+0.04	13.26	-2.26
Berthold Agency	0.73	+0.48	0.08	-0.32	T.	-0.56	1.07	+0.06	1.98	-0.26	4.42	+0.55	4.78	+2.42	1.29	-0.63	1.33	-0.26	0.99	+0.10	0.43	+0.06	0.29	-0.09	17.39	+1.55
Corinth	1.86	......	0.28	......	0.40	......	1.63	......	0.56	......	0.91	......	2.93	......	0.98	......	1.78	......	1.79	......	0.45	......	0.62	......	14.19	......
Crosby	0.54	+0.13	0.25	-0.11	0.53	-0.14	0.32	-0.66	0.20	-1.74	0.96	-2.40	1.70	-0.41	0.58	-1.41	1.51	+0.12	2.01	+1.17	0.14	-0.46	0.42	-0.09	9.16	-6.00
Dickinson	0.41	-0.01	0.39	-0.04	0.61	-0.13	0.84	-0.24	1.61	-0.72	6.32	+2.95	2.74	+0.57	1.04	-0.95	1.00	-0.32	0.37	-0.61	0.53	+0.06	0.42	-0.08	16.28	+0.48
Dunn Center	0.04	-0.35	0.52	+0.02	0.09	-0.74	0.70	-0.56	2.14	-0.25	4.97	+1.10	3.76	+1.53	0.80	-0.91	1.01	-0.43	0.72	-0.19	0.12	-0.34	0.32	-0.14	15.19	-1.26
Epping	0.21	-0.23	0.54	+0.13	0.17	-0.42	1.05	+0.02	0.30	-1.88	0.95	-2.62	3.62	+1.64	0.61	-1.09	1.27	-0.12	1.63	+0.84	0.30	-0.14	0.38	-0.07	11.03	-3.94
Fryburg	0.53	+0.08	0.25	-0.22	0.80	+0.02	1.11	-0.06	1.42	-0.97	4.01	+0.71	1.50	-0.69	1.77	-0.19	1.28	-0.09	0.91	-0.14	0.21	-0.28	0.70	+0.19	14.49	-1.64
Hettinger	0.06	-0.24	0.02	-0.40	0.71	+0.01	0.69	-0.28	1.26	-1.12	5.02	+1.82	1.83	-0.53	0.28	-1.35	0.69	-0.71	0.05	-0.72	0.34	-0.08	0.68	+0.28	11.63	-3.32
Howard (near)	0.22	-0.29	0.40	-0.16	0.40	-0.50	0.92	-0.20	0.10	-2.17	0.33	-2.73	1.61	-0.22	0.55	-1.09	1.77	+0.39	2.54	+1.75	0.50	-0.05	0.56	-0.07	9.90	-5.34
Kenmare	0.63	+0.28	0.42	+0.05	0.05	-0.58	1.87	+0.92	1.02	-0.94	2.93	-0.13	3.10	+0.81	3.43	+1.49	2.66	+1.05	2.02	+0.96	0.30	-0.25	0.29	-0.17	18.72	+3.49
Marmarth	0.55	+0.15	0.13	-0.31	1.06	+0.34	0.93	-0.09	2.28	-0.04	5.81	+2.75	1.25	-0.63	0.14	-1.60	1.19	-0.10	0.39	-0.46	0.18	-0.21	0.61	+0.20	14.52	0.00
Mary	0.17	......	0.07	......	0.03	......	1.15	......	2.35	......	2.51	......	1.73	......	0.73	......	1.06	......	0.84	......	0.71	......	0.29	......	11.68	......
Mott	0.60	-0.04	0.23	-0.39	0.55	-0.38	0.89	-0.32	1.61	-0.79	5.19	+1.97	1.79	-0.35	0.11	-1.82	2.09	+0.68	0.18	-0.76	0.19	-0.29	0.57	-0.03	14.00	-2.52
New England	0.46	-0.04	0.27	-0.22	1.54	+0.76	0.95	-0.06	1.36	-0.62	7.04	+4.08	1.89	-0.18	0.13	-1.57	1.48	+0.10	0.27	-0.57	0.18	-0.26	0.69	+0.28	16.26	+1.70
Parshall (near)	0.08	-0.16	0.19	-0.23	0.01	-0.50	1.08	+0.13	1.53	-0.64	4.22	+0.66	4.24	+2.24	0.87	-1.09	1.85	+0.31	1.20	+0.39	0.31	-0.06	0.25	-0.15	15.83	+0.90
Portal	0.29	-0.13	0.10	-0.30	0.60	0.00	1.22	+0.25	0.73	-1.33	1.76	-1.53	2.33	+0.22	1.85	-0.04	2.08	+0.49	2.12	+1.23	0.32	-0.23	0.24	-0.23	13.64	-1.60
Powers Lake	0.43	-0.08	0.44	-0.02	0.24	-0.45	1.34	+0.13	0.58	-1.60	2.53	-1.07	2.81	+0.22	0.56	-1.21	3.93	+2.42	0.46	-0.76	0.24	-0.25	0.65	+0.09	14.21	-2.58
Richardton	0.15	-0.23	0.40	0.00	0.50	-0.22	1.88	+0.74	1.50	-1.08	4.77	+1.36	2.58	+0.33	0.46	-1.49	1.01	-0.35	0.39	-0.49	0.40	-0.08	0.70	+0.31	14.74	-1.20
Sanish	0.28	-0.46	0.45	+0.02	0.00	-0.58	1.36	+0.29	1.12	-0.15	2.39	-0.47	2.54	+0.84	0.60	-0.71	2.00	+1.20	1.28	+0.66	0.65	+0.18	0.49	-0.12	13.16	+0.70
Tioga	0.12	......	0.08	......	0.10	......	0.94	......	0.47	......	0.87	......	1.99	......	2.04	......	1.38	......	1.64	......	0.22	......	0.28	......	10.13	......
Trotters	0.61	+0.21	0.16	-0.21	0.50	-0.26	0.78	-0.25	0.97	-1.35	2.56	-0.92	1.48	-0.08	1.09	-0.42	0.80	-0.45	1.01	+0.18	0.48	+0.04	0.58	+0.18	11.02	-3.33
Watford City	0.44	-0.03	0.10	-0.32	0.12	-0.56	1.23	+0.07	1.90	-0.07	1.79	-1.41	3.13	+1.30	0.78	-0.93	1.52	+0.20	2.13	+1.26	0.74	+0.24	0.72	+0.18	14.60	-0.07
Williston	0.50	-0.04	0.20	-0.21	0.15	-0.54	0.93	-0.27	0.50	-1.56	0.78	-2.65	1.75	-0.14	0.98	-0.49	1.31	+0.22	1.61	+0.75	0.38	-0.20	0.60	+0.02	9.69	-5.11

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace ‡ Plus

Monthly and Annual Mean Temperatures for the Year 1937, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Eastern Division																										
Amenia	−8.0	−12.9	5.6	−3.2	23.6	−1.0	39.6	−2.4	57.2	+3.2	66.0	+2.6	75.6	+6.9	78.2	+11.7	58.4	+1.1	36.2	−8.4	28.0	0.0	10.7	−1.5	39.3	−0.3
Cavalier	−10.7	.....	6.4	.....	21.6	.....	36.3	.....	57.6	.....	69.1	.....	69.6	.....	71.3	.....	58.0	.....	41.4	.....	23.8	.....	7.0	.....	37.6	.....
Cooperstown	−11.0	−17.6	1.2	−8.2	19.2	−4.2	37.4	−3.3	55.1	+2.8	62.0	−0.4	69.8	+1.6	71.5	+5.3	56.2	−0.1	41.0	−2.4	22.0	−5.6	8.1	−4.2	36.0	−3.1
Devils Lake	−9.9	−11.7	4.6	−0.5	21.8	+2.0	38.3	−0.5	55.6	+3.0	62.6	+0.7	70.6	+3.2	72.0	+7.2	56.4	+0.5	42.6	+0.2	22.3	−2.2	7.7	−1.8	37.0	0.0
Edgeley	−7.4	−16.2	7.0	−5.7	24.7	−2.6	40.2	−2.5	56.7	+3.0	62.6	−0.3	70.6	+1.8	75.8	+8.9	58.6	+1.0	45.2	−0.1	27.3	−2.5	10.9	−3.7	39.4	−1.5
Edmore	−10.1	−11.4	3.0	−4.2	20.8	−0.2	38.2	−2.4	54.6	+2.2	60.6	−2.4	68.4	+2.0	70.0	+6.3	56.2	+0.7	[b]39.8	−2.4	22.6	−2.2	7.2	−1.7	35.9	−1.3
Ellendale	−6.8	−17.5	7.4	−3.3	26.6	+1.0	41.2	−2.4	58.5	+2.8	64.1	−1.9	73.6	+2.9	76.0	+7.2	60.2	+1.8	45.8	+0.2	27.1	+1.0	11.5	−5.3	40.4	−1.2
Fargo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	59.6	.....	43.6	.....	25.6	.....	9.8	.....	.....	.....
Forman	−2.0	−11.5	7.4	−5.7	24.2	−3.4	40.4	−3.8	57.8	+2.4	63.7	−1.1	72.1	+2.0	74.0	+5.8	58.2	−0.5	43.7	−2.4	27.0	−3.0	10.8	−4.5	39.8	−2.1
Fullerton	−6.0	−14.9	8.0	−4.0	25.9	−0.9	41.1	−1.7	58.8	+4.8	64.2	+0.8	73.4	+4.4	76.0	+8.9	60.1	+2.9	45.8	+1.0	26.8	−2.4	12.8	−1.6	40.6	−0.2
Grafton	−9.7	−11.9	5.2	−1.5	22.1	+0.9	40.6	0.0	58.0	+4.7	64.0	+1.2	70.6	+2.9	72.2	+7.0	58.9	+2.6	44.1	+2.0	26.0	+1.3	10.0	+1.1	38.5	+0.9
Grand Forks	−9.7	−13.2	3.1	−4.5	20.2	−2.2	39.6	−2.1	56.5	+2.8	63.2	+0.2	69.6	+2.1	71.7	+6.3	56.2	−0.2	42.0	−1.6	23.3	−2.7	8.2	−2.4	37.0	−1.4
Hankinson	−3.6	.....	7.9	.....	24.4	.....	41.0	.....	57.2	....	64.6	.....	72.8	.....	74.4	.....	58.2	.....	43.9	.....	26.6	.....	12.0	.....	40.0	.....
Hannah	−13.0	−11.9	2.5	0.0	18.5	−0.3	36.8	−1.3	54.4	+3.8	61.0	+1.1	68.4	+3.7	69.2	+6.3	53.6	−0.4	40.2	−0.4	21.2	+0.9	5.2	−1.6	34.8	0.0
Hillsboro	−8.0	−12.6	6.0	−4.3	22.3	−3.3	40.8	−2.0	57.9	+4.0	63.6	−0.6	70.8	+1.2	73.7	+6.2	58.8	+0.2	42.6	−2.6	24.7	−3.1	9.5	−1.7	38.6	−1.5
Jamestown	−9.6	−16.6	1.4	−8.2	19.2	−4.8	36.6	−5.5	57.0	+3.5	64.2	+1.0	73.0	+4.5	74.8	+8.4	58.4	+1.9	44.9	+0.4	25.1	−2.2	11.2	−2.2	38.0	−1.7
Langdon	−13.2	−12.3	3.0	−1.8	20.2	+0.6	38.1	+0.3	53.4	+2.5	61.2	+1.3	68.6	+4.0	69.1	+6.6	56.2	+3.9	41.1	+0.2	21.4	−2.6	5.7	−2.6	35.4	0.0
Larimore	−9.6	−13.2	5.4	−1.9	22.2	−0.1	38.6	−1.8	56.4	+3.8	63.0	+0.6	70.2	+3.2	71.7	+6.7	58.1	+2.8	43.4	−0.5	24.0	−1.8	9.7	−1.3	37.8	−0.2
Lisbon	−6.8	−14.1	8.4	−2.8	26.1	−1.0	40.5	−1.9	57.4	+3.5	64.5	+1.0	73.2	+3.9	74.6	+7.6	58.7	+1.2	46.0	+2.2	26.9	−2.0	11.4	−2.7	40.1	−0.4
McHenry	−7.7	−9.2	4.4	−1.4	21.8	−1.4	38.2	−3.0	55.5	+3.2	61.0	−1.2	69.2	+1.5	71.2	+6.1	56.5	+1.4	42.4	−0.5	22.2	−5.2	7.5	−2.0	36.8	−1.0
McLeod	−4.4	−12.8	8.3	−5.0	26.0	−1.7	40.4	−3.8	56.2	+1.7	63.8	−0.7	72.5	+2.3	74.6	+6.7	59.0	0.0	45.7	−0.5	27.8	−2.5	12.5	−1.9	40.2	−1.5
Mayville	−5.9	−11.7	7.2	−2.3	22.8	−1.7	41.3	−1.7	58.6	+3.9	64.4	+0.4	69.6	+0.6	73.7	+6.7	62.0	+4.6	42.6	−3.3	23.8	−4.4	11.4	−1.5	39.3	−0.9
Oakes	−7.0	.....	6.0	.....	24.2	.....	38.6	.....	57.8	.....	63.7	.....	73.4	.....	75.0	.....	58.9	.....	43.4	.....	25.0	.....	11.2	.....	39.2	.....
Park River	−9.6	−12.3	5.2	−2.5	21.0	−2.1	37.6	−3.7	56.1	+3.1	62.9	0.0	70.2	+2.3	70.8	+4.6	55.8	−0.8	43.2	−0.6	24.2	−3.6	8.6	−1.9	37.2	−1.4
Pembina	−11.8	−9.4	2.6	−0.4	17.9	−0.3	38.6	0.0	56.8	+4.0	62.8	+0.1	68.8	+1.3	69.6	+5.3	55.2	+1.1	41.3	−0.1	23.8	+0.5	7.0	+0.7	36.0	+0.2
Sharon	−9.8	−14.1	3.6	−7.8	21.6	−3.0	38.0	−1.9	55.4	+1.5	61.1	−2.5	69.2	−1.7	71.8	+4.5	56.8	+0.2	42.2	−0.7	22.4	−2.1	7.8	−2.8	36.7	−2.5
Valley City	−6.0	−11.5	7.4	−4.1	24.5	−1.5	41.0	−1.6	59.0	+5.5	63.8	+0.7	72.7	+4.0	74.6	+7.8	60.4	+2.2	44.9	+0.3	27.4	−0.6	12.2	−1.5	40.2	0.0
Wahpeton	−3.2	−11.6	8.3	−3.7	24.2	−3.3	42.0	−2.4	58.6	+3.0	64.6	−0.5	73.3	+3.5	75.6	+7.7	61.3	+2.1	45.4	−1.2	28.4	−0.4	12.5	−2.8	40.9	−0.8
Moorhead, Minn.	−6.1	−9.9	5.6	−2.5	22.4	−0.3	40.8	+0.2	58.0	+2.9	63.6	−0.8	72.1	+4.0	74.2	+8.1	59.0	+0.8	44.1	−0.4	26.2	−0.9	10.7	−0.8	39.2	0.0
Middle Division																										
Ashley	−7.4	−16.0	7.2	−3.9	26.0	+1.7	[j]39.5	−3.1	57.4	+3.9	62.7	+0.3	72.6	+3.9	76.0	+9.5	60.0	+2.7	44.4	+0.3	26.3	−1.7	11.6	−2.6	39.7	−0.4
Bisbee	.....	.....	.....	.....	.....	.....	.....	.....	55.0	.....	61.2	.....	68.2	.....	68.6	.....	55.2	.....	41.2	.....	22.6	.....	7.4	.....	.....	.....
Bismarck	−6.0	−13.8	8.6	−1.7	28.6	+4.4	42.8	+0.7	58.9	+4.4	64.6	+0.9	73.6	+3.8	75.4	+8.1	60.4	+2.3	46.2	+1.3	26.8	−1.7	13.6	−1.1	41.1	+0.6
Bottineau	−10.4	−11.0	5.6	+1.4	22.6	+2.5	39.2	+0.1	55.9	+4.6	63.0	+1.7	70.2	+3.6	69.8	+5.7	57.1	+2.2	41.2	+0.2	21.6	−2.0	4.7	−2.7	36.7	+0.5
Carrington	−5.8	−12.5	7.8	−0.9	25.6	+2.2	40.6	+1.0	57.3	+4.8	63.3	+0.3	71.6	+2.9	72.2	+5.4	56.4	−0.2	42.2	−1.6	22.4	−5.4	9.8	−1.9	38.6	−0.5
Carson	−7.4	−16.4	9.6	−5.8	28.2	+1.9	42.8	+0.1	58.8	+5.7	63.8	+1.4	73.0	+4.2	73.4	+5.5	61.1	+4.7	47.5	+4.2	27.5	−2.5	15.4	+0.7	41.1	+0.3
Dogden Butte	−8.0	−18.3	8.6	−9.2	25.6	−0.9	40.9	−1.1	57.0	+3.3	62.2	−0.2	69.9	+0.8	72.2	+5.8	58.4	+2.7	44.2	+0.1	25.0	−1.3	11.7	−1.4	39.0	−1.6
Drake	−10.3	.....	5.0	.....	24.8	.....	39.6	.....	55.4	.....	63.0	.....	70.6	.....	71.0	.....	56.5	.....	42.8	.....	22.8	.....	9.6	....	37.6	.....
Dunseith	−10.2	−12.7	3.6	−2.8	20.4	+0.2	37.6	−2.3	54.0	+1.9	60.4	−0.5	68.0	+2.1	68.0	+4.1	53.4	−1.0	38.5	−2.9	19.6	−4.8	7.1	−2.0	35.0	−1.8
Eckman	−12.6	−15.7	3.8	−3.8	24.4	+1.5	40.4	−0.2	56.4	+5.0	62.8	+1.2	70.2	+3.4	70.0	+5.8	56.6	+1.4	42.8	+1.0	23.4	−2.4	8.8	−0.5	37.2	−0.3
Energy	−6.6	−18.9	8.8	−10.4	28.6	−0.6	43.4	−1.2	[b]58.6	+3.2	63.9	−0.2	72.5	+1.5	74.0	+6.4	59.6	+2.8	45.6	+1.6	26.6	−1.9	13.1	−1.2	40.7	−1.5
Fessenden	−11.2	−15.7	3.4	−6.7	23.8	+0.4	39.4	−1.3	56.4	+4.4	62.3	+0.6	70.7	+2.7	72.6	+6.7	57.6	+1.9	43.0	0.0	23.1	−4.0	8.2	−2.4	37.4	−1.2
Fort Yates	−7.4	−16.6	10.6	−1.2	31.4	+5.1	45.6	+0.7	60.2	+4.1	65.0	−1.2	74.8	+3.1	75.0	+5.7	62.0	+2.2	47.4	+1.0	28.0	−1.8	14.2	−4.2	42.2	−0.3
Foxholm (near)	−8.0	−17.0	7.8	−8.7	25.2	−0.2	40.2	−1.3	56.4	+3.3	62.8	+1.0	71.0	+2.6	71.6	+6.0	57.1	+2.7	42.7	+1.0	24.0	−1.1	11.1	−1.2	38.5	−1.1
Gackle	−6.0	.....	7.1	.....	24.2	.....	39.8	.....	58.4	.....	63.9	.....	73.2	.....	75.6	.....	59.0	.....	43.5	.....	24.7	.....	11.6	.....	39.6	.....
Garrison	−6.4	−14.0	9.0	−1.9	27.2	+3.4	41.7	−0.6	56.2	+3.5	63.4	+1.2	72.0	+3.8	71.8	+5.7	58.6	+3.7	44.0	+1.3	26.4	+0.1	11.8	−1.9	39.6	+0.3
Granville	−9.5	−14.1	7.2	−2.9	26.0	+1.9	40.8	0.0	56.4	+4.8	63.2	+1.0	70.9	+3.4	72.5	+7.6	57.6	+2.8	44.5	+1.2	25.4	−1.3	11.6	−0.4	38.9	+0.3
Hansboro	−11.2	−11.1	5.4	−0.4	21.1	+0.5	38.6	−0.3	55.8	+5.1	61.8	+1.4	68.1	+2.9	69.6	+7.2	55.4	+1.9	42.0	+1.3	21.5	−2.0	7.3	−0.7	36.3	+0.5
Linton	−7.7	−17.2	8.0	−6.5	28.2	+0.5	42.6	−0.1	59.2	+5.0	63.4	−0.9	73.6	+2.3	76.8	+7.6	61.2	+2.7	45.3	+0.6	25.4	−3.6	11.4	−2.5	40.6	−1.0
McClusky	−8.8	−17.3	5.7	−10.8	24.8	−1.2	40.2	−1.4	56.6	+3.8	62.4	+0.6	70.5	+1.7	72.4	+6.3	59.0	+3.4	43.8	+1.5	23.9	−1.6	10.6	−1.3	38.4	−1.4
Maddock	−10.4	−15.2	4.6	−6.5	24.6	0.0	39.8	−1.2	56.9	+4.2	62.2	+1.1	70.2	+2.6	72.6	+6.9	58.4	+2.7	43.0	+0.1	24.2	−2.4	9.1	−0.9	37.9	−0.7
Mandan	−7.0	−15.3	7.6	−5.3	27.8	+1.1	42.4	−0.3	58.4	+4.5	63.7	+0.4	72.4	+1.8	74.5	+6.4	59.5	+2.1	45.5	+1.5	26.6	−2.6	13.0	−0.7	40.4	−0.5
Max	−10.5	.....	3.7	.....	23.2	.....	39.7	.....	55.2	.....	62.6	.....	72.1	.....	72.3	.....	56.2	.....	42.3	.....	24.0	.....	10.1	.....	37.6	.....
Minot	−7.6	−13.8	9.8	+0.1	27.8	+5.0	41.2	+0.4	56.9	+4.7	66.3	+4.0	71.4	+3.5	71.8	+6.8	58.5	+2.6	44.3	+1.0	26.0	−1.5	13.5	+1.6	40.0	+1.2
Mohall	−11.2	−15.8	4.4	−2.7	23.4	+2.5	39.5	−1.0	55.0	+2.7	62.3	+1.2	69.8	+3.5	70.2	+6.3	56.4	+2.4	42.4	+0.7	22.8	−2.0	11.2	+0.2	37.2	−0.2
Napoleon	−9.4	−15.8	4.2	−4.1	24.4	+1.7	40.5	−0.9	57.4	+5.0	61.6	−0.8	72.2	+3.6	76.2	+9.8	59.6	+2.9	44.0	+0.3	24.1	−2.6	10.2	−2.4	38.8	−0.2
New Salem	−9.4	−18.5	6.8	−6.3	26.2	+0.3	40.9	−1.5	56.4	+4.0	61.7	−1.2	71.4	+1.5	74.0	+6.8	58.3	+0.8	43.1	−1.7	24.2	−5.6	12.2	−3.1	38.8	−2.1
Pettibone	−10.0	−13.0	3.0	−5.8	22.8	−1.5	38.7	−2.2	55.8	+4.0	61.1	−0.4	70.9	+2.9	73.0	+4.7	57.2	+2.0	42.4	+0.6	23.7	−2.7	11.0	+0.5	37.5	−0.9
Steele	−11.2	−18.5	4.0	−5.4	26.8	+2.7	39.8	−3.4	57.4	+4.0	58.2	−4.3	[i]69.8	+0.4	73.6	+6.9	58.8	+1.9	43.6	−0.2	23.2	−3.1	10.1	−2.2	37.8	−1.8
Towner	−7.1	−10.9	6.6	−1.1	25.3	+3.2	41.6	−0.3	57.6	+4.4	65.2	+2.4	71.6	+3.6	73.3	+7.9	58.8	+2.6	43.4	0.0	22.9	−2.3	9.4	−0.7	39.0	+0.7
Turtle Lake	−6.0	−13.8	7.0	−4.8	26.6	+1.8	41.3	−0.2	56.9	+4.1	63.9	+2.1	71.8	+3.5	73.8	+7.4	58.6	+2.3	44.0	+0.7	25.3	−2.9	10.4	−1.2	39.5	−0.1
Velva	−8.8	.....	9.0	.....	25.9	.....	41.8	.....	57.9	.....	63.2	.....	71.0	.....	71.7	.....	58.5	.....	44.7	.....	25.3	.....	12.4	.....	39.4	.....
Washburn	−7.6	−15.0	6.6	−2.9	27.2	+2.8	41.9	−1.9	57.7	+3.9	64.0	−0.1	72.4	+2.9	74.3	+6.9	60.2	+1.7	45.0	+0.5	25.6	−4.7	11.5	−2.5	39.9	−0.7
Westhope	.....	.....	.....	.....	23.9	+1.9	39.6	−0.3	[a]56.7	+4.9	62.8	+0.8	.....	.....	70.0	+5.3	56.5	+1.6	42.6	+0.5	22.8	−2.8	8.6	−1.4	.....	.....
Willow City	−12.1	−13.0	2.0	−2.9	22.4	+2.7	39.2	−0.4	55.5	+4.0	60.8	−0.2	69.2	+3.5	69.6	+6.0	56.4	+2.2	41.4	0.0	20.8	−1.8	5.8	−2.9	35.9	−0.3
Wishek	[e]−9.6	−16.6	7.2	−1.8	[d]25.5	−0.8	[d]42.0	+0.1	[e]58.6	+7.9	[e]62.8	+0.5	[d]73.2	+4.6	[e]75.2	+9.4	[d]60.8	+5.2	[e]42.7	−1.2	[d]26.2	−3.6	[d]10.6	−2.4	39.6	+0.1
Western Division																										
Amidon	.....	.....	.....	.....	.....	.....	.....	.....	56.9	+4.1	[i]68.2	+7.2	.....	.....	75.5	+7.6	.....	.....	47.2	+3.6	28.8	−2.1	18.1	+1.0	.....	.....
Beach	−3.9	−15.0	10.6	−5.6	27.2	0.0	41.4	−0.6	57.8	+6.4	62.6	+0.9	73.3	+4.8	73.0	+6.6	60.8	+4.4	46.3	+2.7	27.9	−3.1	17.6	+0.6	41.2	+0.2
Berthold Agency	−9.0	−17.6	6.8	−5.4	26.6	+0.6	41.3	−2.2	56.7	+2.6	63.0	+0.2	71.2	+2.0	72.4	+4.7	58.2	+1.3	45.0	+0.4	26.1	−2.4	12.7	−2.7	39.2	−1.6
Bowman	.....	.....	.....	.....	26.8	−0.9	40.0	−2.6	55.4	+3.2	61.2	−1.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15.0	−0.1	.....	.....
Crosby	−11.6	−15.2	5.9	−3.5	24.3	+0.8	41.2	+1.0	54.1	+2.9	64.8	+3.7	71.6	+4.8	70.0	+5.4	55.0	+0.9	41.6	−0.2	24.8	−1.9	12.4	+0.8	37.8	−0.1
Dickinson	−6.8	−17.3	8.3	−4.8	25.5	+0.2	40.7	−1.4	55.7	+3.5	62.2	+0.5	71.3	+3.1	71.8	+5.5	58.4	+2.4	45.0	+1.4	25.5	−2.8	13.6	−2.8	39.2	−1.1
Dunn Center	−7.9	−21.7	9.4	−5.2	28.6	+3.1	41.6	−0.2	57.6	+4.9	63.6	+1.6	73.1	+5.1	70.9	+4.7	57.6	+1.4	46.3	+1.9	27.4	−0.5	14.2	−3.5	40.2	−0.7
Epping	−8.0	−16.0	6.4	−4.4	26.2	+2.2	41.5	−0.7	57.7	+4.9	65.7	+3.2	73.6	+5.6	74.3	+8.4	59.4	+4.0	44.6	+1.2	26.6	−1.3	12.4	−1.2	40.0	+0.5
Fryburg	−4.8	.....	10.8	.....	26.6	.....	41.1	.....	56.9	.....	63.1	.....	73.1	.....	73.2	.....	60.6	.....	46.4	.....	27.6	....	17.0	.....	41.0	.....
Hettinger	−4.4	−17.4	17.1	+0.6	25.4	−3.2	45.8	+3.0	56.9	+3.3	69.0	+6.1	72.4	+2.3	78.0	+9.2	60.8	+3.2	48.4	+2.8	26.6	−5.0	15.2	−1.6	42.6	+0.3
Howard (near)	−14.0	−18.4	3.8	−5.2	23.7	+1.8	39.2	+0.1	55.4	+5.6	64.4	+4.2	72.1	+6.1	70.0	+5.1	57.1	+2.8	41.4	−0.2	25.4	−0.9	10.8	−0.8	37.4	0.0
Kenmare	−8.4	.....	9.4	.....	28.0	.....	42.8	.....	59.0	.....	65.6	.....	73.0	.....	72.8	.....	58.8	.....	44.0	.....	25.9	.....	10.4	.....	40.1	.....
Marmarth	−2.2	−15.0	13.2	−4.5	28.8	+1.1	43.2	+0.2	60.2	+9.0	64.4	+2.4	73.6	+4.2	73.6	+6.3	60.5	+4.0	47.2	+1.7	28.3	−3.1	17.6	+0.8	42.4	+0.6
Mott	−3.4	−12.2	12.7	−0.8	28.4	+1.5	42.6	+0.8	58.8	+5.3	64.4	0.0	73.9	+3.6	75.6	+8.5	61.4	+4.8	47.8	+4.5	28.0	−1.2	16.6	+2.8	42.2	+1.4
New England	−5.2	−18.6	12.8	−1.3	28.0	+2.8	42.8	+0.5	55.8	+3.8	64.8	+2.2	73.8	+5.0	76.1	+9.2	60.5	+4.1	46.8	+3.4	26.6	−2.5	16.0	−0.5	41.6	+0.7
Parshall	−10.8	.....	6.0	.....	26.0	.....	38.0	.....	55.8	.....	62.4	.....	69.2	.....	69.7	.....	56.0	.....	44.4	.....	23.8	.....	10.4	....	37.6	.....
Portal	−13.6	−16.1	3.0	−2.4	20.6	+2.9	39.8	−1.6	55.9	+5.4	64.4	+5.2	70.6	+4.4	70.2	+6.0	55.2	+0.8	41.2	−0.2	23.3	−2.1	9.1	−3.1	36.6	−0.1
Powers Lake	−9.2	−19.3	4.8	−11.7	24.2	−0.9	42.8	+2.0	54.6	+1.9	62.4	+1.4	74.6	+4.9	73.2	+9.2	60.4	+6.3	44.2	+0.3	25.8	+1.2	14.6	+1.0	39.4	−0.3
Richardton	−6.8	−17.0	10.6	−4.6	28.2	+1.1	41.2	+0.1	57.7	+5.1	62.4	−0.2	71.8	+1.7	74.0	+5.9	60.0	+3.2	47.4	+4.0	27.8	−0.5	15.4	+1.4	40.8	0.0
Sanish	−8.8	−15.2	6.0	−6.1	25.4	+1.1	41.6	−0.9	56.3	+2.0	64.5	+1.1	71.6	+2.1	73.1	+6.3	58.4	+2.2	44.3	+1.1	25.4	−3.4	12.3	+1.4	39.2	−0.7
Watford City	−6.6	−15.6	10.0	−3.9	30.2	+4.9	43.6	+2.5	59.2	+6.5	66.6	+4.9	75.6	+6.3	75.0	+7.7	60.4	+4.1	46.8	+3.9	28.2	−0.1	15.3	+2.3	42.0	+1.9
Williston	−8.6	−15.0	7.2	−0.9	27.4	+4.5	43.2	+1.2	57.8	+3.8	66.9	+4.2	74.1	+5.2	73.4	+7.3	59.4	+2.8	45.9	+2.5	27.6	+0.4	14.8	+1.0	40.8	+1.5

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49]

Precipitation averaged slightly above normal in the eastern division and slightly below normal in the central and western divisions. Crops deteriorated somewhat in the central and western divisions due to the hot, dry weather. Pastures were fair to good in the eastern division, but they were very dry in the northwestern section.

SEPTEMBER.—The temperature averaged somewhat above normal, but with cool periods from the 15th to the 18th, and from the 24th to the 30th. Killing frost occurred at most places on the 25th, and at some places between the 15th and 18th. The precipitation was somewhat below normal in the eastern and southwestern sections, but above normal amounts were reported in the northwestern section where most needed. Pastures improved somewhat near the close of the month and the weather was favorable for harvesting and threshing, but the ground was too dry in some sections for plowing.

OCTOBER.—Temperatures were high at the beginning and again near the close of the month, but cold weather prevailed at the middle of the month and again at the beginning of the third decade. The highest temperature ever recorded so late in the season occurred at many places on the 28th. The precipitation was very light in the southeastern part of the State, but was considerably above average in the north-central and northwestern sections where most needed. The ground was very dry for potato digging and only a small percentage of fall plowing was done.

COMPARATIVE DATA FOR YEAR

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892...	37.8	108	−52	20.24	21.00	13.79	18.34	34.9	70	157	95	114
1893...	35.8	112	−54	18.02	16.33	13.19	15.85	46.1	65	154	104	107
1894...	40.3	107	−47	17.45	14.55	14.84	15.61	24.6	56	174	100	91
1895...	37.7	104	−50	18.41	16.97	16.69	17.36	20.9	63	155	117	93
1896...	37.3	107	−42	26.30	21.67	19.97	22.65	48.3	80	143	111	112
1897...	37.8	109	−48	18.75	16.04	13.26	16.02	33.9	63	162	105	98
1898...	39.2	106	−38	18.97	15.55	13.92	16.15	22.7	57	159	108	98
1899. .	36.9	109	−48	17.40	19.48	15.98	17.62	26.6	60	161	105	99
1900...	40.9	114	−48	21.61	18.70	16.88	19.06	23.2	62	178	97	90
1901...	40.4	110	−43	24.35	17.54	16.33	19.41	20.2	63	175	92	98
1902...	39.4	106	−39	21.66	18.50	17.89	19.35	29.9	62	160	79	126
1903...	38.3	108	−49	20.18	18.27	19.28	19.24	28.8	65	166	81	118
1904...	37.6	103	−52	21.59	18.26	13.59	17.81	38.1	68	150	73	143
1905...	39.3	107	−46	23.23	19.17	14.34	18.91	29.6	66	152	79	134
1906...	39.4	109	−40	21.14	17.68	21.28	20.03	35.4	78	164	93	108
1907...	36.9	104	−49	17.17	13.06	12.69	14.31	33.7	63	175	101	89
1908...	40.7	104	−41	18.84	17.77	19.05	18.55	43.7	75	164	97	105
1909...	38.2	109	−48	21.79	15.89	16.61	18.10	33.5	71	143	110	112
1910...	41.1	114	−50	11.88	12.17	13.56	12.54	21.0	52	180	92	93
1911...	38.0	108	−43	21.73	18.60	14.94	18.42	36.5	76	160	100	105
1912...	38.2	124	−52	22.72	19.73	18.71	20.39	19.3	74	161	102	103
1913...	40.0	106	−54	17.85	13.39	12.70	14.65	19.4	64	166	104	95
1914...	40.1	109	−47	19.81	19.57	17.53	18.97	30.0	70	155	110	100
1915...	39.7	104	−48	21.06	19.06	17.72	19.28	21.2	72	148	101	116
1916...	36.2	105	−56	24.11	18.88	16.63	19.87	54.2	70	170	97	99
1917...	36.3	114	−48	12.61	10.44	9.20	10.75	40.5	60	154	111	100
1918...	40.0	102	−44	18.01	16.00	14.01	16.01	29.7	63	159	104	102
1919...	38.6	108	−44	20.55	14.71	11.51	15.59	47.2	60	165	107	93
1920...	39.5	108	−44	17.67	14.26	13.92	15.28	27.9	64	166	108	92
1921...	42.0	110	−33	23.05	18.96	16.30	19.44	29.4	74	158	111	96
1922...	39.7	115	−46	21.97	19.09	18.62	19.89	42.8	75	155	100	110
1923...	40.7	103	−40	19.12	16.65	17.60	17.79	30.1	64	160	110	95
1924...	38.2	105	−46	20.23	16.39	14.74	17.12	26.1	66	158	101	107
1925...	40.6	111	−39	21.91	14.74	13.29	16.65	19.7	64	158	107	100
1926...	40.7	108	−36	18.05	14.40	13.65	15.37	23.7	68	151	105	109
1927...	38.0	101	−44	22.72	21.25	20.56	21.51	36.2	79	150	102	113
1928...	41.1	107	−41	20.03	18.12	15.48	17.88	17.3	59	177	101	88
1929...	38.0	109	−44	15.09	13.27	14.57	14.31	41.8	65	171	98	96
1930...	41.4	107	−43	17.13	14.19	13.36	14.89	25.0	66	166	101	98
1931...	44.9	111	−31	18.48	14.10	12.41	15.00	18.0	56	180	92	93
1932...	40.0	108	−34	18.43	16.39	16.71	17.18	34.9	69	156	108	102
1933...	41.1	110	−45	14.01	12.74	13.59	13.45	42.2	65	161	104	100
1934...	43.4	112	−44	13.33	8.61	6.60	9.51	15.2	54	160	109	96
1935...	39.4	110	−44	21.24	17.97	14.91	18.04	33.3	77	137	113	115
1936...	38.8	121	−60	10.09	8.21	8.18	8.83	35.2	59	171	110	85
1937...	39.1	111	−44	20.10	17.37	13.63	17.03	36.0	69	150	111	104
Period	39.3	124	−60	19.35	16.42	15.09	16.95	31.0	66	161	101	103

NOVEMBER.—The precipitation was well distributed geographically and throughout the month, but amounts were light at all stations, except a few in the northeastern section. Temperatures were considerably below normal from the 18th to the 21st and from the 27th to the 30th, but pleasant weather prevailed during the remainder of the month. High wind, accompanied by dust storms in many places, prevailed on the 1st. Cattle shipments out of the State were rather heavy during the month.

DECEMBER.—Temperatures during December averaged slightly below normal, with the lowest averages in the eastern division. The precipitation averaged slightly above the normal in all three sections and it was well distributed throughout the month. No severe storms were reported, but the snowfall averaged about 20% above normal.

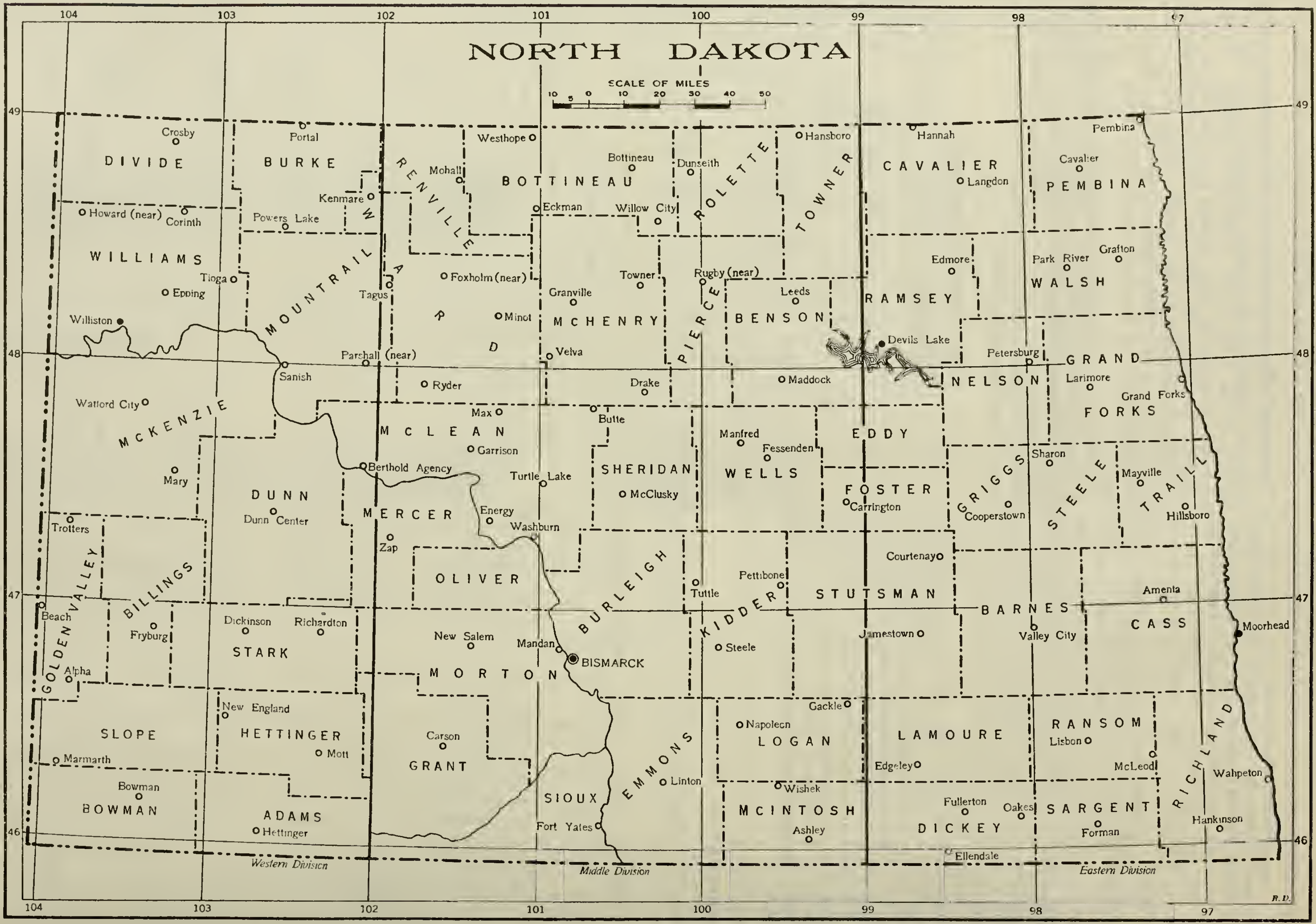
Climatological Summary, 1937

Month	Temperature in degrees Fahrenheit				Precipitation, in inches			Number of days				Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Precip., .01 inch or more	Clear	Pt. cloudy	Cloudy	
January	−8.3	−14.3	38	−44	0.67	+0.18	9.0	6	13	8	10	nw.
February....	6.8	−2.9	55	−35	0.49	+0.03	6.6	4	12	9	7	nw.
March	24.8	+1.2	72	−20	0.39	−0.38	4.3	3	12	11	8	nw.
April	40.7	−0.7	79	3	2.02	+0.59	5.8	8	8	9	13	nw.
May.........	56.9	+3.5	99	19	1.76	−0.55	T	7	12	11	8	nw.
June.........	63.5	+0.5	109	25	4.03	+0.63	T.	7	15	9	6	nw.
July	71.7	+2.9	111	40	2.93	+0.51	0	9	15	10	6	nw.
August	72.9	+6.6	109	40	1.52	−0.49	0	5	18	10	3	se.
September ..	58.6	+2.0	104	20	1.47	−0.07	0.1	6	13	9	8	nw.
October	43.9	+0.2	94	1	0.80	−0.22	0.2	4	12	9	10	nw.
November...	25.2	−1.4	73	10	0.41	−0.19	3.5	4	10	7	13	nw.
December ...	11.4	−1.2	51	−33	0.54	+0.04	6.5	6	10	9	12	nw.
Annual ...	39.1	−0.2	111	−44	17.03	+0.08	36.0	69	150	111	104	nw.

Killing Frosts

STATIONS	Last in Spring	First in Autumn
Eastern Div.		
Amenia	May 9	Sept. 16
Cavalier	" 13	" 18
Cooperstown	June 8	" 12
Devils Lake	May 13	Oct. 7
Edgeley	" 13	Sept. 16
Edmore	June 8	" 12
Ellendale...........	Apr. 26	" 26
Forman	" 26	" 16
Fullerton...........	" 26	" 25
Grafton	May 13	" 12
Grand Forks........	" 13	" 19
Hankinson	" 10	" 16
Hannah	June 8	" 12
Hillsboro	May 9	" 19
Jamestown	" 13	" 17
Langdon	June 8	" 12
Larimore............	May 13	" 12
Lisbon	" 9	" 16
McHenry............	" 13	" 17
McLeod	" 12	" 16
Mayville	June 9	" 12
Oakes	May 9	" 16
Park River...	" 13	" 19
Pembina	" 18	" 7
Sharon	" 13	" 16
Valley City	" 13	" 16
Wahpeton	" 9	" 16
Moorhead, Minn....	Apr. 27	Oct. 7
Middle Div.		
Ashley	May 13	Sept. 17
Bisbee	June 9	" 17
Bismarck	May 13	" 25
Bottineau	June 8	" 15
Carrington..........	May 16	" 14
Carson..............	June 8	" 25
Dogden Butte	" 8	" 25
Drake...............	May 13	" 16
Dunseith.......	June 8	" 25
Eckman.............	" 8	" 17
Energy..............	May 18	" 16
Fessenden	June 8	" 19
Fort Yates..........	May 13	" 25
Foxholm	June 8	" 15
Gackle........... .	May 13	Sept. 25
Garrison	" 14	" 25
Granville	" 13	" 25
Hansboro	June 8	" 19
Linton	May 13	" 16
McClusky	June 8	" 15
Maddock...........	" 8	" 15
Mandan............	May 13	" 17
Max	June 8	" 15
Minot	May 13	" 25
Moball.............	" 13	" 18
Napoleon	June 8	" 16
New Salem	" 8	" 25
Pettibone	" 8	" 16
Steele..............	" 8	" 16
Towner	" 8	" 15
Turtle Lake	May 13	" 25
Velva	June 8	" 15
Washburn	May 13	" 25
Westhope..........	June 8	" 15
Willow City........	" 8	" 17
Wishek	May 17	" 16
Western Div.		
Beach	May 13	Sept. 25
Berthold Agency..	June 7	" 15
Crosby.............	May 18	" 15
Dickinson..........	" 13	" 25
Dunn Center.......	" 13	" 26
Epping	" 13	" 15
Fryburg...........	" 9	" 25
Hettinger	" 13	" 15
Howard	June 7	" 15
Kenmare	May 13	" 28
Marmarth..........	Apr. 27	" 25
Mott	May 13	" 25
New England......	" 14	" 24
Parshall	" 18	" 16
Portal	" 13	" 15
Powers Lake	June 7	" 25
Richardton	May 13	" 25
Sanish	" 12	" 25
Watford City	" 13	" 25
Williston	" 13	" 28

CHART SHOWING METEOROLOGICAL STATIONS



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations).

[WBO, Minneapolis, 2-25-38—2000]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVII BISMARCK, N. D., JANUARY 1938 No. 1

GENERAL SUMMARY

Temperatures averaged slightly above normal in the eastern section of the State and considerably above normal in the western section, with the highest readings generally on the 23rd and the lowest on the 30th and 31st. Precipitation was well distributed throughout the month and the amounts were below average at most eastern stations and above average at almost all stations west of the Missouri River. Winds were mostly light and with temperatures above freezing at times, the month was very favorable for livestock and for outdoor work. Livestock ranged freely on open fields, thus saving much feed. An unusually large number of dense fogs and auroras were recorded throughout the month. The auroras on the 21st and 22nd were the most brilliant and beautiful observed at some stations in many years.

TEMPERATURE

The mean temperature for the State was 9.5°, or 3.4° above the 1892-1938 average for January. The mean temperature for the eastern division was 6.0°; for the middle division, 8.8°; and for the western division, 13.8°. The highest mean temperatue was 21.2° at Hettinger, and the lowest, 0.9° at Pembina, making a range in mean temperature of 20.3°. The absolute range was 90°, from 50° at Carrington on the 15th, to -40° at Hannah on the 31st. The average daily excess in temperature for the State since January 1, 1938, is 3.4°.

PRECIPITATION

The average precipitation for the State was 0.48 inch, or 0.01 inch less than the 1892-1938 average for January. In the eastern division the average amount was 0.36 inch; in the middle division, 0.42 inch; and in the western division, 0.67 inch. The greatest monthly amount reported was 1.47 inches at Carson: the least reported was 0.01 inch at Mayville. The greatest amount recorded in any 24 consecutive hours was 0.81 inch at Trotters on the 11th. The accumulated deficiency in precipitation for the State since January 1, 1938, is 0.01 inch. The average snowfall was 6.1 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Fogs	5	..	..	1	15	..	3	6	5	8	10	..	..	5	..	3	9	17	22	32	14	..	2	..	3	1	4	1	1	..	1
Lunar halos	..	..	..	..	1	..	1	1	..	..	..	..	2	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..
Solar halos	2	2	..	..	2	5	1	1	..	1	..	1	1	..	..	..	2	..	..	..	..	1	..	1	2	1	..	1	11	7	2
Sleet	..	..	..	..	..	..	..	..	..	2	4	..	..	..	2	9	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.09	30.66	25	29.48	10	7.7	30	nw.	24	84	75	80	43
Devils Lake	30.10	30.65	31	29.50	10	8.3	25	n.	24	86	85	90	59
Williston	30.08	30.76	24	29.42	10	7.4	25	nw.	11	88	84	85	42
Moorhead, Minn	30.11	30.67	31	29.50	10	9.1	28	n.	24	92	83	88	55
Averages & ext's	30.10	30.76	24	29.42	10	8.1	30	nw.	24	88	82	86	50

† And other dates.

COMPARATIVE DATA FOR JANUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	3.3	58	−52	0.31	0.41	0.25	0.32	2.8	4	15	8	8
1893	0.8	52	−48	0.93	0.94	1.11	0.99	8.4	7	11	11	9
1894	0.6	60	−47	0.38	0.40	0.38	0.39	3.6	4	13	9	9
1895	−2.9	42	−46	0.53	0.69	0.47	0.56	5.5	5	16	8	7
1896	5.3	58	−42	0.75	0.77	0.80	0.77	6.6	6	9	9	13
1897	3.6	49	−38	0.91	0.64	0.76	0.77	7.5	5	11	9	11
1898	14.6	69	−32	0.14	0.12	0.07	0.11	1.1	2	15	8	8
1899	5.2	55	−41	0.29	0.20	0.26	0.25	2.4	3	13	9	9
1900	15.4	70	−30	0.27	0.27	0.12	0.22	2.0	3	15	9	7
1901	7.7	68	−39	0.29	0.29	0.26	0.28	3.0	4	14	8	9
1902	12.7	51	−40	0.17	0.03	0.23	0.14	1.4	2	17	7	7
1903	9.4	56	−37	0.72	0.58	0.68	0.66	6.7	5	13	8	10
1904	3.6	50	−52	0.41	0.36	0.42	0.40	4.0	5	15	6	10
1905	0.9	48	−40	0.26	0.30	0.41	0.32	2.9	3	15	8	8
1906	12.2	60	−38	0.75	0.72	0.61	0.69	6.9	4	14	6	11
1907	−6.2	45	−45	1.77	1.13	1.05	1.32	14.5	8	12	8	11
1908	17.0	70	−41	0.21	0.16	0.34	0.24	1.9	2	17	8	6
1909	3.5	53	−48	0.60	0.32	0.37	0.43	4.3	4	14	8	9
1910	9.4	49	−35	0.30	0.21	0.59	0.37	4.1	3	16	8	7
1911	−1.0	56	−43	0.86	0.96	0.69	0.84	8.5	6	11	8	12
1912	−4.6	63	−52	0.34	0.34	0.36	0.35	3.6	4	16	6	9
1913	3.2	60	−54	0.51	0.40	0.43	0.45	4.6	5	12	9	10
1914	14.8	62	−38	0.56	0.48	0.40	0.48	4.9	4	12	8	11
1915	5.8	51	−48	0.39	0.24	0.25	0.29	3.4	3	12	9	10
1916	−6.4	49	−56	1.58	1.24	1.26	1.36	15.1	6	13	8	10
1917	1.7	47	−46	0.82	0.69	0.65	0.72	8.6	5	13	8	10
1918	0.5	48	−44	0.41	0.43	0.58	0.47	5.0	5	12	8	11
1919	18.7	66	−44	0.24	0.21	0.10	0.18	1.7	2	17	8	6
1920	2.7	49	−44	1.26	0.96	0.68	0.97	10.0	5	10	9	12
1921	15.9	52	−31	0.29	0.20	0.22	0.24	2.5	2	13	9	9
1922	7.0	55	−46	0.68	0.36	0.42	0.49	5.2	5	12	9	10
1923	10.1	56	−35	0.59	0.43	0.54	0.52	6.0	5	9	9	13
1924	2.6	61	−42	0.30	0.20	0.18	0.23	2.5	3	14	9	8
1925	8.6	52	−35	0.33	0.18	0.22	0.24	2.5	3	11	10	10
1926	16.3	55	−30	0.31	0.34	0.49	0.38	4.1	4	13	8	10
1927	10.1	60	−44	0.50	0.36	0.41	0.42	4.3	4	14	8	9
1928	13.0	50	−41	0.21	0.19	0.19	0.20	2.3	3	14	9	8
1929	−4.8	42	−42	0.76	0.48	0.63	0.62	9.2	6	13	8	10
1930	−1.9	41	−43	0.26	0.22	0.40	0.29	2.7	4	12	9	10
1931	21.4	68	−31	0.15	0.15	0.14	0.15	1.4	2	15	8	8
1932	9.5	50	−34	0.47	0.62	0.59	0.56	6.3	4	12	7	12
1933	11.8	53	−30	0.92	0.70	0.79	0.80	10.0	7	12	7	12
1934	15.8	54	−36	0.29	0.14	0.17	0.20	2.0	3	11	9	11
1935	3.3	60	−44	0.55	0.29	0.39	0.41	4.9	6	8	10	13
1936	−5.8	43	−44	0.51	0.48	0.69	0.56	6.9	7	11	8	12
1937	−8.3	38	−44	1.04	0.55	0.42	0.67	9.0	6	13	8	10
1938	9.5	50	−40	0.36	0.42	0.67	0.48	6.1	6	10	9	12
Period	6.1	70	−56	0.54	0.44	0.48	0.49	5.2	4	13	8	10

Climatological Data for January 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	7.8	+2.9	37	23	−26	31	30	0.02	−0.44	0.02	0.2	1	1	12	18	nw.	I. Idso.
Cavalier	Pembina	894	28	......	......	...	...	......	...	......	......	......	......	......	......	......	......	......	......	Burke Bechtel.
Cooperstown	Griggs	1,428	41	6.4	−0.2	32	15†	−28	31	33	0.54	+0.05	0.12	6.0	9	19	6	6	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	......	......	...	...	......	...	......	0.40	......	0.15	6.0	6	17	9	5	nw.	Alfred Woiwode.
Devils Lake	Ramsey	1,471	41	4.6	+2.8	34	23	−31	31	31	0.27	−0.20	0.08	2.5	9	7	6	18	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	37	8.7	−0.1	36	23	−24	26	34	0.62	+0.22	0.14	9.0	8	7	16	8	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	4.0	+2.7	30	15†	−33	31	37	0.35	−0.29	0.13	3.1	5	7	6	18	s.	A. G. Braund.
Ellendale	Dickey	1,457	43	9.2	−1.5	37	23	−22	27	37	0.56	+0.07	0.18	7.1	8	9	8	14	s.	J. E. Demmer.
Fargo	Cass	895	2	6.6	......	36	22†	−26	31	34	0.28	......	0.07	3.0	9	5	14	12	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	7.7	−1.8	37	23	−26	27	32	0.40	−0.06	0.14	5.0	8	12	8	11	nw.	Helge Dyste.
Fullerton	Dickey	1,439	40	9.3	+0.4	36	23	−23	27	34	0.79	0.00	0.18	7.5	7	4	8	19	nw.	F. O. Alin.
Grafton	Walsh	827	46	4.4	+2.2	35	23	−27	31	35	0.27	−0.22	0.20	4.3	2	6	12	13	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	3.7	+0.2	37	23	−29	31	28	0.31	−0.20	0.24	3.0	5	6	8	17	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	9	7.8	......	40	22	−23	8	41	0.77	......	0.45	9.6	3	24	2	5	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	1.4	+2.5	28	23	−40	31	34	0.40	−0.32	0.22	4.0	4	6	14	11	sw.	James Muir.
Hillsboro	Traill	901	32	6.8	+2.2	37	23	−24	31	34	0.32	−0.19	0.15	4.0	4	11	8	12	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	46	7.8	+0.8	36	23	−26	31	31	0.45	−0.10	0.20	4.5	5	10	12	9	n.	S. Calvelage.
Langdon	Cavalier	1,615	42	2.1	+3.0	30	15†	−35	31	34	0.55	−0.02	0.16	5.5	6	11	10	10	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	5.0	+1.4	34	23	−28	31	37	0.08	−0.58	0.08	1.0	1	10	4	17	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	7.6	+0.3	41	22	−26	31	33	0.44	−0.13	0.08	5.0	6	6	8	17	nw.	J. O. Halverson.
McHenry	Eddy	1,509	16	5.2	+3.7	32	15†	−32	31	30	0.25	−0.39	0.06	3.2	8	7	12	12	nw.	C. E. Blasky.
McLeod	Ransom	1,075	27	7.4	−1.0	40	23	−29	31	34	0.36	−0.21	0.08	4.5	6	17	4	10	se.	J. G. Carlson.
Mayville	Traill	975	42	6.4	+0.6	37	22	−24	9†	34	0.01	−0.39	0.01	0.1	1	12	11	8	n.	H. B. Addicott.
Oakes	Dickey	1,318	9	9.0	......	40	24	−26	27	48	0.38	......	0.15	4.5	5	9	12	10	nw.	S. F. Rossman.
Park River	Walsh	998	34	3.2	+0.5	33	22†	−28	31	39	0.18	−0.21	0.08	4.5	3	10	6	15	nw.	E. J. Taintor.
Pembina	Pembina	789	64	0.9	+3.3	35	22	−34	31	37	0.42	−0.22	0.35	6.0	4	9	1	21	nw.	E. N. Russell.
Petersburg	Nelson	1,520	8	......	......	...	...	......	...	......	0.10	......	0.07	1.5	3	12	8	11	nw.	T. M. Rykken.
Sharon	Steele	1,516	14	4.6	+0.3	33	15	−32	31	30	0.20	−0.14	0.08	1.9	8	4	14	13	nw.	Nels O. Greisheim.
Valley City	Barnes	1,245	32	7.5	+2.0	36	23	−24	27†	32	0.21	−0.29	0.10	3.2	7	13	5	13	nw.	I. C. Robertson.
Wahpeton	Richland	962	46	8.2	−0.2	37	23	−26	31	33	0.38	−0.04	0.12	5.2	7	12	9	10	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	6.3	+2.5	37	23	−21	31	30	0.48	−0.19	0.16	5.8	8	6	8	17	s.	U. S. Weather Bureau.
Average for Eastern Division		......	....	6.0	+1.5	41	22	−40	31	41	0.36	−0.18	0.45	4.4	6	10	9	12	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	42	9.6	+1.0	41	15	−30	27	35	0.63	+0.16	0.35	7.9	7	16	0	15	nw.	R. C. Miles.
Bisbee	Towner	1,601	2	4.6	......	30	15†	−32	31	30	0.24	......	0.10	2.4	5	11	14	6	w.	I. K. Lund.
Bismarck	Burleigh	1,670	64	12.5	+4.7	41	23	−23	30	38	0.40	−0.05	0.16	6.7	10	9	7	15	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	6.4	+5.8	35	10	−35	31	38	0.55	+0.14	0.35	6.9	9	8	8	15	se.	N. D. School of Forestry
Carrington	Foster	1,579	40	10.4	+3.7	50	15	−27	31	43	0.12	−0.20	0.05	2.8	5	5	3	23	sw.	Soo Line Agent.
Carson	Grant	2,500	26	15.0	+6.0	45	23	−27	30	36	1.47	+1.13	0.60	13.0	5	6	7	18	nw.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	12	9.6	−0.7	39	15	−25	31	39	0.44	+0.21	0.19	6.2	5	9	3	19	nw.	R. L. Williams.
Drake	McHenry	1,634	9	8.2	......	35	23	−28	31	36	0.28	......	0.08	3.0	11	8	7	16	se.	Peter Anton.
Dunseith	Rolette	1,682	42	6.2	+3.7	35	10†	−32	31	34	0.08	−0.36	0.06	0.6	2	12	13	6	n.	Geo. Gehres.
Eckman	Bottineau	1,500	33	6.0	+2.9	34	10†	−37	31	40	0.46	+0.10	0.10	6.5	7	7	13	11	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	11.9	−0.4	37	21†	−25	31	41	0.54	+0.23	0.22	8.0	5	11	14	6	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	26	6.2	+1.7	37	15	−28	31	48	0.41	−0.07	0.12	4.3	8	8	11	12	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	10.1	+0.9	40	22	−25	31	33	0.64	+0.23	0.24	8.0	4	14	6	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	9.4	+0.4	37	15	−30	31	36	0.55	+0.22	0.13	5.5	9	8	8	15	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	8.2	......	33	23	−23	31	32	0.32	......	0.11	4.0	10	2	14	15	nw.	A. H. Haut.
Garrison	McLean	1,901	61	10.8	+3.2	35	23	−25	30†	36	0.45	+0.11	0.11	5.1	8	14	3	14	nw.	E. L. Vorachek.
Granville	McHenry	1,504	31	7.9	+3.3	34	23	−33	31	35	0.24	−0.12	0.12	6.5	3	11	3	17	nw.	W. A. Christianson.
Hansboro	Towner	1,597	30	3.6	+3.7	33	10	−33	31	30	0.32	−0.34	0.20	7.0	2	14	6	11	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	8.6	−0.9	40	22	−30	31	38	0.29	−0.09	0.16	6.1	7	12	6	13	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	8.3	−0.2	34	15	−31	31	35	0.23	−0.18	0.07	3.2	6	10	8	13	nw.	Edw. Tapley.
Maddock	Benson	1,604	23	5.8	+1.0	33	10	−33	31	35	0.29	−0.01	0.09	3.2	5	5	10	16	nw.	A. T. Felland.
Mandan	Morton	1,750	24	11.6	−3.3	41	22	−24	30	40	0.54	+0.19	0.20	5.7	9	11	8	12	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	......	......	...	...	......	...	......	0.37	−0.12	0.08	3.8	9	......	......	......	......	P. B. Anderson.
Max	McLean	2,093	9	9.0	......	34	10†	−28	31	41	0.40	......	0.16	5.0	4	......	......	......	......	A. W. Rice.
Minot	Ward	1,557	42	11.0	+4.8	38	15	−30	31	42	0.49	+0.12	0.12	5.4	13	9	2	20	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	44	9.8	+5.2	39	11	−35	31	41	0.29	−0.02	0.15	3.2	4	8	15	8	nw.	John Behan.
Napoleon	Logan	1,955	46	9.8	+3.4	36	22	−30	30	42	0.49	+0.16	0.20	6.0	7	13	2	16	w.	C. J. Hoof.
New Salem	Morton	2,163	34	11.6	+2.5	39	15	−29	30	49	0.44	−0.01	0.15	5.0	9	13	8	10	......	J. Christianson.
Pettibone	Kidder	1,856	29	6.8	+3.8	34	23	−30	31	32	0.36	−0.05	0.33	3.7	2	10	4	17	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	4.6	......	34	15	−33	31	32	0.26	......	0.11	2.2	7	9	9	13	nw.	A. Jacobsen.
Rugby	Pierce	1,562	9	......	......	...	...	......	...	......	0.21	......	0.09	2.6	6	11	11	9	nw.	W. B. Paterson.
Ryder	Ward	2,108	9	......	......	...	...	......	...	......	0.51	......	0.10	6.4	10	7	7	17	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	......	......	...	...	......	...	......	1.07	......	0.25	13.4	8	10	9	12	nw.	J. B. Smith.
Steele	Kidder	1,857	44	7.8	+0.5	35	23	−30	31	32	0.18	−0.28	0.08	5.0	6	10	6	15	sw.	R. S. Armstrong.
Tagus	Mountrail	2,179	9	......	......	...	...	......	...	......	0.22	......	0.05	3.5	9	14	6	11	sw.	G. N. Pilgard.
Towner	McHenry	1,482	36	7.0	+3.2	33	10	−33	31	34	0.45	+0.01	0.20	4.0	4	10	10	11	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	10.0	+2.2	36	1	−29	31	48	0.37	0.00	0.12	7.8	7	12	7	12	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	......	......	...	...	......	...	......	0.55	+0.10	0.16	8.4	11	9	7	15	nw.	Adam Leno.
Velva	McHenry	1,511	11	9.9	......	37	22	−29	31	39	0.38	−0.03	0.20	5.0	6	9	6	16	w.	Oscar Anderson.
Washburn	McLean	1,731	37	10.4	+3.0	48	22	−27	30	40	0.28	−0.05	0.10	3.0	5	12	6	13	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	6.2	+4.9	34	15	−37	31	35	0.24	−0.08	0.06	4.8	5	19	6	6	se.	D. A. Findlay.
Willow City	Bottineau	1,471	46	4.8	+3.9	34	10	−35	31	42	0.22	−0.36	0.08	2.5	4	14	8	9	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	7.6^{d}	+0.6	35^{d}	15	−29^{d}	27	......	0.63	+0.13	0.35	6.8	7	14	6	11	nw.	H. M. Larson.
Zap	Mercer	1,838	23	......	......	...	...	......	...	......	0.44	+0.18	0.14	5.5	5	12	11	8	......	R. A. Norton.
Average for Middle Division		......	.....	8.8	+2.9	50	15	−37	31	49	0.42	−0.02	0.60	5.4	7	10	8	13	nw.	......

Continued on page 4.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days. etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for January 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red										.02								T.						T.					T.	T.	T.	0.02
Cavalier	do																																
Cooperstown	Sheyenne	T.				T.	.08		T.		.08	.07	.02	.07			.07		.01	T.		T.	T.	.02						.12	T.		0.54
Courtenay	James						T.		T.		.15	.05	T.	.09			.01		.05			T.			T.	T.			.05		T.		0.40
Devils Lake ***	Devils Lake					.04	T.	T.		.01	.03	.05	T.	.02		T.	.08	T.	.01	T.	.01			T.	T		T.	T.	T.	.02			0.27
Edgeley	James						.05					.05		.15			.04		.07	.14					.06					.06			0.62
Edmore	Devils Lake					T.	.04	T.		T.	.02	.04		T.	T.		.13	T.		.12										T.			0.35
Ellendale	James					T.	.03				.06		.02	.05			.08		T		.18				.02		T.			.12			0.56
Fargo	Red	T.	T.			.02	.01				.02	.03	T.	T.			.07	T.	.03	T.	.05	.01			T	T.				.04			0.28
Forman	Sheyenne						.02				.04	.02	.06				.06	.03			.14									.03			0.40
Fullerton	James					T.		T	T.	T.	.16	.04		.18			.04		.04		.17				T.		T.		T.	.16			0.79
Grafton	Red											.07		T.			T.	.20			T												0.27
Grand Forks ***	do						T.				.02	.03	T.				.24	T.	T.	T.	T.				.01	T.				.01			0.31
Hankinson ‖‖	do						T.				.16						T.	.45			.16									T.			0.77
Hannah	Pembina					T					.09	.04		T.			.22		.05		T.												0.40
Hillsboro	Red						T.				.07	.07					.15													.03			0.32
Jamestown	James										.20	.05		.14			T	.03													.03		0.45
Langdon ‖‖	Pembina	.16										.05	.05				.11	.09												.09			0.55
Larimore	Red					T					T	T.					.08	T.	T.		T.				T.					T.			0.08
Lisbon	Sheyenne						T.				.08	T.	.08	T.			.04		.08	T.	.08	T.			T					.08			0.44
McHenry	James					T.	.05			T.	.02	.04		.06			.03		.02						.01					.02			0.25
McLeod	Sheyenne						.03			T.		.08	T.					.06		.04	.01					.14							0.36
Mayville	Red										.01								T.		T.	T.											0.01
Oakes	James						T.				.05	.03					.03		T.		.15		T.							.12			0.38
Park River	Red										T.	.03				.07	.08													T.			0.18
Pembina	do										.01		.01				.35	.05			T.								T.				0.42
Petersburg	do					T	.02				T.	T.	.01				.07		T.						T					T.			0.10
Sharon	do					.01	.02			T.	.02	.01	T	T			.08		.01	T.	.01	T.			T.				T.	.04			0.20
Valley City	Sheyenne					T.					.10	.01		.03			.01		.02	.01										.03			0.21
Wahpeton	Red						.01				.09	.05					.05	.03		.03	.12									T.			0.38
Moorhead, Minn. ***	do					.01	.01	T.		T.	.12	.03	T.	T.			.16	T.	.06	T.	.05	T.			T.	T.			T.	.04		T.	0.48
Middle Division																																	
Ashley	Missouri	T.							.04		T.		.06	.03	.08			T.		.05		T.					.02	.35	T.				0.63
Bisbee	Devils Lake					T.	.04			T.	T.	.03	T.				.10		.04											.03			0.24
Bismarck ***	Missouri					.04	.01	T.	.10	.03	.02	.01	T	.02	T.		T.	.01	T.					T.	T.		T.	T.	.02	.14			0.40
Bottineau	Mouse					.03	.04			.02	.04			.02		.01	.35				.02									.02			0.55
Carrington ‖‖	James									.02	.05							.02							.02				.01				0.12
Carson	Heart								.50		.10	.60												.02						.25			1.47
Dogden Butte	Mouse					T.	T.		.11	T	.07	.03	T.	.19				T.	T.						T		.04		T.	T.			0.44
Drake ‖‖	do	.01					.03			T.	.08	.02	.02	.03	.02			T.	.01	T.		T.			.01	T.		T.		.03	.02		0.28
Dunseith	do		T.			T.	.02			T.	T		T.	T.			.06			T.	T.												0.08
Eckman	do					.05	.05		T.	.05	.08	T.	T.	.10			.05		T.	T							T.			.08			0.46
Energy	Missouri					T.			.06	.06	.10			.10				T.											T.	.22			0.54
Fessenden ‖‖	James	.08					.08				.02	.02	.01	.12	T.				T.	T.					T.	.02				.06			0.41
Fort Yates	Missouri									.16		.24		.08			T.								T.					.16			0.64
Foxholm (near)	Mouse					.01	T.		.13	.04	.02	.12		.10			.01		T.						T		.04			.08			0.55
Gackle	James					.03	.04		.02	T.	.03			.11		.02									.03	.01	.01			.02			0.32
Garrison ‖‖	Missouri						T.		T.	.11	.07	T	T	.10	.04			T.	.04						T.		T.	.01		.06	.02		0.45
Granville	Mouse					.02			T.	T.		.12		.10		T.	T		T.								T.						0.24
Hansboro	Devils Lake					T				T.				.20			.12																0.32
Linton	Missouri					T.	T		.01		.03	.16		.02			.01	T.	.04								T.			.02			0.29
McClusky	do					.04	T.		T.	T.		T			.07			T.	.04							T.	.04		.02	.02			0.23
Maddock	Sheyenne							.06				.06	T.	.04			.04		T.		T.			T						.09			0.29
Mandan ‖‖	Missouri					.05	T		.16	.03	T.	T	.01	.03		T.	T.	.02	T.	T				T.		T.	.01		.20	.03			0.54
Manfred	James					.02	.06				.06	.02		.08					.01		.02				.03					.07			0.37
Max ‖‖	Missouri								T.		.08			.16					.08											.08			0.40
Minot	Mouse					.02	.03	T.	.07	.02	.04	.03	.01	.12			.01		.01						.02		.01			.10			0.49
Mohall	do					.02				.04				.15			T.		T.								T.		.08				0.29
Napoleon ‖‖	Missouri						.05				.08		.03		.05				.05							.03		T.		.20			0.49
New Salem	Heart					.01	.01		.15	.02	.10	.02	.01	T.	T			.02			T.				T.		T.	T	T.	.10	T.		0.44
Pettibone	James						T.				.03	T.		.33			T.								T.								0.36
Rolla	Devils Lake					.01	T	T.		T	T.	T.	.03	T.			.11		.04	T.	.01				.02			.04					0.26
Rugby (near)	Mouse	.09								T	.05	.01			T.		.04		.01	T.				T.						.01			0.21
Ryder	Missouri					.01			.09	.01			.02	.06			T.	.02									.10	.06	.08	.06			0.51
Selfridge	do					.10			.20	.05	.25	.22		.10			T		T.								T		.10	.05			1.07
Steele	do						.02	.04	T.		.01	T.		.02					.01						T.		T.	.08					0.18
Tagus	Mouse					T.	.02		.04	.02	.02	.01	T.	.05			T	T.									.01		.01	.04			0.22
Towner	do					T.			T.	.10	.10			.20			T.		.05	T.							T.		T				0.45
Turtle Lake	Missouri					T	.02		.03			.05		.08					.05	.02							T.			.12			0.37
Tuttle	do					.02	.05		.01	T.	.04	.02		.11	T		T.	.02	.03					T.	.06		.03		T.	.16			0.55
Velva	Mouse					T.	.05		.02	.01	T.	T.	T.	.20			T.		T.	T.	T						.02			.08			0.28
Washburn ‖‖	Missouri								T.	.06	.04			.02					.06									T		.10			0.28
Westhope	Mouse					.04			T.	.06							T.		.06	T.							.04		.04				0.24
Willow City	do					T.	.07			T.		T.		.08			.03		T.	T	.04						T.						0.22
Wishek ‖‖	Missouri	T.					.04				T.		.06	.03	.08			T.		.05	T				T.		.02		T.	.35			0.63
Zap	Knife					T.			.11	T.		.07		.03				.09									T.		.14				0.44
Western Division																																	
Alpha	Lit. Missouri					T.	T.				.08	.24		.11					.01			T.		T	T	T.			T.	.23			0.67
Amidon	do					T.	.02	.04	.09		.03	.03							T.								.02		.01	.09			0.33
Beach	do					T.	.03		.04	T.	T.	.31		T.						T.				T.	T.	.01	T.		.02	.13			0.54
Berthold Agency	Missouri					T.			.15	T		T.	T.	.16															T.				0.31
Bowman	Grand																																
Corinth	Missouri					T			.39	.04		.17		T.				T.	T.								T.		T.	T.			0.60
Crosby	Mouse						T.		.20			.10		.20					T										T.	.10			0.60
Dickinson ‖‖	Heart						T.	T	.02	.30	.01	.50	.03		T.				.03						T.		.02	T.	T	.08	T.		0.99
Dunn Center	Knife					T.	T		.11	T.	T.	.08	T.	T.				.08	T.								T.	T.	T.	T.			0.27
Epping	Missouri								.19		.08	.06		.11																T.			0.44
Fairfield	Lit. Missouri						.03	T	.08	.02		.54						.06							T					.14			0.87
Fryburg	Heart					T.	.04	T.	.11	.02	.13	.55	T.	.04			T.	T.						T	T.	.03	T.	T.	T.	.13			1.05
Hettinger	Grand						T.						.80											T.			T						0.80
Howard (near)	Missouri					.02					.20	T.				T	.20		.20								T.	.20		.20			1.02
Kenmare	Mouse					.01	.01		.05	.02	.02	.02	T.	.11			.01		T.						T.		.01		T.	.08			0.34
Marmarth	Lit. Missouri						.05		.01		.05	.12		T.					T.							T				.12			0.35
Mary	do					.06		.18		.04	T.	.78															T.	T.		.11			1.17
Medora	do						.01	T.	.07	.02	.04	.17	T	T.			T.		T.						.01	T.	T.		.01	.14			0.47
Mott	Cannon Ball								.12		.03	.53						T.	.02										T.	.46			1.16
New England ‖‖	do								.17			.35												.03					.26				0.81
Parshall	Missouri					T.			.06		.04			.11					.01					T.						.11			0.33
Portal ‖‖	Mouse						.02		.10	.10				.10					T											.03			0.25
Powers Lake	Missouri					.23				.18				.11		.03												.22					0.77
Richardton	Heart					.07	.04	T.	.19		.12	.40		.03				.06	.02		T.				.03		.02			.21			1.19
Sanish ‖‖	Missouri								.24		T.			.16					.08											.16			0.64
Stanley	do								T.	.08	T.	T		.07				T.	T.								.01		.02	.03			0.21
Tioga	do								.20			.10					T.	.05		T.	T.					T.		.01	.20				0.56
Trotters	Lit. Missouri						.05		.07			.81													.05					.05			1.03
Watford City	Missouri					.05		.28	.08		.14		.04				.13												.11	.14			0.97
Williston ***	do					.05	T	T.	.26	.05	T	.14	.07	T				.08	T					T.	T.		T.		.08	.09		.01	0.83

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. •Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	18	20	28	30	28	22	21	13	10	32	30	25	19	15	41	30	27	22	23	24	25	35	37	26	3	6	4	17	7	−5	−2	20.4
	Minimum	−5	0	11	14	−3	−8	−6	−22	−18	8	21	4	5	−10	8	16	13	5	12	7	5	15	22	−5	−20	−17	−30	−3	−8	−26	−22	−1.2
Beach	Maximum	36	36	30	37	31	29	20	26	31	39	33	25	31	41	44	43	30	34	36	31	38	42	40	23	14	26	38	35	14	−8	−1	29.8
	Minimum	15	19	10	20	16	12	13	15	14	21	4	−2	2	0	32	34	21	22	18	15	18	21	22	2	1	6	12	8	−16	−25	−17	10.7
Bismarck	Maximum	19	32	34	35	30	27	8	10	27	34	29	18	23	21	33	30	22	28	28	30	34	40	41	22	−1	8	16	21	10	−6	−4	22.5
	Minimum	−2	4	15	13	4	−11	−11	−8	−3	22	17	3	−1	−1	11	21	11	12	19	4	3	25	20	−8	−14	−9	−14	10	−16	−23	−17	2.5
Bottineau	Maximum	8	24	18	18	16	14	8	5	12	35	30	22	19	20	30	27	24	13	15	21	24	26	27	20	17	9	6	16	12	8	−10	17.2
	Minimum	−11	0	−3	−1	2	−15	−13	−8	4	11	20	−3	−1	−10	11	15	−14	−10	3	10	1	7	3	−5	−20	−16	−20	2	−13	−29	−35	−4.5
Carson	Maximum	39	35	37	39	29	30	20	10	24	33	30	19	30	25	40	34	37	34	34	34	37	40	45	25	−1	12	20	25	11	−10	−3	26.3
	Minimum	7	12	10	15	6	−5	−15	−7	−12	21	17	−7	10	4	20	20	15	18	10	12	12	20	23	−3	−15	−13	−7	9	−16	−27	−22	3.6
Crosby §	Maximum	27	35	34	37	32	30	6	15	30	34	23	17	15	28	35	26	15	16	20	15	31	33	34	19	−3	16	15	16	3	−8	−10	20.5
	Minimum	2	10	5	15	6	−3	−11	0	2	14	9	11	−3	−7	21	14	−3	2	10	−4	−2	15	16	−8	−21	−10	−7	−7	−20	−23	−28	−0.2
Devils Lake	Maximum	6	24	24	16	10	2	4	4	12	24	19	17	11	19	31	26	7	19	20	22	26	31	34	15	−6	2	4	13	4	−12	−14	13.4
	Minimum	−7	−6	2	1	−5	−15	−12	−14	−19	12	13	−1	−5	−6	15	7	−9	−1	13	17	5	17	15	−14	−20	−17	−23	4	−15	−28	−31	−4.1
Dickinson §	Maximum	34	35	32	38	30	15	16	27	33	30	23	30	24	34	42	35	26	29	29	29	35	38	30	18	18	22	29	18	−3	−8	−1	25.4
	Minimum	12	10	10	10	10	12	−2	3	8	14	18	−5	−2	−10	10	26	17	11	3	2	1	18	18	5	−9	−8	3	5	−3	−27	−25	4.4
Dunn Center §	Maximum	34	33	32	36	31	31	1	13	29	30	22	17	14	34	38	30	24	23	24	29	29	39	34	23	−1	20	20	31	11	−8	−2	23.3
	Minimum	5	5	10	17	7	0	−18	−6	5	18	16	0	−3	−8	20	21	8	7	7	8	−7	17	20	−4	−16	−14	−2	10	−17	−14	−20	2.3
Fessenden §	Maximum	10	26	19	25	16	2	7	6	30	33	24	18	15	27	37	24	15	26	22	25	27	34	30	16	13	1	20	13	−1	−2	−9	17.7
	Minimum	−7	−9	−1	6	0	−12	−12	−13	−18	−4	18	−1	−14	−18	4	15	−4	−12	7	18	−4	12	16	13	−20	−18	−24	−22	−2	−26	−28	−5.2
Fullerton	Maximum	11	25	30	27	24	14	6	6	6	34	30	20	18	14	31	28	28	24	33	28	29	34	36	28	0	8	2	17	10	−2	−6	19.1
	Minimum	−4	−8	12	12	21	−6	−9	−17	−19	0	16	5	2	−11	7	12	3	2	21	12	−2	20	21	−3	−17	−16	−23	−1	−2	−21	−21	−0.5
Garrison §	Maximum	18	25	30	32	34	28	9	11	20	32	33	28	17	17	27	34	27	12	24	28	20	34	35	29	13	1	0	24	18	4	−7	21.2
	Minimum	−6	−6	12	15	2	5	−15	−12	−7	20	22	1	−4	−8	16	16	10	2	10	12	−5	19	28	−6	−20	−16	−10	−12	3	−25	−25	0.5
Grafton	Maximum	16	7	13	14	4	5	4	−1	7	18	25	19	13	14	25	27	26	13	21	18	20	32	35	30	−2	−2	0	12	4	5	−8	13.4
	Minimum	−3	−14	−16	0	−14	−14	−6	−22	−20	2	14	4	−2	−4	10	16	4	−4	10	−1	9	10	17	−5	−15	−16	−25	−3	−8	−22	−27	−4.7
Grand Forks	Maximum	6	13	25	12	7	3	−1	−2	4	17	19	18	14	14	28	27	16	19	22	19	24	35	37	16	−3	−2	3	11	4	−6	−9	12.6
	Minimum	−8	−11	2	−6	−13	−17	−17	−21	−22	4	13	−1	0	−4	12	16	−6	−6	7	12	8	12	16	−9	−14	−18	−25	2	−13	−25	−29	−5.2
Jamestown §	Maximum	9	20	28	26	16	18	4	1	9	33	30	21	16	15	29	26	25	21	28	26	27	35	36	25	−3	0	−1	17	10	−4	−9	17.2
	Minimum	−5	−10	10	9	1	−8	−4	−9	−22	7	15	2	−1	−10	10	13	−2	1	20	19	−1	19	20	−5	−16	−16	−23	−1	−8	−24	−26	−1.5
Kenmare	Maximum	31	33	32	35	30	28	9	9	21	34	29	22	15	28	37	27	16	17	21	19	32	32	37	22	−2	10	15	26	7	−7	−7	21.2
	Minimum	−3	−3	9	11	28	−4	−8	−4	−3	21	22	−3	5	−9	26	15	−2	1	11	7	−3	18	20	−7	−20	−11	−8	7	−18	−21	−28	1.5
Langdon §	Maximum	7	18	16	17	5	3	6	4	15	19	17	12	9	22	30	24	12	12	15	18	23	26	30	7	−2	2	5	8	0	−5	−15	11.6
	Minimum	−8	−9	−6	−6	−11	−16	−9	−15	−16	−9	12	9	−7	−4	−2	12	−5	−5	5	−8	7	6	7	4	−17	−19	−27	−26	−5	−26	−35	−7.4
Marmarth	Maximum	35	37	33	39	32	30	21	30	30	33	33	24	25	38	45	40	36	36	35	35	41	42	37	26	14	23	43	39	13	−5	2	30.4
	Minimum	10	11	6	21	16	16	14	18	27	20	16	−10	9	−1	15	30	16	18	17	9	6	20	12	9	7	5	16	13	−12	−27	−18	10.0
Minot	Maximum	19	30	32	31	28	28	11	12	22	34	29	26	15	29	38	26	18	19	22	21	36	36	35	24	−2	5	15	25	9	−6	−3	21.4
	Minimum	−8	3	11	8	7	−5	−11	−10	5	22	24	−3	5	−7	17	16	−4	0	14	6	−6	21	22	−5	−18	−14	−15	9	−15	−24	−30	0.5
Mott	Maximum	39	38	39	43	32	31	13	27	33	34	31	23	30	31	44	39	28	35	43	39	40	45	42	26	7	25	23	30	14	−4	3	29.8
	Minimum	10	12	10	18	11	3	−2	7	7	23	17	−10	2	−7	14	18	14	24	9	9	4	19	25	1	−5	−2	0	13	−13	−25	−19	6.0
Pembina	Maximum	12	10	24	8	2	3	2	−2	2	17	19	18	12	14	24	25	23	12	18	16	21	35	25	17	−8	−7	−2	10	0	−11	−11	10.6
	Minimum	−11	−14	−13	−15	−20	−19	−15	−22	−20	−1	10	3	−10	−8	11	14	6	3	−13	−16	11	6	15	−8	−15	−22	−31	−3	−16	−27	−34	−8.8
Sharon	Maximum	6	15	19	16	10	9	2	0	5	18	18	14	12	15	33	25	21	15	22	21	25	32	31	24	−1	3	−1	11	3	−10	−11	13.0
	Minimum	−7	−9	4	−1	−2	−16	−12	−20	−17	3	14	−3	−4	−2	12	15	−4	−1	15	12	6	14	20	−6	−17	−18	−25	−2	−10	−27	−32	−3.9
Steele	Maximum	11	24	26	23	19	20	4	8	9	33	28	23	20	18	31	28	21	26	29	28	23	34	35	25	−6	6	2	14	6	−10	−10	17.7
	Minimum	−3	−8	6	9	0	−6	−12	−17	−16	9	22	−7	0	−13	12	15	4	4	21	16	4	13	22	−6	−20	−21	−28	2	−10	−28	−30	−2.1
Valley City	Maximum	22	20	21	21	13	13	1	1	5	23	25	19	12	13	31	31	27	19	26	26	28	35	36	30	1	2	8	13	10	−4	−10	16.5
	Minimum	−3	−12	10	7	0	−10	−7	−20	−21	−3	18	5	−7	−11	12	15	0	0	18	19	0	18	21	0	−14	−14	−24	−1	−4	−22	−24	−1.7
Wahpeton	Maximum	15	13	22	24	11	10	0	4	7	18	25	21	23	20	33	32	28	19	30	29	24	35	37	33	0	0	0	14	10	6	−4	17.4
	Minimum	−1	−12	8	8	−3	−11	−8	−21	−19	−2	16	11	−3	−10	10	13	3	−3	18	21	14	15	22	0	−11	−15	−25	−2	1	−22	−26	−1.1
Williston	Maximum	31	31	33	37	33	25	10	22	33	34	24	18	21	33	35	29	24	22	22	14	39	38	36	17	3	19	27	29	2	−9	−2	23.5
	Minimum	16	18	15	20	12	−2	−3	5	7	18	14	−2	0	1	22	21	8	8	11	−3	−5	21	17	−5	−10	2	1	2	−19	−23	−20	4.7
Moorhead, Minn.	Maximum	9	13	22	22	7	6	0	0	5	18	21	18	21	13	30	28	22	19	28	24	27	35	37	22	−3	−1	3	12	7	−6	−6	14.6
	Minimum	−1	−12	8	2	−7	−15	−11	−20	−15	−2	15	0	0	−9	12	20	−1	0	19	18	12	13	17	−8	−12	−15	−20	2	−10	−21	−21	−2.0

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing, ᵇ 2 days, etc.

Climatological Data for January 1938—Continued from page 2.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	......	......	....	....	.....	....	.....	0.67	+0.21	0.24	8.4	5	10	9	12	nw.	H. A. Bury.
Amidon	Slope	......	31	20.4	+6.3	46	15	−26	30	39	0.33	−0.09	0.09	4.5	8	12	5	14	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	15	20.2	+9.1	44	15	−25	30	41	0.54	+0.07	0.31	5.3	6	4	17	10	sw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	10.2	+1.6	42	22	−26	31	50	0.31	+0.06	0.16	6.0	2	19	2	10	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	......	......	....	....	.....	....	.....	.....	......	.....	....	....	.....	.....	.....	......	George Larsen.
Corinth	Williams	2,180	10	......	......	....	....	.....	....	.....	0.60	......	0.39	4.6	3	5	4	22	sw.	L. Holter.
Crosby	Divide	1,954	29	10.2	+6.6	37	4	−28	31	35	0.60	+0.19	0.20	6.0	4	6	10	15	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	14.9	+4.4	42	15	−27	30	44	0.99	+0.57	0.50	13.3	8	10	8	13	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	12.8	−1.0	39	22	−20	31	42	0.27	−0.12	0.11	3.4	3	10	9	12	se.	W. F. Moede.
Epping	Williams	2,224	27	12.0	+4.0	36	15	−31	30	29	0.44	+0.00	0.19	11.0	4	15	6	10	nw.	T. Beachler.
Fairfield	Billings	......	1	......	......	....	....	.....	....	.....	0.87	......	0.54	14.0	6	16	7	8	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	18.4	......	43	15	−22	30	39	1.05	+0.60	0.55	10.9	8	5	12	14	nw.	Verne King.
Hettinger	Adams	2,675	30	21.2	+8.2	45	22	−15	30	40	0.80	+0.50	0.80	12.0	1	12	12	7	nw.	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	9.8	+5.4	39	15	−30	30†	38	1.02	+0.51	0.20	9.8	6	13	4	14	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	11.4	......	37	15†	−28	31	37	0.34	−0.01	0.11	4.2	10	14	12	5	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	20.2	+7.4	45	15	−27	30	39	0.35	−0.05	0.12	6.6	5	12	8	11	nw.	S. P. Grane.
Mary	McKenzie	......	9	......	......	....	....	.....	....	.....	1.17	......	0.78	13.0	5	11	7	13	sw.	Fred Hartman.
Medora	Billings	2,271	22	......	......	....	....	.....	....	.....	0.47	−0.05	0.17	6.6	8	8	14	9	nw.	Vernon Thompson.
Mott	Hettinger	2,424	30	17.9	+9.1	45	22	−25	30	38	1.16	+0.52	0.53	12.8	5	4	15	12	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	17.8	+4.4	48	14	−22	29	45	0.81	+0.31	0.35	5.5	4	10	13	8	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	9.2	......	37	21	−30	31	49	0.33	+0.09	0.11	5.2	5	8	15	8	nw.	C. E. Shubert.
Portal	Burke	1,954	32	9.0	+6.5	35	23	−33	31	39	0.35	−0.07	0.10	3.5	5	13	5	13	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	32	13.8	+3.7	39	14†	−34	31	36	0.77	+0.26	0.23	11.0	5	17	7	7	w.	Geo. B. Gee.
Richardton	Stark	2,467	21	16.0	+5.8	42	15	−24	30	34	1.19	+0.81	0.40	15.4	11	8	11	12	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	9.0	+2.6	40	22	−29	31	48	0.64	−0.10	0.24	8.0	4	8	8	15	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	9.0	......	36	15	−28	30	36	0.21	......	0.08	4.2	5	14	13	4	w.	LeRoy Edwards.
Tioga	Williams	2,279	9	......	......	....	....	.....	....	.....	0.56	......	0.20	8.5	5	14	3	14	nw.	B. V. Olson.
Trotters	Golden Valley	......	12	......	......	....	....	.....	....	.....	1.03	......	0.81	13.5	5	4	10	17	nw.	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	13.6	+4.6	38	4	−27	30	38	0.97	+0.50	0.28	13.5	8	14	5	12	n.	J. C. Zeller.
Williston	Williams	1,878	58	14.1	+7.7	39	21	−23	30	44	0.83	+0.29	0.26	10.8	9	8	8	15	w.	U. S. Weather Bureau.
Average for Western Division		......	.....	13.8	+4.5	48	14	−34	31	50	0.67	+0.19	0.81	8.5	6	10	9	12	nw.	....
Average for the State		......	.....	9.5	+3.4	50	15	−40	31	50	0.48	−0.01	0.81	6.1	6	10	9	12	nw.	....

[WBO, Minneapolis, 3-7-38—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVII BISMARCK, N. D., FEBRUARY 1938 No. 2

GENERAL SUMMARY

The outstanding feature of the weather during February was the heavy snow cover over the western portion of the State where subsoil moisture was greatly needed. There was very little wind during the month so the snow was not badly drifted. The temperature averaged below normal but the last few days were warm and much of the snow melted, with the water soaking into the ground. Most of the precipitation occurred at the beginning and again near the middle of the month, but very little moisture fell during the last decade. No dust storms were reported. Much foggy weather occurred.

TEMPERATURE

The mean temperature of the State was 7.2°, or 2.4° below the 1892–1938 average for February. The mean temperature for the eastern division was 7.9°; for the middle division, 5.8°; and for the western division, 8.0°. The highest mean temperature was 12.4° at Wahpeton, and the lowest, 1.6° at Bisbee, making a range in temperature of 10.8°. The absolute range was 95°, from 60° at Hettinger on the 18th, to −35° at Berthold Agency on the 17th. The average daily excess in temperature for the State since January 1, 1938, is 0.5°.

PRECIPITATION

The average precipitation for the State was 0.68 inch, or 0.22 inch more than the 1892–1938 average for February. In the eastern division the average amount was 0.71 inch; in the middle division, 0.63 inch; and in the western division, 0.71 inch. The greatest monthly amount reported was 1.52 inches at Westhope; the least reported was 0.23 inch at Rugby. The greatest amount recorded in any 24 consecutive hours was 0.59 inch at Bottineau on the 13th. The accumulated excess in precipitation for the State since January 1, 1938, is 0.21 inch. The average snowfall was 8.6 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	..	1	..	3	..	4	4	11	4	7	..	1	1	..	..	1	..	..	..	..	3	2	2	..	3	8	13	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	1	4	..	12	30	9	4	3	1	1	7	7	..	2	3	1	..	1	2	3	19	4	8	23	3	2	22	32	..	..	..
Lunar halos	..	..	..	..	..	1	..	..	..	1	..	..	..	2	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	5	1	1	..	..	..	1	..	4	1	..	1	11	4	..	1	..	2	4	..	1	..	..	2	1	..	..	..	..	..	..
Sleet	..	..	..	1	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.25	30.85	15	29.53	4	7.4	22	nw.	25	88	74	81	51
Devils Lake	30.27	30.96	15	29.76	25	9.0	29	ne.	12	87	84	92	65
Williston	30.24	30.91	15	29.78	4	6.8	26	se.	10	86	78	80	64
Moorhead, Minn	30.25	30.90	15	29.68	25	8.6	21	nw.	13	96	87	93	49
Averages & ext's	30.25	30.96	15	29.68	25	8.0	29	ne.	12	89	81	86	57

† And other dates.

COMPARATIVE DATA FOR FEBRUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	10.0	62	−45	0.59	0.77	0.37	0.58	4.9	4	14	7	8
1893	−0.3	52	−41	1.01	0.51	0.22	0.58	5.7	4	12	7	9
1894	8.0	55	−54	0.28	0.23	0.16	0.22	2.3	2	14	9	5
1895	5.9	65	−40	0.33	0.41	0.33	0.36	3.6	4	13	7	8
1896	14.3	64	−50	0.56	0.29	0.38	0.41	4.3	3	12	9	8
1897	6.1	52	−29	1.14	1.05	1.30	1.16	11.5	7	12	7	9
1898	13.3	65	−40	0.46	0.46	0.46	0.46	4.5	3	13	8	7
1899	0.4	60	−34	0.22	0.16	0.22	0.20	1.9	3	14	8	6
1900	1.3	46	−48	0.20	0.55	0.66	0.47	4.5	4	12	9	7
1901	7.1	60	−48	0.32	0.30	0.31	0.31	2.9	3	15	7	6
1902	12.1	51	−31	0.73	1.10	1.12	0.98	6.7	6	10	6	12
1903	3.1	46	−33	0.48	0.25	0.41	0.38	3.7	3	19	4	5
1904	−2.1	52	−49	0.81	0.56	0.69	0.69	7.6	5	13	6	10
1905	8.2	64	−42	0.25	0.31	0.37	0.31	2.9	2	19	4	5
1906	9.8	57	−46	0.20	0.07	0.28	0.18	1.4	2	13	8	7
1907	10.7	58	−38	0.36	0.21	0.42	0.33	2.8	3	15	7	6
1908	13.8	62	−49	1.56	0.68	0.87	1.04	10.1	5	12	7	10
1909	9.6	56	−34	0.28	0.36	0.37	0.34	3.7	4	11	7	10
1910	3.4	56	−34	0.57	0.40	0.81	0.59	5.6	4	14	7	7
1911	7.3	55	−50	0.84	0.74	0.52	0.70	8.0	3	15	8	5
1912	11.8	48	−38	0.19	0.18	0.09	0.15	1.7	2	10	9	10
1913	8.5	64	−33	0.08	0.09	0.09	0.09	1.0	2	12	9	7
1914	1.0	57	−44	0.34	0.28	0.40	0.34	3.8	3	12	8	8
1915	17.4	50	−47	1.32	0.27	0.26	0.62	6.1	3	9	5	14
1916	6.4	55	−20	0.41	0.45	0.58	0.48	4.8	4	14	8	7
1917	−0.7	61	−39	0.84	0.58	0.55	0.66	7.1	5	10	8	10
1918	10.8	60	−48	0.20	0.16	0.29	0.22	2.3	3	13	9	6
1919	7.7	58	−41	0.68	0.73	0.44	0.62	6.5	5	10	8	10
1920	12.5	53	−40	0.38	0.25	0.28	0.30	3.2	3	11	9	9
1921	19.9	64	−36	0.52	0.39	0.25	0.39	3.8	3	11	10	7
1922	0.7	45	−33	1.41	1.17	1.00	1.19	12.8	5	13	6	9
1923	4.1	48	−39	0.78	0.64	0.51	0.64	7.2	4	13	7	8
1924	20.3	67	−40	0.39	0.43	0.35	0.39	4.2	3	14	6	9
1925	16.5	62	−27	0.48	0.30	0.08	0.29	3.6	3	10	9	9
1926	22.3	58	−39	0.47	0.44	0.31	0.41	3.7	4	9	9	10
1927	13.3	50	−19	0.49	0.31	0.27	0.36	3.1	4	12	7	9
1928	18.8	59	−31	0.13	0.06	0.15	0.11	1.2	2	14	8	7
1929	2.8	44	−19	0.30	0.28	0.30	0.29	3.3	4	12	8	8
1930	21.7	63	−44	1.41	1.15	0.97	1.18	11.7	6	11	8	9
1931	28.0	62	−30	0.34	0.20	0.31	0.28	2.9	2	14	6	8
1932	13.6	69	−31	0.30	0.37	0.30	0.32	4.3	3	12	9	8
1933	7.9	58	−45	0.25	0.26	0.34	0.28	3.3	3	13	8	7
1934	19.5	61	−30	0.08	0.04	0.07	0.06	0.7	1	13	8	7
1935	24.0	63	−25	0.21	0.24	0.15	0.20	1.9	2	13	7	8
1936	−12.9	43	−60	0.90	0.70	0.50	0.70	9.1	6	12	8	9
1937	6.8	55	−35	0.83	0.40	0.25	0.49	6.6	4	12	9	7
1938	7.2	60	−35	0.71	0.63	0.71	0.68	8.6	5	11	7	10
Period	9.6	69	−60	0.54	0.43	0.42	0.46	4.8	4	13	7	8

Climatological Data for February 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	4.8	−4.0	36	7†	−30	17	32	0.30	−0.20	0.20	3.8	3	2	12	14	sw.	I. Idso.
Cavalier	Pembina	894	28	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Burke Bechtel.
Cooperstown	Griggs	1,428	41	8.3	−1.1	48	26	−23	18	37	1.33	+0.93	0.55	16.6	8	18	2	8	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	....	....	....	....	....	....	....	1.25	....	0.50	16.1	6	15	5	8	nw.	Alfred Woiwode.
Devils Lake	Ramsey	1,471	41	5.3	+0.2	40	28	−22	14	27	0.47	−0.03	0.15	5.0	5	7	8	13	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	37	9.4	−3.3	42	28	−20	19	33	0.58	+0.25	0.18	11.0	6	8	16	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	4.6	−2.6	39	26	−27	1	31	0.47	+0.08	0.18	4.5	4	10	5	13	ne.	A. G. Braund.
Ellendale	Dickey	1,457	43	10.8	+0.1	44	26	−24	19	33	0.56	+0.02	0.22	7.7	5	8	9	11	nw.	J. E. Demmer.
Fargo	Cass	895	2	9.3	....	38	26	−24	19	40	0.74	....	0.40	8.0	6	4	14	10	n.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	9.2	−3.9	42	26	−25	18	29	0.73	+0.19	0.42	9.0	4	....	....	....	....	Helge Dyste.
Fullerton	Dickey	1,439	40	10.4	−1.6	42	26†	−22	18†	33	0.78	−0.15	0.26	7.8	6	6	11	11	nw.	F. O. Alin.
Grafton	Walsh	827	46	7.0	+0.3	44	26	−24	1	39	0.81	+0.27	0.45	13.7	4	10	7	11	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	6.8	−0.8	40	25†	−23	18†	34	0.88	+0.32	0.46	10.4	6	8	9	11	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	9	11.0	....	44	26	−20	1†	44	0.65	....	0.35	9.5	2	17	4	7	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	2.8	+0.3	38	26†	−28	15	37	0.97	+0.38	0.40	9.7	6	9	11	8	nw.	James Muir.
Hillsboro	Traill	901	32	8.9	−1.4	42	26	−23	19	32	0.78	+0.20	0.45	9.0	5	11	7	10	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	46	8.0	−1.6	44	28	−20	1†	30	1.30	+0.71	0.57	13.0	7	10	6	12	nw.	S. Calvelage.
Langdon	Cavalier	1,615	42	4.8	0.0	41	26	−34	1	29	0.73	+0.11	0.20	7.3	9	18	1	9	....	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	7.4	+0.1	42	28	−22	1	35	0.71	+0.13	0.40	10.3	4	15	2	11	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	10.1	−1.1	45	26	−24	19	37	0.56	−0.06	0.24	7.0	3	6	8	14	nw.	J. O. Halverson.
McHenry	Eddy	1,509	16	4.2	−1.6	38	26†	−30	1	36	0.33	−0.38	0.11	7.3	4	9	10	9	....	C. E. Blasky.
McLeod	Ransom	1,075	27	11.4	−1.9	45	26	−27	19	40	0.57	−0.04	0.49	5.7	2	20	1	7	sw.	J. G. Carlson.
Mayville	Traill	975	42	9.5	0.0	44	28	−23	19	37	1.02	+0.60	0.42	15.0	5	17	3	8	n.	H. B. Addicott.
Oakes	Dickey	1,318	9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	S. F. Rossman.
Park River	Walsh	998	34	5.7	−2.0	42	26	−27	1	38	0.40	0.00	0.20	8.5	3	13	3	12	nw.	E. J. Taintor.
Pembina	Pembina	789	64	5.2	+2.2	41	28	−29	15	37	0.90	+0.27	0.37	10.0	6	13	5	10	nw.	E. N. Russell.
Petersburg	Nelson	1,520	8	....	....	....	....	....	....	....	0.77	....	0.51	8.0	4	11	10	7	nw.	T. M. Rykken.
Sharon	Steele	1,516	14	6.2	−5.2	39	28	−25	1	31	0.69	+0.36	0.22	9.6	5	7	10	11	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	9.5	−2.0	45	28	−21	1	33	0.41	−0.06	0.25	10.0	5	14	5	9	ne.	I. C. Robertson.
Wahpeton	Richland	962	46	12.4	+0.4	41	26	−26	19	35	0.63	+0.14	0.30	5.8	6	6	10	12	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	9.8	+1.7	41	26	−21	18	40	0.51	−0.18	0.30	8.5	8	5	5	18	n.	U. S. Weather Bureau.
Average for Eastern Division		....	....	7.9	−0.7	48	26	−34	1	44	0.71	+0.17	0.57	9.2	5	11	7	10	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	42	8.9	−2.2	41	26	−23	18	34	0.30	−0.19	0.13	5.3	6	17	4	7	nw.	R. C. Miles.
Bisbee	Towner	1,601	2	1.6	....	41	25†	−28	1	32	0.37	....	0.10	3.8	7	14	4	10	nw.	I. K. Lund.
Bismarck	Burleigh	1,670	64	7.8	−2.5	45	28	−25	18	31	0.76	+0.32	0.27	10.3	9	8	10	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	5.3	+1.1	38	26†	−27	17	32	0.79	+0.44	0.59	8.6	7	7	9	12	e.	N. D. School of Forestry
Carrington	Foster	1,579	40	6.2	−2.5	39	26†	−27	1	38	1.00	+0.63	0.43	14.0	6	8	7	13	se.	Soo Line Agent.
Carson	Grant	2,500	26	9.3	−6.1	58	28	−29	17	37	0.98	+0.54	0.20	11.0	6	10	5	13	s.	J. W. Evens.
Dogden Butte ‡‡	McLean	1,880	12	7.4	−7.1	44	26	−24	1	30	0.65	+0.30	0.21	10.0	5	12	4	12	sw.	R. L. Williams.
Drake	McHenry	1,634	9	5.0	....	43	28	−28	1	32	0.33	....	0.10	3.8	9	9	11	8	se.	Peter Anton.
Dunseith	Rolette	1,682	42	7.0	+0.6	52	26	−30	1	35	0.31	−0.12	0.15	2.9	5	9	12	7	s.	Geo. Gehres.
Eckman	Bottineau	1,500	33	4.0	−3.6	45	28	−26	1	34	0.27	−0.09	0.07	5.0	5	5	13	10	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	6.0	−9.9	48	26	−32	17	31	0.50	+0.05	0.18	8.0	5	11	13	4	se.	H. S. Solenberger.
Fessenden	Wells	1,610	26	3.6	−6.5	42	26	−28	1	35	0.74	+0.24	0.23	8.6	6	12	7	9	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	9.2	−2.6	48	26	−31	18	35	0.56	+0.07	0.24	7.0	4	13	5	10	se.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	5.9	−7.5	50	28	−22	1†	33	0.64	+0.07	0.20	6.5	7	9	7	12	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	8.0	....	37	26†	−20	14†	25	0.85	....	0.19	10.6	9	9	5	14	nw.	A. H. Haut.
Garrison	McLean	1,901	61	4.8	−6.1	44	28	−25	1	29	0.59	+0.06	0.18	7.0	6	12	8	8	se.	E. L. Vorachek.
Granville	McHenry	1,504	31	5.4	−4.7	47	28	−25	17	36	0.91	+0.47	0.32	16.0	6	8	8	12	nw.	W. A. Christiauson.
Hansboro	Towner	1,597	30	4.1	−1.7	45	28	−27	1	35	0.66	+0.11	0.33	12.0	3	15	6	7	sw.	C. E. Blackorby.
Linton	Emmons	1,711	21	7.4	−7.1	42	25†	−32	17	47	0.29	−0.19	0.12	5.8	6	7	14	7	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	5.0	−8.2	40	26	−26	17	31	0.56	+0.02	0.21	5.8	3	16	4	8	se.	Edw. Tapley.
Maddock	Benson	1,604	23	3.8	−7.3	42	28	−28	1	33	0.68	+0.30	0.33	7.5	5	10	5	13	nw.	A. T. Felland.
Mandan	Morton	1,750	24	7.2	−5.7	44	27	−20	17†	35	1.06	+0.70	0.27	12.9	8	12	5	11	se.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	....	....	....	....	....	....	....	0.51	+0.05	0.16	6.5	6	....	....	....	....	P. B. Anderson.
Max	McLean	2,093	9	3.4	....	48	26	−30	1	36	0.30	....	0.16	3.8	4	....	....	....	....	A. W. Rice.
Minot	Ward	1,557	42	7.8	−1.9	49	28	−22	17	32	0.51	+0.06	0.17	4.9	7	6	7	15	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	44	4.8	−2.3	48	27	−25	1	30	0.39	+0.08	0.15	4.9	4	9	10	9	nw.	John Behan.
Napoleon	Logan	1,955	46	7.2	−1.1	39	27	−25	17	34	0.54	+0.14	0.20	7.0	5	17	1	10	s.	C. J. Hoof.
New Salem	Morton	2,163	34	6.5	−6.6	46	28	−26	14†	33	0.51	+0.06	0.24	6.0	8	13	6	9	nw.	J. Christianson.
Pettibone	Kidder	1,856	29	4.2	−4.6	37	26	−28	17	28	1.28	+0.89	0.37	14.9	6	....	....	....	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	5.6	....	52	26	−28	1	34	0.85	....	0.38	8.7	9	8	12	8	nw.	A. Jacobsen.
Rugby	Pierce	1,562	9	....	....	....	....	....	....	....	0.23	....	0.10	3.0	5	9	6	13	se.	W. B. Paterson.
Ryder	Ward	2,108	9	....	....	....	....	....	....	....	0.40	....	0.13	5.0	7	12	5	11	ne.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	....	....	....	....	....	....	....	0.78	....	0.20	9.0	6	11	7	10	nw.	J. B. Smith.
Steele	Kidder	1,857	44	5.6	−3.8	43	26	−29	17	34	0.32	−0.12	0.12	9.0	4	10	5	13	ne.	R. S. Armstrong.
Tagus	Mountrail	2,179	9	....	....	....	....	....	....	....	0.35	....	0.16	3.4	8	14	5	9	sw.	G. N. Pilgard.
Towner	McHenry	1,482	36	5.4	−2.3	44	28	−23	1	30	0.95	+0.51	0.40	9.5	5	8	14	6	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	5.0	−6.8	41	27†	−28	18	32	0.34	−0.16	0.11	5.2	6	16	3	9	se.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	....	....	....	....	....	....	....	0.57	+0.19	0.22	7.9	9	12	7	9	ne.	Adam Leno.
Velva	McHenry	1,511	11	7.4	....	50	28	−21	17	35	0.59	+0.22	0.20	8.0	4	9	9	10	w.	Oscar Anderson.
Washburn	McLean	1,731	37	5.8	−3.7	49	26	−24	17	37	0.45	+0.04	0.16	6.0	7	8	7	13	ne.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	4.6	−2.4	43	26†	−25	18	30	1.52	+1.31	0.47	16.5	5	14	5	9	se.	D. A. Findlay.
Willow City	Bottineau	1,471	46	2.6	−2.3	42	28	−30	1	37	1.00	+0.45	0.45	10.8	4	11	8	9	se.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	^{e}6.9	−2.1	^{e}42	25	^{d}−26	18	^{e}41	0.80	+0.45	0.50	8.0	4	....	....	....	nw.	H. M. Larson.
Zap	Mercer	1,838	23	....	....	....	....	....	....	....	0.84	+0.48	0.24	10.0	6	18	4	6	....	R. A. Norton.
Average for Middle Division		....	....	5.8	−4.4	58	28	−32	17	47	0.63	+0.20	0.59	8.0	6	11	7	10	nw.	....

Continued on page 8.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Bertbold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for February 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red										T.		.05	.20									.05										0.30
Cavalier	do																																......
Cooperstown	Sheyenne		.15	.05		T	T.		T		.33	.04	.04	.55			.16	.01				T.	T.	T									1.33
Courtenay	James	.03	.17	T							.14		.24	.50		T.	.17																1.25
Devils Lake ***	Devils Lake	T.	.12	T.	T.		T.		T.	T.	.11	T.	.04	.11			.09	T.					T.	T.									0.47
Edgeley	James		.05								.10		.10			.10	.18						.05										0.58
Edmore	Devils Lake		.18	.01	T.	T.					.12		T.	T.			.16	T.					T.	T.									0.47
Ellendale	James										.04		.04	.21		.05	.22						T.										0.56
Fargo ***	Red		.05	T.			T.			T.	.05	T.	.01	.40		T	.21	T.			T.			.02									0.74
Forman	Sheyenne			T.							.02	T.	T.	.42		T.	.27					T.	T.	.02									0.73
Fullerton	James		T.								T.	.04	.12	.12		.26	.21						T	.03									0.78
Grafton	Red		.25								.04			.45			.07																0.81
Grand Forks ***	do	T.	.18	T.							.12	T.	.02	.46			.09					T.	.01	T.									0.88
Hankinson ||||	do		T.								T.		T.	.35			.30							T.									0.65
Hannah	Pembina	T.	.13				T.	T.	T.	.21	.03		.11	.40			.09						T.										0.97
Hillsboro	Red		.10	.03							.13			.45			.07							T.									0.78
Jamestown	James			.17			T			.05			.03	.57			.06	.39					.03										1.30
Langdon ||||	Pembina	.02		.09			.03	.05		.04	.05		.15	.20			.10																0.73
Larimore	Red		.14								.11		T.	.40			.06							T.									0.71
Lisbon	Sheyenne		T.	T.							T.	T.	.08	.24		T.	.24						T	T.									0.56
McHenry	James		.11								.08	T.		.06			.08							T									0.33
McLeod	Sheyenne													.49			.08																0.57
Mayville	Red		.06	.24							T.	.18		.42			.12						T										1.02
Oakes	James																																......
Park River	Red	T	.12			T.				T	.08		.20																				0.40
Pembina	do		.10			T.			.12	.09	T.	T.	.37			.12																	0.90
Petersburg	do		.18								.06			.51			.02							T.									0.77
Sharon	do	T.	.20	T.							.11	T	.05	.22			.11	T					T.	T.									0.69
Valley City	Sheyenne		.03								.02		T.	.25		T.	.08						T	.03									0.41
Wahpeton	Red										.03		.01	.30			.25	.02						.02									0.63
Moorhead, Minn. ***	do		.05		T.	T.	T.			T.	.05	.01	.17	.13			.08	T.				T.	.01	.01	T.				T.				0.51
Middle Division																																	
Ashley	Missouri										.03		.13	.04		.04	.05						.01										0.30
Bisbee	Devils Lake	T.	.05	T.			.04			.02	.04		.05	.10			.07	T.															0.37
Bismarck ***	Missouri		.27			.02	.05		T.	T.	.22		.01	.01	T.	.07	.10						.01	T.	T.								0.76
Bottineau	Mouse		.02				.02		.01		.04			.59			.10						.01										0.79
Carrington ||||	James		.43								.09		.28			.05	.10						.05										1.00
Carson	Heart		.20				.20						.10			.20	.20						.08										0.98
Dogden Butte	Mouse		.10				T.			T.	.21		.04	.15		T.	.15	T.					T.	T.	T.								0.65
Drake ||||	do	T.	.04	.01			T.			T.	.04	.02	T.		.10	.01	.05	.05					T.	.01									0.33
Dunseith	do	T.	T.		T.		.05			.02	.03			.15			.06																0.31
Eckman	do	T.	.05				T.		T.	T.	.05		.05	.07	T.		.05					T.	T.										0.27
Energy	Missouri		.05											.18		.05	.15						.07										0.50
Fessenden ||||	James		.04	.12							.20			.23		.01		.14						T.									0.74
Fort Yates	Missouri		T.				.16						T.			.08	.24						.08										0.56
Foxholm (near)	Mouse		.09				.20			T.	.14		.04	.08			.07						.02	T.									0.64
Gackle	James	.02	.04	.01									.18	.17	.19	.12	.10						.02										0.85
Garrison ||||	Missouri		T.	.05			.04	T.		T.	.14	T.	T.	.18		T.	.08	.10					T.	T.	T.								0.59
Granville	Mouse		.16				.08				.18		.06	.32		T.	.11						T.	T.									0.91
Hansboro	Devils Lake	T.	.07							.26			.33		T.		T.																0.66
Linton	Missouri		T.				.02				.12		.03			T.	.09						.11		.02								0.29
McClusky	do		.16								.19		T.			T.	.21						T										0.56
Maddock	Sheyenne	T.	.05				T.				.14		.08	.33			.08						T.										0.68
Mandan ||||	Missouri	.27	.09			.12		T.		.23			.08		.03	.23	.01					T.	T.	T.									1.06
Manfred	James	T.		.10							.12		.01	.16			.06						.06										0.51
Max ||||	Missouri		T.				.02				T.		T.	.16		.04	,08																0.30
Minot	Mouse	.01	.04				.03		T.		.13		T	.17		T.	.12	T.				T.	.01	T.	T.								0.51
Mohall	do		T.						T		.13		.15				.10						.01										0.39
Napoleon ||||	Missouri			.08									.20			.15		.08							.03								0.54
New Salem	Heart		.24				.07		T.	T.	.03		.02	.01		.07	.06						.01										0.51
Pettibone	James	.04	.42								.07		.29	.09			.37						T.										1.28
Rolla	Devils Lake	.02	.05			.04			T.	.10	.08		.07	,38	T.		.10	.01															0.85
Rugby (near)	Mouse			.04			.03			T.		.02		.04			.10																0.23
Ryder	Missouri		.02			.03			T.	.09			.13			.08	.03						.02	T.									0.40
Selfridge	do	T.	.10			.18	T.			.10		T.	T.			.15	.05					T.	.20	T.									0.78
Steele	do		.12						T.		.01		.07			T.	.12						T.										0.32
Tagus	Mouse	T.	.01				.06			.01	.02			.16		T.	.07						.01	.01									0.35
Towner	do	T.	.10								.20		.20	.40			.05																0.95
Turtle Lake	Missouri		.07								.11		.02	.03		.01	.10						T.	T.									0.34
Tuttle	do	T.	.16		T.		T.		.01		.22		.05	.01		.01	.08						.02		.01								0.57
Velva	Mouse	T.	.07				T.			T.	.17		T.	.20		T.	.15						T.	T.	T.								0.59
Washburn ||||	Missouri		.05	.03			.05			T.	.16		T.			.05	.07	.04						T.	T.								0.45
Westhope	Mouse		.12						*	*	.73			.47	.07		.13					T	T.		T.								1.52
Willow City	do		.10				T.		T.		.35		.10	.45			T.																1.00
Wishek ||||	Missouri		T.				T.			.14	T.	.04		.50		.12	T.					T	T	T.									0.80
Zap	Knife		.13				.17		T.		.24		.15			.04	.11																0.84
Western Division																																	
Alpha	Lit. Missouri		.03			.14					.05	T.	.02		.18		.14																0.56
Amidon	do		.20			.01							.02			.04	.20				.10												0.57
Beach	do		.09			.30							.06			.10	.20						T.										0.75
Berthold Agency	Missouri		.15				.12							.14			.20																0.61
Bowman	Grand																																......
Corinth	Missouri	.24	T.				'08		T.	T.	T.		.23	.12		T.	.12						T.										0.79
Crosby	Mouse		.05				.20		.10					.30			.10																0.75
Dickinson ||||	Heart		.02	.05			.25		T.	T.	.03		T	.15		.03	.05	T.					T.	.02									0.60
Dunn Center	Knife		T.				.20		T.	T.	.15		.06	.06	T.	.10	.11				T.		T.	T.									0.68
Epping	Missouri						.20				.29			.13			.14																0.76
Fairfield	Lit. Missouri		.07			.05							.50		T.		.13						T.										0.75
Fryburg	Heart	T.	.03			.18	.19		T.		T		.08			.09	.11						T.										0.68
Hettinger	Grand				.12					T.					.08	.06	.04																0.30
Howard (near)	Missouri	.20	.10	.10	T.	T.		.20						.20		.23	.17				T.	T.											1.20
Kenmare	Mouse	.02	.02				.08			.04	.02		.02	.24			.12						.01	.01									0.58
Marmarth	Lit. Missouri		.04	T.		.16			T.				T.			.07	.10			T.			T										0.37
Mary	do		.04			T.	.21				T			.40		.13	.04						.02	T.									0.84
Medora	do		.04			.25	T.		T.	T.	.04		.06		T.	.17	.14				T.		T.										0.70
Mott	Cannon Ball		.12			.22				.06						.12																	0.52
New England ||||	do		.15			.33				.23			.06			.30																	1.07
Parshall	Missouri		.03				.03				T.		T.	.16		T.	.15						T.	.01									0.38
Portal ||||	Mouse			.04			.22		.23					.40			.04																0.93
Powers Lake	Missouri						.18						.14																				0.32
Richardton	Heart		.13				.21		.02					.20		.16	.18						.07										1.03
Sanish ||||	Missouri						.16						.24				.16	.08															0.64
Stanley	do		.02				.07			.22		.06	.06			T.	.21							T.									0.64
Tioga	do	T.	T.				.30		T.				.10	.20			.20						T.										0.80
Trotters	Lit. Missouri					.54							.12			.11	.10																0.87
Watford City	Missouri		.05			.15	.24				.21		.15	.07		.08	.08																1.03
Williston ***	do	T.	.02			.37	.01		.01	.02	.05		.22	T.		.12	.11				T.	T	T										0.93

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. |||| Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for February 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum...	10	11	11	27	30	28	36	26	3	19	34	24	10	−1	−1	2	0	11	9	19	13	16	17	26	38	41	39	39	....	....	....	19.2
	Minimum...	−19	−7	−9	6	2	9	18	1	−8	−3	13	7	−5	−19	−10	−5	−21	−23	−20	−5	−13	−10	0	3	11	29	23	17	....	....	....	−1.4
Beach	Maximum..	15	15	19	32	32	30	37	11	4	23	27	9	3	−6	−1	1	7	19	28	24	32	24	31	31	39	42	46	52	....	....	....	22.4
	Minimum ..	−4	7	−4	7	9	−3	5	−5	−10	−3	5	−5	−15	−24	−12	−16	−28	−13	8	−14	4	7	12	8	22	29	26	23	....	....	....	0.6
Bismarck	Maximum...	12	9	9	22	25	26	35	10	3	19	23	10	3	−6	−1	5	−2	6	14	12	12	17	19	26	41	44	43	45	....	....	....	17.1
	Minimum ...	−5	0	−15	−6	−5	14	6	1	−7	1	6	0	−8	−15	−7	−16	−20	−25	−15	−12	−18	4	−5	13	12	33	26	22	....	....	....	−1.5
Bottineau	Maximum...	3	10	10	14	24	22	24	18	2	13	21	14	0	−3	−1	8	4	−4	10	13	13	19	16	25	36	38	37	38	....	....	....	15.1
	Minimum ...	−25	1	−5	2	1	9	10	−5	−15	−12	4	−6	−23	−22	−22	−19	−27	−23	−12	−3	3	0	−10	5	4	24	21	20	....	....	....	−4.5
Carson	Maximum...	10	10	13	28	32	25	48	18	12	20	37	15	3	−7	−3	2	−2	10	10	12	12	16	25	28	42	42	48	58	....	....	....	20.1
	Minimum ...	−15	3	−11	−3	11	16	11	−1	−8	−3	7	−2	−15	−22	−13	−10	−29	−16	−7	−17	−14	6	−7	8	15	30	22	23	....	....	....	−1.5
Crosby §	Maximum...	3	8	13	25	18	25	24	2	−1	12	10	3	−3	−3	−5	0	−5	10	15	7	20	21	29	26	38	43	39	38	....	...	....	14.7
	Minimum ...	−19	−2	−12	−3	2	5	1	−3	−24	−10	−1	−4	−18	−14	−23	−11	−28	−19	−7	−8	−1	−1	−1	8	26	32	27	20	....	....	....	−3.1
Devils Lake	Maximum...	6	4	10	16	16	19	29	8	2	20	27	10	3	−6	−5	6	2	1	9	12	10	15	14	21	36	38	32	40	....	....	....	14.1
	Minimum ...	−18	−5	−6	−1	4	8	7	−5	−14	−7	6	−2	−15	−22	−18	−12	−20	−18	−15	−4	−10	−10	−4	−5	13	30	23	21	....	....	....	−3.5
Dickinson §	Maximum...	10	12	13	27	30	28	34	12	2	17	22	4	0	−10	−8	−1	0	16	16	18	25	15	27	34	37	38	43	43	....	....	....	18.0
	Minimum ...	−18	−3	−11	−10	−3	0	12	−5	−12	−9	0	−3	−13	−25	−23	−11	−30	−24	−19	−14	−6	−2	−10	−5	15	29	27	13	....	....	....	−5.7
Dunn Center §	Maximum...	6	13	10	26	22	24	29	5	4	12	11	5	−2	−5	−3	5	3	10	15	10	23	21	24	27	43	47	45	46	....	....	....	17.0
	Minimum ...	−10	−3	−14	−9	−3	11	2	0	−16	0	−2	−3	−10	−23	−11	−8	−29	−21	−15	−14	−8	8	−9	15	18	32	25	15	....	....	....	−2.9
Fessenden §	Maximum...	7	5	2	16	12	25	32	10	2	18	27	4	−1	−5	−3	5	−2	6	15	5	12	12	9	27	38	42	33	36	....	....	....	13.9
	Minimum ...	−28	−10	−14	−13	−1	2	10	1	−14	−13	2	−2	−5	−21	−20	−15	−23	−21	−19	−13	−19	−15	−7	−8	6	28	25	20	....	....	....	−6.7
Fullerton	Maximum...	15	12	13	32	28	23	37	27	3	23	34	28	12	3	1	7	3	6	7	15	10	17	17	28	39	42	40	42	....	....	....	20.1
	Minimum ...	−16	3	−6	8	4	8	20	2	−5	−6	20	9	−1	−17	−8	−5	−10	−22	−22	−14	−9	−3	4	−4	6	33	29	25	....	....	....	0.8
Garrison §	Maximum...	−8	7	9	12	20	24	24	22	6	5	16	18	2	2	−6	−3	6	−1	7	14	14	13	15	22	30	39	42	44	....	....	....	14.1
	Minimum ...	−25	−8	−12	−13	−4	−4	12	4	−12	−12	1	1	−7	−14	−19	−15	−23	−24	−22	−9	−13	0	−2	10	9	28	28	19	....	....	....	−4.5
Grafton	Maximum...	7	9	11	21	19	19	32	29	5	17	27	27	5	−1	−15	5	6	2	5	15	12	18	18	25	39	44	41	42	....	....	....	17.3
	Minimum ...	−24	0	−6	−5	11	7	2	−2	−8	−10	15	−2	−2	−16	−21	−20	−13	−22	−22	−4	−15	−7	1	−14	11	26	26	24	....	....	....	−3.2
Grand Forks	Maximum...	11	12	13	30	16	16	31	14	3	19	29	19	19	−3	−7	6	8	3	6	16	15	16	12	23	40	40	35	40	....	....	....	17.2
	Minimum ...	−19	3	−11	0	4	4	7	0	−12	−9	15	1	−11	−18	−21	−13	−17	−23	−23	−1	−4	3	−7	−11	6	21	18	16	....	....	....	−3.6
Jamestown §	Maximum...	9	8	8	20	24	20	37	20	1	19	30	15	10	−6	−3	5	0	5	8	16	12	17	17	24	39	41	38	44	....	....	....	17.1
	Minimum ...	−20	4	−9	4	1	8	12	−1	−9	−4	15	4	−6	−8	−10	−17	−17	−18	−20	−10	−11	−11	4	−6	14	32	27	21	....	....	....	−1.1
Kenmare	Maximum...	0	6	8	26	27	18	27	12	0	13	14	6	0	−7	−4	5	3	9	19	15	24	19	23	31	38	47	45	51	....	....	....	17.0
	Minimum ...	−19	0	−12	−3	6	7	7	−6	−19	−12	2	−5	−16	−15	−20	−9	−18	−16	−6	0	−1	10	−3	11	21	35	27	29	....	....	....	−0.9
Langdon §	Maximum...	−5	1	10	17	24	12	29	23	4	12	25	16	1	7	−7	8	4	2	11	8	16	15	15	21	38	41	37	39	....	....	....	14.8
	Minimum ...	−34	−8	−5	−4	4	5	10	−2	−15	−17	8	−6	−9	−21	−25	−17	−18	−24	−13	−2	−10	−9	5	−8	9	24	20	17	....	....	....	−5.2
Marmarth	Maximum...	14	12	23	39	25	40	43	20	11	30	41	23	5	−5	−8	−5	10	24	23	28	34	30	33	34	42	47	49	56	....	....	....	25.6
	Minimum ...	0	7	−10	−5	−1	−6	0	4	−11	8	5	−1	−10	−18	−10	−8	−34	−24	−13	−7	−9	8	−10	12	12	30	25	21	....	....	....	−1.6
Minot	Maximum...	5	7	12	23	20	23	27	12	1	17	14	9	−1	−5	−6	3	1	11	18	19	25	17	24	32	41	45	44	49	....	....	....	17.4
	Minimum ...	−19	3	−15	−3	−3	10	12	−6	−16	−11	−1	−2	−12	−16	−18	−11	−22	−20	−10	−8	2	4	−8	11	21	32	28	27	....	....	....	−1.8
Mott	Maximum...	11	13	18	34	34	30	38	13	9	21	31	10	6	−5	−4	4	3	17	15	19	26	22	33	35	41	47	44	57	....	....	....	22.2
	Minimum ...	−6	5	−17	−8	−3	15	11	2	−17	−1	−1	3	−6	−26	−11	−19	−30	−22	−4	−16	−17	8	−9	13	11	29	25	20	....	....	....	−2.5
Pembina	Maximum...	2	9	7	23	18	15	29	17	−2	18	28	27	12	−3	−7	7	5	2	6	14	16	23	18	23	39	39	36	41	....	....	....	16.5
	Minimum ..	−27	−4	−8	−9	4	2	0	−4	−7	−19	16	−5	−4	−20	−29	−22	−16	−23	−13	−10	−6	−3	−9	−13	8	18	18	16	....	....	....	−6.0
Sharon	Maximum...	6	5	14	24	21	20	33	19	7	17	27	24	4	−7	−4	2	0	2	7	16	12	13	15	22	37	38	34	39	....	....	....	16.0
	Minimum ...	−25	0	−8	−4	−1	6	5	−4	−12	−10	16	−1	−8	−20	−16	−13	−13	−22	−14	−3	−10	−11	−4	−6	6	28	27	20	....	....	....	−3.5
Steele	Maximum...	9	6	8	18	20	24	34	19	−2	18	28	11	3	−6	−6	8	−6	0	16	12	10	16	20	28	39	43	37	36	....	....	....	15.8
	Minimum ...	−22	2	−19	−5	−3	5	15	−2	−11	−6	5	0	−7	−22	−11	−11	−29	−28	−18	−15	−16	−9	−10	7	5	35	28	14	....	....	....	−4.6
Valley City	Maximum...	9	8	9	34	30	26	38	33	4	20	35	30	10	−1	−5	4	4	2	4	18	15	14	13	24	37	44	42	45	....	....	....	19.5
	Minimum ...	−21	5	−5	4	0	8	8	1	−8	−3	19	4	−1	−17	−16	−8	−10	−18	−20	−10	−8	−8	2	−9	12	30	29	25	....	....	....	−0.5
Wahpeton	Maximum...	10	22	22	34	33	24	38	37	16	22	32	32	33	2	4	13	11	5	9	17	19	22	18	17	38	41	40	38	....	....	....	23.2
	Minimum ...	−16	5	−6	6	5	9	7	10	−1	−1	18	22	0	−15	−6	−6	−5	−24	−26	−17	0	9	9	−11	11	23	28	20	....	....	....	1.7
Williston	Maximum...	7	13	15	25	22	32	30	3	0	15	7	3	−2	−6	−3	4	−3	14	17	16	24	18	25	30	39	45	41	43	....	....	....	16.9
	Minimum ...	−6	−6	−14	2	0	−3	1	−8	−23	0	0	−3	−9	−16	−10	−20	−27	−16	−4	−1	10	5	2	13	27	30	22	18	....	....	....	−1.3
Moorhead, Minn.	Maximum...	10	19	11	33	21	17	35	17	5	22	31	30	30	−4	−3	8	4	1	8	12	16	17	16	22	38	41	36	35	....	....	....	18.9
	Minimum ..	−19	4	−5	6	9	6	6	3	−4	−4	22	15	−10	−15	−12	−8	−10	−21	−17	−7	5	9	−3	−9	16	27	22	17	....	....	....	0.8

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

Climatological Data for February 1938—Continued from page 6.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	....	11	.....	......	....	....	.....	....	......	0.56	+0.09	0.18	7.0	6	14	5	9	se.	H. A. Bury.
Amidon	Slope	....	31	12.2	−5.2	53	28	−23	17	35	0.57	+0.09	0.20	6.6	6	19	4	5	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	15	11.5	−4.7	52	28	−28	17	38	0.75	+0.34	0.30	9.7	5	8	13	7	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	5.7	−6.5	50	28	−35	17	42	0.61	+0.21	0.20	11.0	4	15	1	12	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	......	....	....	....	.....	....	......	......	....	......	......	.....	.....	.....	.....	......	George Larsen.
Corinth	Williams	2,180	10	.....	....	....	....	.....	....	......	0.79	....	0.24	8.8	5	7	6	15	sw.	L. Holter.
Crosby	Divide	1,954	29	5.8	−3.6	43	26	−28	17	30	0.75	+0.39	0.30	7.5	5	10	4	14	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	6.2	−6.9	43	28	−30	17	40	0.60	+0.17	0.25	9.4	8	10	12	6	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	7.0	−7.6	47	26	−29	17	35	0.68	+0.18	0.20	5.5	6	11	9	8	se.	W. F. Moede.
Epping	Williams	2,224	27	6.4	−4.4	46	28	−27	17	36	0.76	....	0.29	9.5	4	20	4	4	nw.	T. Beachler.
Fairfield	Billings	....	1	......	....	....	....	.....	....	....	0.75	....	0.50	7.4	4	12	11	5	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	10.2	....	45	27	−25	17	37	0.68	+0.21	0.19	8.1	6	10	9	9	nw.	Verne King.
Hettinger	Adams	2,675	30	12.0	−4.5	60	28	−34	1	47	0.30	−0.12	0.12	3.0	4	8	11	9	nw.	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	3.4	−5.6	48	27	−30	1	36	1.20	+0.64	0.23	11.4	7	14	7	7	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	8.0	....	51	28	−20	15	29	0.58	+0.21	0.24	7.2	10	14	8	6	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	12.0	−5.7	56	28	−34	17	48	0.37	−0.07	0.16	6.0	4	13	6	9	......	S. P. Grane.
Mary	McKenzie	....	9	......	....	....	....	.....	....	......	0.84	....	0.40	8.0	6	13	7	8	sw.	Fred Hartman.
Medora	Billings	2,271	22	......	....	....	....	.....	....	......	0.70	+0.22	0.25	9.4	6	16	6	6	nw.	Vernon Thompson.
Mott	Hettinger	2,424	30	9.8	−3.7	57	28	−30	17	43	0.52	−0.10	0.22	8.5	4	7	16	5	e.	W. M. Hendricks.
New England	Hettinger	2,400	43	11.4	−2.7	50	26	−33	16	42	1.07	+0.58	0.33	10.0	5	10	14	4	ne.	F. S. Sleight.
Parshall	Mountrail	1,929	22	4.4	....	42	27	−31	17	34	0.38	−0.04	0.16	7.1	5	9	12	7	sw.	C. E. Shubert.
Portal	Burke	1,954	32	6.0	+0.6	43	28	−31	9	34	0.93	+0.53	0.40	9.8	5	11	4	13	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	9.2	−3.5	50	28	−25	16	29	0.32	−0.14	0.18	5.5	2	10	13	5	ne.	Geo. B. Gee.
Richardton	Stark	2,467	21	9.5	−5.7	45.	28	−22	17	27	1.03	+0.63	0.27	17.6	7	9	8	11	w.	Assumption Abbey.
Sanish	Mountrail	1,835	12	5.9	−3.5	46	28	−31	17	36	0.64	+0.21	0.24	8.0	4	11	7	10	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	5.3	....	43	27	−25	17	33	0.64	....	0.22	6.7	6	9	14	5	nw.	LeRoy Edwards.
Tioga	Williams	2,279	9	......	....	....	....	.....	....	......	0.80	....	0.30	7.5	4	13	3	12	nw.	B. V. Olson.
Trotters	Golden Valley	....	12	......	....	....	....	.....	....	......	0.87	+0.50	0.54	12.0	4	10	7	11	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	9.2	−4.7	45	28	−28	17	31	1.03	+0.61	0.24	13.5	8	15	8	5	sw.	J. C. Zeller.
Williston	Williams	1,878	58	7.8	−0.3	45	26	−27	17	35	0.93	+0.52	0.38	11.9	9	12	9	7	se.	U. S. Weather Bureau.
Average for Western Division		....	.....	8.0	−5.3	60	28	−35	17	48	0.71	+0.29	0.54	8.7	5	12	8	8	nw.	....
Average for the State		....	.....	7.2	−2.4	60	28	−35	17	48	0.68	+0.22	0.59	8.6	5	11	7	10	nw.	....

[WBO, Minneapolis, 3-25-38—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

Vol. XLVII Bismarck, N. D., March 1938 No. 3

GENERAL SUMMARY

This month was the third warmest March since statewide records began in 1892. Pleasant weather, with light winds, prevailed until near the close when it became stormy, and dust storms were reported at many stations during the last week, particularly on the 28th. Only a few days with sub-zero temperatures were reported and these occurred during the first week. The precipitation was light and occurred mostly during the last four days of the month. The weather was excellent for livestock and for outdoor work; considerable plowing being accomplished. Floods prevailed along the Missouri River from the 14th to the 20th, causing some livestock and property loss, but the benefit of the moisture and silt will wipe out most of the loss.

TEMPERATURE

The mean temperature for the State was 33.1° or 9.3° above the 1892–1938 average for March. The mean temperature for the eastern division was 34.1°; for the middle division, 32.6°; and for the western division, 32.5°. The highest mean temperature was 37.0° at Powers Lake, and the lowest, 29.2° at Howard, making a range in mean temperature of 7.8°. The absolute range was 86°, from 72° at Cooperstown on the 27th, to -14° at Willow City on the 3d. The average daily excess in temperatue for the State since January 1, 1938, is 3.4°.

PRECIPITATION

The average precipitation for the State was 0.59 inch, or 0.18 inch less than the 1892–1938 average for March. In the eastern division the average amount was 0.63 inch; in the middle division, 0.57 inch; and in the western division, 0.59 inch. The greatest monthly amount reported was 1.69 inches at Howard; the least was 0.11 inch at Hettinger. The greatest amount recorded in any 24 cosecutive hours was 1.02 inches at Bottineau on the 29th. The accumulated excess in precipitation for the State since January 1, 1938, is 0.03 inch. The average snowfall was 2.5 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	9	4	1	3	5	13	6	3	..	..	..	..	..	..	..	..	1	..	..	..	3	17	17	11	10	2	1	..	..	1	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	5	16	3	5	5
Fogs	21	8	1	1	..	..	..	2	5	1	1	..	2	8	16	6	1	..	..	..	..	..	..	1	..	1	..	..	4	1	..
Lunar halos	..	..	..	..	..	1	..	..	..	1	1	1	1	1	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	2	..	2	..	..	..	..	..	..	1	..	..	..	2	..	..	..	..	..	..	1	2	..	1	..	2	..	..	..	..
Sleet	..	5	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	4	1	..	..	..	..	..	1	2	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.86	30.40	8	29.03	29	10.0	32	nw.	31	84	56	58	49
Devils Lake	29.86	30.36	8	29.13	29	10.2	26	nw.	31	83	56	63	71
Williston	29.84	30.40	8	29.00	29	9.2	30	w.	30	84	67	65	58
Moorhead, Minn	29.87	30.39	8	29.18	29	10.0	29	nw.	31	85	56	57	65
Averages & ext's	29.86	30.40	8	29.00	29	9.8	32	nw.	31	84	59	61	61

† And other dates.

COMPARATIVE DATA FOR MARCH

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	24.2	66	−35	0.87	0.98	0.65	0.83	1.9	4	12	8	11
1893	13.9	68	−35	1.10	1.30	0.46	0.95	10.0	5	13	7	11
1894	24.8	69	−22	1.20	1.71	1.43	1.45	10.1	5	12	9	10
1895	23.2	75	−35	0.07	0.21	0.24	0.17	1.0	2	16	10	5
1896	15.7	70	−35	1.19	1.15	1.06	1.13	8.0	8	12	10	9
1897	11.9	58	−48	1.15	1.04	1.90	1.36	8.0	7	15	7	9
1898	21.3	79	−24	0.77	0.80	0.80	0.79	6.7	5	13	8	10
1899	7.5	72	−30	1.23	0.96	0.68	0.96	10.0	5	12	10	9
1900	20.3	77	−24	0.96	0.96	1.11	1.01	8.5	5	14	7	10
1901	25.3	85	−32	0.95	0.85	0.78	0.86	5.2	5	15	8	8
1902	27.4	65	−25	2.75	2.90	2.55	2.73	11.7	8	10	6	15
1903	22.1	80	−24	0.78	0.44	0.42	0.55	5.1	3	12	6	13
1904	18.2	64	−26	1.26	1.33	1.64	1.41	11.5	5	11	6	14
1905	32.5	81	−25	1.09	0.85	0.32	0.75	2.3	4	11	8	12
1906	18.5	67	−34	0.31	0.39	0.44	0.38	3.1	3	15	6	10
1907	23.1	83	−20	0.57	0.58	1.00	0.72	5.1	4	14	9	8
1908	21.1	68	−31	1.17	0.94	1.53	1.21	12.1	8	10	9	12
1909	24.0	61	−24	0.34	0.40	0.26	0.33	2.7	4	10	9	12
1910	41.3	90	− 7	0.83	0.93	1.08	0.94	0.3	3	18	8	5
1911	30.6	78	−18	0.14	0.26	0.29	0.23	1.6	2	16	10	5
1912	15.4	65	−28	0.28	0.32	0.52	0.37	3.6	3	17	8	6
1913	17.2	70	−31	0.82	0.73	1.00	0.85	8.2	6	12	9	10
1914	25.5	76	−20	0.83	1.06	0.75	0.88	9.2	5	10	9	12
1915	22.9	63	−23	0.38	0.20	0.07	0.22	2.0	2	16	6	9
1916	20.3	69	−45	1.43	1.82	1.00	1.42	13.5	6	11	9	11
1917	22.2	67	−39	0.44	0.33	0.37	0.38	3.9	3	13	10	8
1918	35.0	82	−15	0.32	0.46	0.42	0.40	2.9	2	16	8	7
1919	17.8	67	−35	0.63	0.93	0.78	0.78	6.2	4	12	9	10
1920	22.4	67	−32	0.46	0.83	1.20	0.83	7.1	4	15	8	8
1921	25.2	75	−22	1.07	1.02	0.81	0.97	9.1	6	9	12	10
1922	25.8	60	−30	0.96	0.67	0.50	0.71	6.4	4	12	7	12
1923	18.3	65	−35	0.34	0.44	0.35	0.38	4.8	4	10	10	11
1924	25.5	58	−20	0.32	0.36	0.75	0.48	4.4	4	10	9	12
1925	27.4	75	−26	0.74	0.56	0.75	0.68	6.0	4	14	9	8
1926	25.8	83	−23	0.35	0.19	0.17	0.24	1.8	3	13	10	8
1927	30.4	77	−10	0.90	0.78	0.47	0.72	6.5	5	13	8	10
1928	28.1	85	−17	0.69	0.55	0.31	0.52	4.8	3	15	8	8
1929	30.5	77	−15	0.68	0.65	1.02	0.78	5.3	5	12	8	11
1930	26.1	62	−17	0.17	0.05	0.05	0.09	0.9	1	17	8	6
1931	25.7	63	−24	0.99	0.85	0.99	0.94	4.8	5	11	8	12
1932	18.9	64	−30	0.52	0.60	0.80	0.64	6.0	6	10	11	10
1933	28.5	70	−14	0.46	0.41	0.49	0.45	3.7	3	14	10	7
1934	26.3	74	−12	0.43	0.34	0.71	0.49	3.6	4	11	11	9
1935	26.3	75	−37	2.00	0.89	0.90	1.26	7.0	5	9	11	11
1936	25.4	61	−27	0.73	0.75	0.94	0.81	8.1	6	10	11	10
1937	24.8	72	−20	0.42	0.34	0.42	0.39	4.3	3	12	11	8
1938	33.1	72	−14	0.63	0.57	0.58	0.59	2.5	4	13	10	8
Period	23.8	90	−48	0.78	0.76	0.76	0.77	5.8	4	13	9	9

Climatological Data for March 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	32.9	+8.3	65	27	0	3	35	0.35	−0.14	0.20	2.0	2	4	13	14	sw.	I. Idso.
Cavalier	Pembina	894	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Burke Bechtel.
Cooperstown	Griggs	1,428	41	35.4	+12.0	72	27	−2	6	42	0.53	−0.10	0.34	1.0	3	22	5	4	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	...	...	...	...	...	...	...	0.66	...	0.54	1.0	4	14	6	11	w.	Alfred Woiwode.
Devils Lake	Ramsey	1,471	41	33.0	+13.2	65	27	−1	3	32	0.51	−0.27	0.48	0.1	4	6	16	9	nw.	U.S. Weather Bureau.
Edgeley	LaMoure	1,568	37	34.0	+6.7	65	27	0	6	35	0.83	+0.12	0.35	4.5	4	12	13	6	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	32.6	+11.6	66	28	−3	3	35	0.57	+0.11	0.55	T.	2	7	13	11	w.	A. G. Braund.
Ellendale	Dickey	1,457	43	34.2	+8.6	71	17	1	6	39	0.79	−0.12	0.21	3.3	5	16	7	8	nw.	J. E. Denmer.
Fargo	Cass	895	2	34.8	...	66	27	0	3	36	0.25	...	0.08	T.	6	10	15	6	...	W. B. Aerological Sta.
Forman	Sargent	1,249	45	33.6	+6.0	65	17	−6	6	37	0.73	−0.01	0.31	4.0	4	19	8	4	w.	Helge Dyste.
Fullerton	Dickey	1,439	40	34.4	+7.6	70	17	−1	5	36	1.36	+0.16	0.40	7.5	5	17	7	7	nw.	F. O. Alin.
Grafton	Walsh	827	46	34.8	+13.6	66	27†	0	3	38	0.57	−0.08	0.57	T.	1	7	13	11	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	34.0	+11.6	67	28	−2	3	36	0.84	+0.10	0.42	0.7	5	7	17	7	sw.	U. S. WeatherBureau.
Hankinson	Richland	1,068	9	34.0	...	68	21	−3	7	45	0.41	...	0.18	4.0	4	21	9	1	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	29.9	+11.1	62	27	−8	3	37	0.47	−0.22	0.47	T.	1	6	20	5	nw.	James Muir.
Hillsboro	Traill	901	32	36.0	+10.4	70	18	1	3	36	0.73	−0.03	0.47	1.0	5	12	17	2	sw.	H. F. Lund.
Jamestown	Stutsman	1,457	46	34.2	+10.2	64	27	−2	6	32	1.01	+0.14	0.51	5.0	3	17	10	4	nw.	S. Calvelage.
Langdon	Cavalier	1,615	42	32.4	+12.8	68	26	−2	5	44	0.55	−0.25	0.48	0.6	4	12	15	4	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	35.3	+13.0	67	27	0	2†	34	0.63	−0.14	0.53	T.	3	16	5	10	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	35.4	+8.3	70	17	−3	5	45	1.01	+0.37	0.53	5.0	4	8	16	7	nw.	J. O. Halverson.
McHenry	Eddy	1,509	16	32.0	+8.8	63	27	−5	3	38	0.59	+0.01	0.44	0.8	7	9	16	6	sw.	C. E. Blasky.
McLeod	Ransom	1,075	27	35.6	+7.9	65	17†	−5	5†	35	0.32	−0.39	0.20	1.2	2	20	7	4	w.	J. G. Carlson.
Mayville	Traill	975	42	36.8	+12.3	67	17†	5	6	41	0.57	−0.12	0.55	0.0	2	12	16	3	w.	H. B. Addicott.
Oakes	Dickey	1,318	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	S. F. Rossman.
Park River	Walsh	998	34	32.8	+9.7	62	17†	−3	3	34	0.52	−0.10	0.52	T.	1	13	8	10	nw.	E. J. Taintor.
Pembina	Pembina	789	64	31.9	+13.7	67	28	−12	3	39	0.62	−0.19	0.62	0.0	1	19	5	7	nw.	E. N. Russell.
Petersburg	Nelson	1,520	8	...	...	...	...	...	...	...	0.48	...	0.39	0.5	4	16	9	6	sw.	T. M. Rykken.
Sharon	Steele	1,516	14	33.2	+8.6	65	17†	−1	3†	39	0.68	+0.04	0.50	1.1	6	8	14	9	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	35.9	+9.9	64	27	1	5	41	0.62	−0.05	0.45	2.0	3	16	9	6	nw.	I. C. Robertson.
Wahpeton	Richland	962	46	35.9	+8.4	66	21	−6	6	42	0.58	−0.07	0.35	2.5	3	13	9	9	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	34.8	+12.1	65	27	0	3	31	0.46	−0.55	0.31	0.7	7	7	15	9	s.	U. S. Weather Bureau.
Average for Eastern Division		...	...	34.1	+10.5	72	27	−12	3	45	0.63	−0.15	0.62	1.7	4	13	11	7	nw.	...
Middle Division																				
Ashley	McIntosh	2,001	42	33.0	+8.7	66	17	−1	6	35	0.96	+0.17	0.30	3.0	5	21	3	7	nw.	R. C. Miles.
Bisbee	Towner	1,601	2	32.0	...	64	28	−3	3	44	0.58	...	0.58	T.	1	18	5	8	w.	I. K. Lund.
Bismarck	Burleigh	1,670	64	34.4	+10.2	65	27	4	6	31	0.58	−0.31	0.32	4.5	4	8	13	10	w.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	32.0	+11.9	60	27	−1	3	35	1.04	+0.38	1.02	0.2	2	6	13	12	nw.	N. D. School of Forestry
Carrington	Foster	1,579	40	35.2	+11.8	64	27	4	6	37	0.74	+0.07	0.74	0.5	2	4	13	14	sw.	Soo Line Agent.
Carson	Grant	2,500	26	33.7	+7.4	66	27	2	6	35	0.50	−0.25	0.21	2.2	6	10	12	9	nw.	J. W. Evens.
Center	Oliver	...	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	32.9	+6.5	63	27	4	5†	32	0.50	−0.08	0.23	3.2	4	12	8	11	sw.	R. L. Williams.
Drake	McHenry	1,634	9	33.2	...	63	27	4	3	32	0.29	...	0.20	0.9	3	6	17	8	sw.	Peter Anton.
Dunseith	Rolette	1,682	42	32.0	+11.8	65	28	−2	5	37	0.88	+0.25	0.85	1.5	3	10	14	7	n.	Geo. Gehres.
Eckman	Bottineau	1,500	33	33.0	+10.1	65	28	−1	3	35	0.65	+0.12	0.45	2.0	4	12	14	5	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	33.6	+4.6	64	27	3	8	32	0.31	−0.46	0.10	3.0	4	11	10	10	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	26	32.4	+9.0	65	27	0	3	39	0.61	−0.14	0.55	1.0	2	6	16	9	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	33.0	+6.7	63	27	2	6	31	0.59	−0.26	0.29	2.5	4	14	9	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	32.8	+7.6	63	28	3	3	35	0.45	−0.22	0.34	1.0	6	10	9	12	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	32.0	...	60	17†	−4	6	28	0.59	...	0.22	3.5	5	11	10	10	sw.	A. H. Haut.
Garrison	McLean	1,901	61	32.8	+9.0	64	27	0	8	32	0.61	−0.24	0.16	6.0	6	16	7	8	nw.	E. L. Vorachek.
Granville	McHenry	1,504	31	34.3	+10.2	65	28	1	3	35	0.35	−0.15	0.29	T.	3	15	7	9	nw.	W. A. Christianson.
Hansboro	Towner	1,597	30	31.6	+11.0	64	28	−4	3	36	0.88	−0.06	0.88	T.	1	15	9	7	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	32.7	+5.0	63	27	−5	6	39	0.41	−0.38	0.14	1.1	5	9	14	8	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	30.8	+4.7	60	27	−3	6	27	0.31	−0.49	0.20	1.2	2	14	7	10	sw.	Edw. Tapley.
Maddock	Benson	1,604	23	32.9	+8.3	64	27	−6	5	36	0.55	+0.02	0.53	0.2	2	6	15	10	nw.	A. T. Felland.
Mandan	Morton	1,750	24	33.7	+7.0	65	27	2	8	36	0.64	−0.21	0.33	2.8	4	12	11	8	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	...	...	...	...	...	...	...	0.69	−0.09	0.43	5.0	4	...	...	...	...	P. B. Anderson.
Max	McLean	2,093	9	31.2	...	65	28	−2	6	36	0.65	...	0.33	3.0	4	11	5	15	nw.	A. W. Rice.
Minot	Ward	1,557	42	34.8	+12.0	64	28	8	3	35	0.45	−0.18	0.28	0.5	4	6	9	16	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	44	33.4	+12.5	68	28	9	2	40	0.58	−0.06	0.50	1.0	3	10	18	3	nw.	John Behan.
Napoleon	Logan	1,955	46	31.0	+8.3	63	27	−7	6	39	0.85	+0.02	0.35	4.0	6	20	1	10	s.	C. J. Hoof.
New Salem	Morton	2,163	34	31.3	+5.4	65	27	0	8	36	0.46	−0.39	0.19	3.0	5	19	3	9	nw.	J. Christianson.
Pettibone	Kidder	1,856	29	30.0	+5.7	62	27	−8	6	39	0.21	−0.41	0.21	T.	1	12	6	13	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	31.9	...	62	28	−2	3	33	1.04	...	0.90	1.5	3	11	11	9	nw.	A. Jacobsen.
Rugby	Pierce	1,562	9	...	...	...	...	...	...	...	0.55	...	0.55	T.	1	8	16	7	nw.	W. B. Paterson.
Ryder	Ward	2,108	9	...	...	...	...	...	...	...	0.35	...	0.17	2.0	4	14	10	7	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	...	...	...	...	...	...	...	0.40	...	0.15	2.0	4	13	7	11	nw.	J. B. Smith.
Steele	Kidder	1,857	44	30.0	+5.9	64	27	−8	6	39	0.50	−0.31	0.16	1.0	5	15	6	10	sw.	R. S. Armstrong.
Tagus	Mountrail	2,179	9	...	...	...	...	...	...	...	0.32	...	0.14	1.4	6	18	6	7	w.	G. N. Pilgard.
Towner	McHenry	1,482	36	33.8	+11.7	66	27	−6	3†	36	0.47	−0.26	0.40	0.5	3	15	10	6	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	32.4	+7.6	64	27	−3	8	32	0.34	−0.54	0.18	2.2	4	16	5	10	sw.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	...	...	...	...	...	...	...	0.71	−0.08	0.22	3.1	8	10	13	8	nw.	Adam Leno.
Velva	McHenry	1,511	11	34.6	+7.8	65	27	6	6	36	0.26	−0.27	0.13	1.5	4	7	12	12	nw.	Oscar Anderson.
Washburn	McLean	1,731	37	32.9	+8.5	66	27	0	8	34	0.44	−0.30	0.26	3.0	2	21	2	8	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	33.6	+13.6	64	28	−2	4	33	0.48	−0.05	0.48	T.	1	15	10	6	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	46	30.6	+10.9	64	27	−14	3	37	0.68	−0.06	0.54	0.2	3	15	13	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	31.4^{d}	+5.1	66^{d}	17	−2^{d}	5	37^{d}	1.26	+0.55	0.54	3.2	6	...	...	...	nw.	H. M. Larson.
Zap	Mercer	1,838	23	...	...	...	...	...	...	...	0.22	−0.39	0.22	2.5	1	20	6	5	...	R. A. Norton.
Average for Middle Division		...	...	32.6	+8.6	68	28	−14	3	44	0.57	−0.19	1.02	1.8	4	12	10	9	nw.	...

Continued on page 12.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days. etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for March 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red				T.														.15	T.						T.			T.	.20	T.		0.35
Cavalier	do																																......
Cooperstown	Sheyenne				.07	T.							T.		T.	T.	T		.12		T.			T.					T.	.34		T.	0.53
Courtenay	James				.06											T.			.05		.01									.54		T.	0.66
Devils Lake ***	Devils Lake	T.	T.	T.	T.	T		T.	T.	T.	T.		T.		T.	T.				T.		T.	.01		T.				.27	.21	T.	.02	0.51
Edgeley	James			.25																									.22	.35		.01	0.83
Edmore	Devils Lake		T.	T.	T.	T.		T.								T.	T			T.	T.	T.	.02						T.	.55	T.	T.	0.57
Ellendale	James			.12	.14														.14										.21	.18			0.79
Fargo ***	Red		T.	T.	.02	T.		T.	T				T			.01	.05		.04		T.								.08	.05		T.	0.25
Forman	Sheyenne			.05	.30	T.													.07										T.	.31		T.	0.73
Fullerton	James			.20	.28	T.									T.		T.		.27		T.								.40	.21		T.	1.36
Grafton	Red																													57		T.	0.57
Grand Forks ***	do	T.				T.										.01			.01	T.									.42	.29		.11	0.84
Hankinson ‖‖	do	T.		.18	.03						T.					.05							T.						.15		T	T.	0.41
Hannah	Pembina					T.																T.	T.		T					.47	T.	T.	0.47
Hillsboro	Red				.07											.08			.07											.47		.03	0.72
Jamestown	James				.48											T.														.51	.02	T.	1.01
Langdon ‖‖	Pembina																					.03		.03						.48		.01	0.55
Larimore	Red															.08					.02									.53		T.	0.63
Lisbon	Sheyenne		T.	T.	.40	T.					T.						.03												.05	.53		T.	1.01
McHenry	James				.05	T.		T.								.03				.03			.01						.02	.44		.01	0.59
McLeod	Sheyenne																	.12											.20				0.32
Mayville	Red																		.02										T.	.55	T.		0.57
Oakes	James																																......
Park River	Red															T.							T.						.52				0.52
Pembina	do																													.62			0.62
Petersburg	do															.01							T.	.04					.04	.39		T.	0.48
Sharon	do		T.		.08	T.		T.	T.							T			.03		.01		T.						.05	.50	T.	.01	0.68
Valley City	Sheyenne				.08														.09											.45		T.	0.62
Wahpeton	Red				.17	T.					T.						.06													.35		T.	0.58
Moorhead, Minn. ***	do		.01	T.	.04	T.		T.	T.				T.			.01	.06		.03		T.								.27	.04		T.	0.46
Middle Division																																	
Ashley	Missouri				.23											.06			.30										.15	.22			0.96
Bisbee	Devils Lake												T.									T.	T.						T	.58		T.	0.58
Bismarck ***	Missouri		T.	.25	.07	T.										.04				T.	T.								.22	T.	T.	T.	0.58
Bottineau	Mouse																						T.							1.02	.02	T.	1.04
Carrington ‖‖	James					.04																								.70		T	0.74
Carson	Heart		.08	.21												.06													.11	.01	T.	.03	0.50
Dogden Butte	Mouse		T.		.18																	T.	T.						T.	.23	.01	.08	0.50
Drake ‖‖	do		T.		.04		T.														T.	T.		T.						.20	T.	.05	0.29
Dunseith	do																			T										.85	.01	.02	0.88
Eckman	do				T.	T.																.06								.45	.03	.11	0.65
Energy	Missouri				.08															T.									.05	.10	.08	T.	0.31
Fessenden ‖‖	James				.06											T.								T.						.55		T.	0.61
Fort Yates	Missouri			.12	.08											.10													.29			T.	0.59
Foxholm (near)	Mouse		T.		T.	.01																.01	T.						.01	.34	.06	.02	0.45
Gaekle	James			.10	.15																								.07	.22		.05	0.59
Garrison ‖‖	Missouri		T.	.01	.17	T.									T.														.03	.17	.11	.12	0.61
Granville	Mouse				T	T.																T.	T.						T.	.29	.24	.02	0.35
Hansboro	Devils Lake																						T.							.88	T.	T.	0.88
Linton	Missouri			.02	.02											.10					T.		T.						.13	.14		T.	0.41
McClusky	do		T.		.11															T.									.20		T	T.	0.31
Maddock	Sheyenne				T.	T.															T.			T.					T.	.53	T.	.02	0.55
Mandan ‖‖	Missouri	T.		.25	T										.04					T.			T						.33		.02	T.	0.64
Manfred	James				.20	T.										T.				T.			T.						.03	.43	T.	.03	0.69
Max ‖‖	Missouri		T.		.16																									.33	.08	.08	0.65
Minot	Mouse		T.		T.	T.																T	T.		T.				.03	.28	.05	.09	0.45
Mohall	do	T			T.									T								.03			T.				T.	.50	.05	T.	0.58
Napoleon ‖‖	Missouri				.25											.07	.05		.03											.35		.10	0.85
New Salem	Heart		T.	.10	.19	T																							.03	.12	T.	.02	0.46
Pettibone	James			T.												T.													T.	.21		T	0.21
Rolla	Devils Lake															T.														.90	.01	.13	1.04
Rugby (near)	Mouse																						T	T						.55	T.	T.	0.55
Ryder	Missouri		T.	.09		T.														T.			T.						.17	.05	.04		0.35
Selfridge	do			.15	T.										.11	.03													.11		T.	T.	0.40
Steele	do			T.	.10											.16													.10	.13		.01	0.50
Tagus	Mouse		.02	T																		.01	T				T.		.04	.14	.08	.03	0.32
Towner	do				T.	T.									T	T.						T	.02							.40	.05	T	0.47
Turtle Lake	Missouri				.06																								.04	.18	T.	.06	0.34
Tuttle	do		.01	.05	.10	.01										.11													.22	.17		.04	0.71
Velva	Mouse		T.		.05	T.																T.	T.	T.					.03	.13	T.	.05	0.26
Washburn ‖‖	Missouri				.26																									.18	T.	T.	0.44
Westhope	Mouse																					T	T.							.48	T.	T.	0.48
Willow City	do					T.																T.	T.						.11	.54	.03	T	0.68
Wishek ‖‖	Missouri			.21	T.										.15			.26											.54		.08	.02	1.26
Zap	Knife				.22																									T.	T	T.	0.22
Western Division																																	
Alpha	Lit. Missouri		T.	.03	.09	.01															T.					.04	T.	.01			T.	T.	0.18
Amidon	do		T.	.02	.05	.03																T				.07			.04	.04	.02	.01	0.28
Beach	do		T.	T.	.10	T.	T.														T.	T				.02			.04	.05	.28	.20	0.69
Berthold Agency	Missouri			T.	.22																						T.	T.	T.	T.	T.		0.22
Bowman	Grand																																......
Crosby	Mouse																					1.00								.11	.48	.05	1.64
Dickinson ‖‖	Heart		T.	T.	.24	.02	.01	T							T						T.	T.	T	T.			T.			.09	.03	.01	0.40
Dunn Center	Knife			.10	.23	T.																							.08	T.	T.	T.	0.41
Epping	Missouri																					.18								.03	.16	.05	0.42
Fairfield	Lit. Missouri			.24	.18																								.11		.05	.11	0.69
Fryburg	Heart																																......
Hettinger	Grand			.09											T.																.02		0.11
Howard (near)	Missouri		T.		T.	.01												T.				1.01	T.						T	•	•	.67	1.69
Kenmare	Mouse		T.			T.																.10								.33	.03	.03	0.49
Marmarth	Lit. Missouri		.05	.10	.05	.02	T.													T.		T.			T.	.01				T.	.06	.04	0.33
Mary	do		T.	.09	.04	T																					.08		.04	.07	.27	.13	0.72
Medora	do		T.	.03	.18	T.	T.	T												T.									.02	.03	.08	T.	0.34
Mott	Cannon Ball			.13	T.										.06					T									.04				0.23
New England ‖‖	do				.31																								.10				0.41
Parshall	Missouri				.05																						T			.20	.11	.05	0.41
Portal ‖‖	Mouse																					.40								.40			0.80
Powers Lake	Missouri	.09																												.23	.18	.22	0.72
Richardton	Heart		.04	.09	.04	T.																								.13	.04	T	0.34
Sanish ‖‖	Missouri				.16																	T.								.12	.07	T.	0.35
Stanley	do					T.																.02							T.	.26	.07	.02	0.37
Tioga	do		T.																			.20								.20		.15	0.55
Trotters	Lit. Missouri		T.	.21	.04	.04	.04														T.	T.				.08			.12		.16	.16	0.85
Watford City	Missouri				.15																		.22							.06	.18	.22	0.83
Wildrose	do						T.															.35	T.							.19	.15	.07	0.76
Williston ***	do		T.	.07	.06	T	T											T.		T.	.10	.34				.04			.08	.16	.19	.08	1.12

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. •Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for March 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	50	41	18	20	21	24	29	33	38	33	47	52	39	41	49	59	66	52	54	54	49	47	51	53	49	58	61	56	47	36	27	43.7
	Minimum	36	16	8	12	0	-1	6	0	3	23	22	31	22	29	32	29	33	29	30	32	33	26	22	31	28	25	31	33	34	19	18	22.3
Beach	Maximum	49	38	21	23	23	26	31	39	44	42	49	54	53	54	58	63	59	47	45	49	43	42	53	48	52	56	61	63	41	19	24	44.2
	Minimum	23	17	15	14	11	10	11	6	19	23	28	34	30	37	34	34	35	26	34	28	28	22	21	25	21	29	35	28	7	8	8	22.6
Bismarck	Maximum	50	34	18	21	24	27	29	32	45	36	51	51	42	45	56	59	53	53	55	51	46	46	54	50	49	60	65	60	46	30	28	44.1
	Minimum	24	16	10	13	10	4	10	5	19	24	26	33	24	33	39	29	39	33	35	33	32	28	26	32	28	29	35	37	21	21	20	24.7
Bottineau	Maximum	44	43	17	24	23	25	27	31	34	36	46	45	41	37	56	55	52	48	51	51	48	41	49	49	48	58	60	60	59	39	32	42.9
	Minimum	22	10	-1	9	4	1	2	4	13	18	17	29	21	29	33	24	35	27	31	27	35	25	22	28	22	23	34	37	37	20	16	21.1
Carson	Maximum	57	39	26	20	23	27	33	35	50	43	51	52	43	51	62	59	50	54	48	50	45	44	54	54	54	60	66	60	38	32	28	45.4
	Minimum	28	15	12	14	8	2	6	4	20	24	24	30	24	30	38	26	37	28	29	31	31	19	21	22	22	25	31	32	21	10	17	22.0
Crosby §	Maximum	40	35	20	25	23	27	28	31	36	40	47	40	40	46	56	55	47	47	49	48	41	38	45	42	50	55	55	54	54	34	26	41.1
	Minimum	25	12	5	12	13	9	11	4	12	21	23	32	27	35	30	28	32	30	30	30	30	21	30	28	25	31	34	33	28	23	15	23.2
Devils Lake	Maximum	47	28	17	23	22	27	29	33	38	37	47	46	38	42	50	55	59	50	56	52	51	44	54	53	43	58	65	63	49	34	25	43.1
	Minimum	28	4	-1	11	7	5	11	15	16	24	25	26	18	30	35	29	36	32	33	32	33	29	24	30	22	28	37	31	24	22	15	22.9
Dickinson §	Maximum	46	25	17	19	20	23	25	32	37	38	42	45	42	50	57	59	44	49	50	51	40	43	54	47	52	57	62	62	38	32	26	41.4
	Minimum	13	17	14	14	15	11	1	-5	-3	2	17	21	27	31	29	25	26	28	28	28	27	22	19	24	24	25	26	29	32	14	15	19.2
Dunn Center §	Maximum	52	42	17	25	18	19	27	25	37	37	39	48	37	36	52	55	48	43	43	48	43	45	51	56	52	52	64	62	40	21	21	40.5
	Minimum	20	15	13	13	10	7	5	-7	-2	11	18	28	27	33	30	25	31	30	34	30	31	25	23	27	23	31	31	29	20	16	16	20.7
Fessenden §	Maximum	47	20	18	22	24	30	32	33	38	39	46	50	42	44	52	56	58	52	53	52	49	47	55	53	46	61	65	62	49	36	26	43.8
	Minimum	20	14	0	3	2	3	3	11	12	22	22	23	21	20	33	27	28	30	31	31	35	29	20	25	22	22	33	33	34	20	18	20.9
Fullerton	Maximum	48	42	22	21	21	23	27	30	36	35	49	56	41	45	49	56	70	51	51	57	55	48	54	55	46	59	63	58	55	40	31	45.0
	Miuimum	27	22	7	15	-1	0	8	4	9	23	24	32	24	28	32	31	34	32	30	34	41	29	22	29	26	27	36	28	38	24	20	23.7
Garrison §	Maximum	50	46	20	25	26	26	29	32	38	35	46	48	40	42	59	56	46	50	52	50	40	46	51	52	50	59	64	61	45	30	26	43.2
	Minimum	25	20	9	10	7	1	4	0	10	20	21	34	24	32	31	27	33	30	35	30	32	26	23	26	23	29	38	31	25	21	18	22.4
Grafton	Maximum	43	43	25	23	24	30	30	35	39	40	46	46	41	50	47	54	57	57	58	57	54	47	51	63	53	58	66	65	59	49	38	46.4
	Minimum	30	11	0	11	10	7	11	6	16	26	25	33	15	28	28	34	32	36	28	33	39	26	19	29	26	24	30	28	41	24	17	23.3
Grand Forks	Maximum	50	31	20	25	24	31	29	33	35	39	50	50	36	44	49	54	65	54	56	56	64	47	53	57	43	60	66	67	58	44	29	45.8
	Minimum	27	3	-2	11	4	4	11	6	19	23	24	26	16	26	33	28	33	33	31	31	34	24	21	31	23	24	31	31	33	27	18	22.1
Jamestown §	Maximum	53	42	19	20	24	24	27	34	39	36	45	50	41	42	49	58	63	52	52	54	53	49	55	55	46	61	64	59	51	39	31	44.7
	Minimum	28	16	3	15	1	-2	10	6	10	21	22	31	21	28	31	33	35	33	34	32	41	29	23	33	26	29	34	32	38	23	21	23.8
Kenmare	Maximum	55	51	18	31	27	29	36	37	41	41	46	45	41	42	58	54	55	48	51	50	46	41	48	50	49	51	60	60	53	32	33	44.4
	Minimum	33	12	7	14	13	9	11	9	14	35	25	34	25	34	32	26	34	31	35	31	32	25	24	28	21	32	37	32	28	21	17	24.5
Langdon §	Maximum	44	40	30	35	21	26	27	30	37	37	42	42	35	42	45	47	57	48	57	57	55	44	50	51	41	68	65	64	60	50	30	44.4
	Minimum	25	7	8	3	-2	0	3	4	13	18	19	29	8	28	34	29	34	30	33	31	33	26	23	28	20	24	23	31	39	21	15	20.5
Marmarth	Maximum	54	42	24	20	24	22	32	44	51	46	54	57	54	58	60	64	57	52	50	50	45	46	54	49	53	57	63	60	42	21	26	46.2
	Minimum	23	24	16	16	10	10	12	12	24	27	27	32	34	39	34	26	36	25	27	29	30	18	17	22	25	25	32	28	16	15	14	23.4
Minot	Maximum	58	46	18	25	26	30	34	36	45	40	50	48	43	42	62	57	54	50	52	52	48	46	51	52	50	60	63	64	49	33	31	45.6
	Minimum	30	14	8	12	14	10	12	10	14	23	26	33	25	33	27	23	32	32	36	31	30	24	22	30	20	34	38	30	28	22	17	23.9
Mott	Maximum	55	40	19	20	24	28	35	39	52	46	55	57	44	46	60	59	49	46	53	49	42	46	55	48	53	60	65	58	40	25	27	45.0
	Minimum	30	17	15	15	11	7	7	6	21	25	26	30	29	34	39	25	39	29	32	31	30	21	20	25	26	23	32	28	19	16	15	23.3
Pembina	Maximum	40	32	13	20	19	28	23	29	36	34	47	40	34	42	44	52	59	49	56	55	60	45	51	54	38	56	66	67	55	53	34	42.9
	Minimum	23	6	-12	-2	1	3	14	-2	9	21	20	31	7	27	34	30	33	34	30	34	40	22	20	30	20	25	40	28	42	25	16	20.9
Sharon	Maximum	47	37	16	20	25	29	29	32	35	37	46	50	38	39	51	56	65	50	56	54	59	46	53	54	45	64	65	62	55	40	32	44.7
	Minimum	26	8	-1	10	3	-1	9	10	12	20	21	30	15	27	32	31	33	34	33	30	34	27	18	28	22	25	29	29	38	22	19	21.7
Steele	Maximum	45	33	15	16	18	21	26	26	36	32	44	46	36	38	45	54	60	43	58	54	45	42	54	54	48	60	64	55	46	32	26	41.0
	Minimum	20	15	4	13	1	-8	1	-7	0	12	14	25	19	26	33	29	37	29	31	28	37	21	17	25	23	21	25	32	27	19	18	18.9
Valley City	Maximum	55	52	21	22	28	29	32	32	39	38	49	48	57	49	51	58	56	58	50	55	56	50	56	54	53	62	64	61	58	46	36	47.6
	Minimum	28	20	4	16	1	2	12	15	11	26	24	32	20	27	32	32	34	34	30	32	40	32	18	27	25	21	35	32	41	24	24	24.2
Wahpeton	Maximum	47	47	25	24	23	23	31	33	32	39	46	57	54	42	44	56	62	62	53	60	66	55	56	59	57	62	65	62	62	56	41	48.4
	Minimum	24	21	3	16	-1	-6	4	3	4	18	25	31	24	27	31	31	32	34	32	30	45	31	22	31	28	20	32	38	43	28	25	23.4
Williston	Maximum	46	33	18	22	24	25	27	30	34	38	45	41	43	49	57	56	48	47	49	47	37	39	50	44	53	57	58	64	43	27	24	41.1
	Minimum	21	15	15	15	10	12	10	5	7	19	24	32	32	37	33	30	35	31	34	32	30	21	29	31	28	32	36	38	20	20	15	24.3
Moorhead, Minn.	Maximum	37	34	22	23	25	30	29	34	31	39	45	56	41	39	48	55	62	52	52	58	64	47	54	57	44	60	65	62	60	43	33	45.2
	Minimum	30	6	0	16	6	4	14	13	14	21	27	30	22	28	32	33	33	34	33	36	40	29	25	30	27	26	32	32	33	30	19	24.4

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

Climatological Data for March 1938—Continued from page 10.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	......	......	....	....	.....	....	.....	0.18	-0.68	0.09	0.1	5	13	9	9	w.	H. A. Bury.
Amidon	Slope	......	31	33.6	+5.7	61	16†	4	30	34	0.28	-0.45	0.07	2.1	8	14	4	13	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	15	33.4	+6.2	63	16†	6	8	35	0.69	-0.07	0.28	6.5	6	8	12	11	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	30.4	+4.4	65	27	-4	8	35	0.22	-0.34	0.22	2.0	1	19	3	9	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	......	......	....	....	.....	....	.....	.....	......	......	......	....	......	......	......	......	George Larsen.
Crosby	Divide	1,954	29	32.2	+8.7	56	15	4	8	27	1.64	+0.97	1.00	6.5	4	14	5	12	sw.	J. H. Phelps.
Dickinson	Stark	2,543	45	30.3	+5.0	62	27†	-5	8	40	0.40	-0.34	0.24	4.1	6	11	10	10	w.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	30.6	+5.1	64	27	-7	8	39	0.41	-0.42	0.23	3.5	3	14	9	8	nw.	O. T. Evenson.
Epping	Williams	2,224	27	31.2	+7.2	64	29	0	6†	43	0.42	-0.17	0.18	4.0	4	16	10	5	sw.	T. Beachler.
Fairfield	Billings	......	1	......	......	....	....	.....	....	.....	0.69	......	0.24	4.8	5	17	8	6	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	......	......	....	....	.....	...	.....	.....	......	......	......	......	......	......	......	......	Verne King.
Hettinger	Adams	2,675	30	33.8	+5.2	62	17	5	30	48	0.11	-0.59	0.09	T.	2	8	9	14	nw.	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	29.2	+7.3	63	28	3	6	38	1.69	+0.79	1.01	12.4	5	17	6	8	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	34.4	......	60	27†	7	3	39	0.49	-0.14	0.33	T.	4	18	6	7	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	34.8	+7.1	64	16	10	5†	38	0.33	-0.39	0.10	4.4	7	8	9	14	nw.	S. P. Grane.
Mary	McKenzie	......	9	......	......	....	....	.....	....	....	0.72	......	0.27	6.8	7	18	4	9	sw.	Fred Hartman.
Medora	Billings	2,271	22	......	......	....	....	.....	....	.....	0.34	-0.56	0.18	3.1	5	10	13	8	w.	Vernon Thompson.
Mott	Hettinger	2,424	30	34.2	+7.3	65	27	6	8	37	0.23	-0.70	0.13	2.0	3	7	16	8	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	33.2	+8.0	61	16	7	6†	35	0.41	-0.37	0.31	T.	2	10	11	10	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	30.8	......	63	8	-4	6†	34	0.41	-0.10	0.20	1.0	4	9	15	7	sw.	C. E. Shubert.
Portal	Burke	1,954	32	32.3	+14.6	63	28	-1	3	35	0.80	+0.20	0.40	4.0	2	17	7	7	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	37.0	+12.0	61	26	-3	4	37	0.72	+0.03	0.23	9.5	4	19	8	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	21	32.1	+5.0	59	27	5	8	30	0.34	-0.38	0.13	1.2	5	10	9	12	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	30.4	+5.9	62	27	1	8	34	0.35	-0.23	0.16	2.0	3	10	10	11	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	30.7	......	61	28	1	6	39	0.37	......	0.26	.6	4	16	8	7	w.	LeRoy Edwards.
Tioga	Williams	2,279	9	......	......	....	....	.....	....	.....	0.55	......	0.20	1.5	3	20	5	6	nw.	B. V. Olson.
Trotters	Golden Valley	......	12	......	......	....	....	.....	....	.....	0.85	+0.09	0.21	8.5	8	7	11	13	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	32.8	+7.5	64	28	-3	8	34	0.83	+0.15	0.22	7.5	5	10	14	7	sw.	J. C. Zeller.
Wildrose	Williams	2,258	10	......	......	....	....	.....	....	.....	0.76	......	0.35	4.5	4	7	13	11	sw.	L. Holter.
Williston	Williams	1,878	58	32.7	+9.8	64	28	5	8	27	1.12	+0.43	0.44	8.5	9	11	14	6	sw.	U.S. Weather Bureau.
Average for Western Division		......	.....	32.5	+7.3	65	7†	-7	8	48	0.58	-0.18	1.01	4.0	5	13	9	9	nw.	....
Average for the State		......	.....	33.1	+9.3	72	27	-14	3	48	0.59	-0.18	1.02	2.5	4	13	10	8	nw.	....

[WBO, Minneapolis, 4-28-38—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVII Bismarck, N. D., April 1938 No. 4

GENERAL SUMMARY

The temperature averaged above normal and the precipitation below, although nearly half the stations in the eastern divison reported moisture above normal. The precipitation was very light during the first 12 days, but was nearly normal thereafter, except at some central and western stations where sub-normal amounts were recorded throughout the month. Due to lack of moisture during the first decade, the snowfall for the month was considerably below average. It was a good month for outdoor work and freezing temperatures occurred on only a few days after the 10th. Plowing and seeding made good progress and pastures and ranges were in good condition by the close of the month. Dust storms, mostly in the central part of the State, occurred on the 10th; in the west part of the State on the 13th; and generally over the State from the 18th to the 23d, with heavy storms at many places on the 19th.

TEMPERATURE

The mean temperature of the State was 42.8°, or 1.4° above the 1892-1938 average for April. The mean temperature for the eastern division was 42.8°; for the middle division, 43.1°; and for the western division, 42.5°. The highest mean temperature was 46.8° at Linton, and the lowest 38.2° at Hannah, making a range in mean temperature of 8.6°. The absolute range was 89°, from 90° at Mott and Napoleon on the 30th, to 1° at Amidon and Beach on the 2d. The average daily excess in temperature for the State since January 1, 1938, is 2.9°.

PRECIPITATION

The average precipitation for the State was 1.09 inches, or 0.33 inch less than the 1892-1938 average for April. In the eastern division the average amount was 1.68 inches; in the middle division, 0.96 inch; and in the western division, 0.64 inch. The greatest monthly amount reported was 4.28 inches at Wahpeton; the least reported was a trace at Howard. The greatest amount recorded in any 24 consecutive hours was 2.65 inches at Wahpeton on the 27th. The accumulated deficiency in precipitation for the State since January 1, 1938, is 0.30 inch. The average snowfall was 0.1 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	4	2	2	11	5	..	..	..	..	..	..	..	1	1	5	3	..	..	5	1	2	3	..	..	..	..	..	..	..
Dust storms	..	..	..	..	1	..	..	..	..	9	..	1	6	3	..	1	8	25	34	27	3	13	4	1	..	..	..	..	..	..	..
Fogs	..	1	..	..	..	..	..	..	..	..	..	..	1	11	..	2	3	..	..	..	..	..	1	1	15	15	1	..	1	..	..
Lunar halos	..	..	..	..	1	3	1	..	2	1	..	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	1	..	..	3	..	..	5	2	2	1	2	4	1	..	2	..	..	..	..	..	..	3	2	..	..	..	..	..	..	..	..
Hail	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	3	..	..	..	..	5	1	..	..	..	..	..
Thund'rst'ms	1	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	5	2	..	..	..	..	1	3	11	24	1	1	..	2	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level) Mean	Highest	Date	Lowest	Date	Wind (true velocities) Average hourly velocity	Maximum velocity	Direction	Date	Relative Humidity 6:30 a. m.	Local noon	6:30 p. m.	Percentage of sunshine
Bismarck	29.98	30.71	7	29.43	18	10.1	30	nw.	18	73	39	35	52
Devils Lake	30.00	30.71	7	29.38	18	10.4	35	nw.	19	79	46	48	75
Williston	30.00	30.68	7	29.48	18	8.8	31	nw.	20	77	50	45	65
Moorhead, Minn	29.98	30.72	7	29.34	18	9.6	30	nw.	19	79	49	45	56
Averages & ext's	29.99	30.72	7	29.34	18	9.7	35	nw.	19	77	46	43	62

† And other dates.

COMPARATIVE DATA FOR APRIL

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	37.6	75	− 2	2.58	3.09	2.29	2.65	6.3	7	10	6	14
1893	34.3	77	− 8	2.45	1.56	1.09	1.70	7.8	6	7	9	14
1894	42.8	92	12	3.66	2.93	2.50	3.03	4.4	9	8	10	12
1895	49.6	87	10	2.10	2.38	2.20	2.23	0.0	5	13	8	9
1896	40.1	92	2	5.50	3.73	2.18	3.80	5.1	9	9	8	13
1897	40.8	93	7	0.80	1.20	1.24	1.08	1.1	5	12	8	10
1898	41.9	87	− 4	1.38	1.36	1.40	1.38	0.5	5	14	9	7
1899	38.0	86	−22	1.46	1.31	1.31	1.36	6.3	6	12	10	8
1900	49.3	93	11	0.75	0.75	1.05	0.85	T.	3	20	6	4
1901	44.5	92	10	1.40	0.72	0.82	0.98	0.3	4	12	9	9
1902	40.2	87	− 2	1.35	0.88	0.95	1.06	2.9	3	12	8	10
1903	42.5	83	8	1.67	1.10	0.92	1.23	2.7	5	16	6	8
1904	37.4	91	2	2.22	1.21	0.72	1.38	8.1	5	13	5	12
1905	40.2	83	3	1.04	0.38	0.11	0.51	3.7	3	15	8	7
1906	46.7	88	8	1.96	1.06	1.48	1.50	1.3	5	14	7	9
1907	31.9	80	− 6	0.77	0.36	0.44	0.52	4.2	4	10	9	11
1908	43.9	91	−19	1.12	1.53	1.91	1.52	5.9	5	16	6	8
1909	34.2	80	3	0.95	0.71	0.64	0.77	5.1	6	10	9	11
1910	48.0	96	4	1.52	1.03	1.56	1.37	2.9	4	16	8	6
1911	41.5	90	− 5	2.12	0.80	0.64	1.19	6.3	5	15	6	9
1912	44.4	88	2	2.61	2.32	2.22	2.35	1.7	7	14	8	8
1913	46.8	94	11	1.00	0.70	0.23	0.64	2.4	4	16	6	8
1914	40.9	84	2	2.49	1.31	0.58	1.46	2.8	6	9	10	11
1915	50.3	99	5	1.42	0.98	0.68	1.03	T.	5	15	8	7
1916	39.2	79	− 6	1.70	1.07	1.54	1.44	2.9	5	10	10	10
1917	37.2	73	5	1.89	1.67	1.49	1.68	5.6	7	9	9	12
1918	41.4	81	0	2.38	1.87	2.28	2.18	3.0	7	12	8	10
1919	42.3	79	6	1.45	1.40	1.72	1.52	6.2	6	11	9	10
1920	32.1	63	−11	0.73	0.67	1.12	0.84	2.1	5	13	8	9
1921	41.1	91	1	1.84	2.07	1.40	1.77	3.8	7	14	7	9
1922	42.3	89	− 2	1.17	0.79	0.79	0.92	2.3	6	10	9	11
1923	38.7	89	−15	1.22	1.63	1.51	1.45	7.2	5	13	8	9
1924	39.3	84	6	3.94	2.31	1.35	2.53	7.5	9	8	9	13
1925	47.8	85	10	2.21	1.37	1.22	1.60	T.	6	11	10	9
1926	42.8	98	− 4	0.17	0.34	0.32	0.28	0.9	3	17	8	5
1927	41.4	95	7	2.05	1.46	1.67	1.73	2.3	7	10	8	12
1928	35.9	84	− 6	0.92	0.88	0.92	0.91	5.0	5	12	10	8
1929	41.5	85	− 9	1.68	1.36	0.88	1.31	3.4	6	12	9	9
1930	47.3	86	8	1.16	1.14	1.45	1.25	0.5	6	14	7	9
1931	44.1	87	3	0.75	0.37	0.18	0.43	0.7	2	18	8	4
1932	44.1	79	0	2.50	2.09	1.84	2.14	0.7	8	9	9	12
1933	40.0	84	2	1.44	1.20	1.35	1.33	7.3	5	11	9	10
1934	43.7	95	7	0.75	0.34	0.24	0.44	1.9	3	15	8	7
1935	38.4	83	0	2.62	1.75	1.42	1.93	3.6	8	9	9	12
1936	35.6	87	−15	0.53	0.26	0.37	0.39	0.5	4	14	10	6
1937	40.7	79	2	3.44	1.56	1.06	2.02	5.8	8	8	9	13
1938	42.8	90	1	1.68	0.96	0.64	1.09	0.1	5	11	10	9
Period	41.4	99	−22	1.76	1.32	1.19	1.42	3.3	6	12	8	10

Climatological Data for April 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	40.6	−1.4	82	30	8	5	46	1.54	−0.13	0.45	0	9	0	12	18	s.	I. Idso.
Cavalier	Pembina	894	28	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Burke Bechtel.
Cooperstown	Griggs	1,428	41	45.0	+4.3	82	30	10	5	41	0.84	−0.55	0.21	0.1	8	17	7	6	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	......	......	......	......	......	......	......	0.86	......	0.20	0	9	13	10	7	nw.	Alfred Woiwode.
Devils Lake	Ramsey	1,471	41	41.4	+2.6	74	18	11	5	36	2.79	+1.27	2.43	0.1	10	9	8	13	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	37	45.6	+2.9	85	30	15	1†	45	1.07	−0.70	0.57	0	7	9	16	5	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	40.2	−0.4	72	18	8	4†	42	2.02	+0.91	0.84	T	9	10	11	9	ne.	A. G. Braund.
Ellendale	Dickey	1,457	43	45.4	+1.8	83	30	15	4	49	1.25	−0.54	0.36	T.	9	12	7	11	nw.	J. E. Demmer.
Fargo	Cass	895	2	43.3	......	84	30	8	5	44	1.75	−0.25	0.42	T.	10	5	14	11	......	W. B. Aerological Sta.
Forman	Sargent	1,249	45	44.8	+0.6	82	30	14	1†	45	2.69	+0.82	1.15	0	10	13	11	6	nw.	Helge Dyste.
Fullerton	Dickey	1,439	40	45.5	+2.7	84	30	16	1†	47	1.00	−1.14	0.38	T.	6	4	13	13	nw.	F. O. Alin.
Grafton	Walsh	827	46	40.8	+0.2	75	30	8	5	44	1.56	+0.35	0.94	T.	4	9	6	15	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	41.2	−0.5	77	30	9	4†	42	1.41	−0.21	0.47	0.7	10	7	10	13	nw.	U. S. WeatherBureau.
Hankinson	Richland	1,068	9	43.8	......	84	30	14	5†	46	3.69	......	1.40	T.	9	20	4	6	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	38.2	+0.1	73	16	7	5	36	1.07	+0.03	0.47	0.8	6	6	16	8	nw.	James Muir.
Hillsboro	Traill	901	32	43.4	+0.6	81	30	8	5	45	1.37	−0.47	0.50	0	7	9	10	11	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	46	44.6	+2.5	84	29	13	5	50	1.29	−0.29	0.33	T.	8	10	14	6	ne.	S. Calvelage.
Langdon	Cavalier	1,615	42	39.4	+1.6	70	29†	7	4†	36	1.48	+0.33	0.84	0	7	9	15	6	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	42.0	+1.6	77	30	3	6	42	1.28	−0.32	0.57	T.	5	16	4	10	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	43.2	+0.8	80	18	13	5	48	2.15	+0.34	0.89	0	10	3	15	12	ne.	J. O. Halverson.
McHenry	Eddy	1,509	16	41.2	0.0	77	30	5	5	44	0.71	−1.21	0.28	T.	9	9	15	6	w.	C. E. Blasky.
McLeod	Ransom	1,075	27	43.6	−0.6	84	30	10	5	42	2.42	+0.49	0.98	0	7	15	7	8	n.	J. G. Carlson.
Mayville	Traill	975	42	45.0	+2.0	80	30	8	5	51	0.92	−0.65	0.29	0	6	10	8	12	n.	H. B. Addicott.
Oakes	Dickey	1,318	9	45.2	......	84	30	16	1†	49	1.85	......	0.75	0	10	8	9	13	ne.	S. F. Rossman.
Park River	Walsh	998	34	40.7	−0.6	72	30	8	5	41	2.02	+0.74	1.64	T.	5	11	5	14	nw.	E. J. Taintor.
Pembina	Pembina	789	64	39.4	+0.8	75	30	7	4†	48	1.60	+0.40	0.87	1.0	6	16	6	8	nw.	E. N. Russell.
Petersburg	Nelson	1,520	8	......	......	......	......	......	......	......	1.10	......	0.50	0.1	7	10	14	6	nw.	T. M. Rykken.
Sharon	Steele	1,516	14	41.6	+1.7	77	30	8	4†	42	1.10	−0.40	0.26	0.1	11	9	12	9	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	45.2	+2.6	83	30	12	5	45	1.13	−0.41	0.36	T.	7	18	4	8	nw.	I. C. Robertson.
Wahpeton	Richland	962	46	45.7	+1.3	82	30	10	5	45	4.28	+2.35	2.65	0	13	9	8	13	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	43.6	+3.0	82	30	12	5	41	2.07	−0.11	0.71	0.1	11	5	7	18	n.	U. S. Weather Bureau.
Average for Eastern Division		......	......	42.8	+1.3	85	30	3	6	51	1.68	−0.08	2.65	0.1	8	10	10	10	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	42	45.4	+2.8	84	30	12	4†	49	0.27	−1.39	0.15	0	4	16	4	10	nw.	R. C. Miles.
Bisbee	Towner	1,601	2	39.6	......	73	16†	9	4†	47	1.54	......	0.63	T.	6	17	8	5	n.	I. K. Lund.
Bismarck	Burleigh	1,670	64	46.3	+4.2	83	30	16	2	38	0.54	−0.98	0.24	0.1	7	7	14	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	39.4	+0.3	75	15†	9	1	34	0.88	+0.11	0.63	0.3	5	13	4	13	nw.	N. D. School of Forestry
Carrington	Foster	1,579	40	43.0	+3.4	80	18	12	1†	43	0.77	−0.48	0.53	0	4	14	9	7	nw.	Soo Line Agent.
Carson	Grant	2,500	26	45.9	+3.2	89	30	9	2	43	0.41	−0.83	0.16	0.5	4	8	15	7	nw.	J. W. Evens.
Center	Oliver	......	0	42.8	......	81	30	10	7	45	0.52	......	0.23	0	3	18	7	5	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	42.8	+1.4	76	30	3	4	42	1.30	+0.06	0.65	0.5	5	11	9	10	nw.	R. L. Williams.
Drake	McHenry	1,634	9	41.6	......	77	16	12	4	45	1.07	......	0.74	T.	6	10	12	8	nw.	Peter Anton.
Dunseith	Rolette	1,682	42	40.8	+0.9	74	15†	4	4	42	0.36	−0.46	0.25	T.	2	12	13	5	n.	Geo. Gehres.
Eckman	Bottineau	1,500	33	41.4	+0.8	78	29	10	4	47	0.90	+0.04	0.68	T.	3	10	16	4	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	45.0	+1.0	81	30	14	7	42	1.26	+0.30	0.88	T.	2	8	18	4	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	26	42.4	+1.7	78	30	10	4	41	1.20	−0.05	0.82	0	7	10	12	8	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	45.9	+1.0	88	30	16	2	40	0.72	−0.56	0.68	T.	2	17	6	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	41.6	+0.7	76	29	9	4†	42	1.03	−0.32	0.54	T.	5	8	13	9	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	46.2	......	85	30	12	2	40	1.08	......	0.35	0.1	6	12	12	6	nw.	A. H. Haut.
Garrison	McLean	1,901	61	43.5	+1.2	78	30	12	2	45	0.77	−0.32	0.41	T.	3	15	6	9	nw.	E. L. Vorachek.
Granville	McHenry	1,504	31	41.6	+0.8	76	29	9	4	42	1.46	+0.65	0.64	T.	4	12	9	9	nw.	W. A. Christianson.
Hansboro	Towner	1,597	30	39.8	+0.9	76	16	9	3†	45	0.96	−0.30	0.51	0.5	5	14	8	8	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	46.8	+4.1	88	30	14	7	48	0.86	−0.39	0.57	0.2	4	7	18	5	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	43.0	+1.9	82	22	11	2†	40	0.68	−0.52	0.36	T.	3	13	9	8	ne.	Edw. Tapley.
Maddock	Benson	1,604	23	41.7	+0.7	75	16	8	1	43	1.75	+0.62	1.07	0	5	8	11	11	nw.	A. T. Felland.
Mandan	Morton	1,750	24	45.6	+2.9	82	30	14	2†	39	0.97	−0.20	0.71	T.	5	9	9	12	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	......	......	......	......	......	......	......	1.22	−0.02	0.65	T.	5	......	......	......	......	P. B. Anderson.
Max	McLean	2,093	9	41.1	......	76	29	10	1†	50	1.03	......	0.88	T.	3	12	7	11	......	A. W. Rice.
Minot	Ward	1,557	42	42.6	+1.8	78	29	8	4	40	1.09	−0.11	0.39	T.	6	5	11	14	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	44	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	John Behan.
Napoleon	Logan	1,955	46	44.8	+3.4	90	30	8	2	46	0.88	−0.66	0.50	0.2	6	11	5	14	nw.	C. J. Hoof.
New Salem	Morton	2,163	34	42.8	+0.4	84	30	6	2	48	0.38	−0.66	0.18	T.	4	15	9	6	nw.	J. Christianson.
Pettibone	Kidder	1,856	29	43.5	+2.6	79	30	12	2	42	1.06	−0.06	0.41	0	5	14	6	10	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	40.2	......	74	16	8	4	39	1.14	......	0.52	0.1	7	11	12	7	n.	A. Jacobsen.
Rugby	Pierce	1,562	9	......	......	......	......	......	......	......	1.47	......	0.58	T.	6	12	11	7	nw.	W. B Paterson.
Ryder	Ward	2,108	9	......	......	......	......	......	......	......	0.69	......	0.53	0	3	17	8	5	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	......	......	......	......	......	......	......	1.02	......	1.00	0.2	2	14	5	11	nw.	J. B. Smith.
Steele	Kidder	1,857	44	43.6	+0.4	82	30	10	2	47	0.72	−0.44	0.33	T.	4	13	9	8	nw.	R. S. Armstrong.
Tagus	Mountrail	2,179	9	......	......	......	......	......	......	......	1.30	......	0.61	0.2	7	17	5	8	w.	G. N. Pilgard.
Towner	McHenry	1,482	36	43.8	+1.9	78	16	10	4	44	1.75	+0.88	0.75	T.	4	14	8	8	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	43.8	+2.3	79	18	13	2	40	0.72	−0.31	0.50	0	3	15	10	5	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	......	......	......	......	......	......	......	1 25	+0.28	0.73	T.	7	15	12	3	nw.	Adam Leno.
Velva	McHenry	1,511	11	43.6	+1.5	78	18	9	4	40	1.31	+0.40	0.65	T.	4	11	8	11	nw.	Oscar Anderson.
Washburn	McLean	1,731	37	45.4	+1.6	83	30	14	2	44	0.36	−0.61	0.22	T.	3	13	7	10	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	40.1	+0.2	72	14	15	8†	39	0.93	+0.13	0.87	0	2	15	7	8	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	46	40.6	+1.0	76	16	10	4	47	1.07	+0.20	0.50	T.	5	15	9	6	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	45.3	+3.4	87	30	12	1	52	1.04	−0.31	0.40	0.2	8	8	10	12	nw.	H. M. Larson.
Zap	Mercer	1,838	23	......	......	......	......	......	......	......	0.55	−0.35	0.55	T.	1	16	7	7	......	R. A. Norton.
Average for Middle Division		......	......	43.1	+1.6	90	30	3	4	52	0.96	−0.36	1.07	0.1	4	12	10	8	nw.	......

Continued on page 16.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for April 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red									.03							.08	.05		.10			T.	.15	T.	.30	.03	.35	.45				1.54
Cavalier	do																																
Cooperstown	Sheyenne			.01										T			.16	T.	T	.05	.01	T.		T.	.19	.19	T.	.02	.21				0.84
Courtenay	James											T.					.10	.02		.06				.18	.11	.09	.20	.02	.08				0.86
Devils Lake ***	Devils Lake	T.	T.	.01										.11				T.	.03	.02	.06				.10	.53	1.90	.01	.02		T.		2.79
Edgeley	James															.57	.04			.10						.07	.02		.10		.17		1.07
Edmore	Devils Lake	T.	T.	T.										.17	.01			T.	.06	.02	.06				.04	.78	.84	T.	.04				2.02
Ellendale	James	T													.08	.09	.36	.05		.16				.02		.03		.22	.24				1.25
Fargo ***	Red	T.	T.	T.										T.		.10	.18	.03	.10	.05	T.		T.	.20		.24	.13	.42	.30	T.			1.75
Forman	Sheyenne														.19	.07	.24	.12		.22	T.				.02	.40	.03	1.15	.25	T.			2.69
Fullerton	James	T.													T.	T.	.38	.06		.09					.05	.06	T	.36			T.		1.00
Grafton	Red			T.										.18				T.		T.	T				T.	.34	.94		.10				1.56
Grand Forks ***	do	.02	T.	.04										.03			.47	T.	.02	T	.03		T.			.21	.21	.23	.15				1.41
Hankinson ‖‖	do			T.								.08			.48	.05	.20	T.		.08				T.	T.	.05	.30	1.40	1.05				3.69
Hannah	Pembina			T.															T.	.03	.05	T.			.05	.47	.45	.02					1.07
Hillsboro	Red																.35		.10					.13		.16	.10	.03	.50				1.37
Jamestown	James		T	T.													.20	.04	.12				T.	.22	.16	.33		.07			.15		1.29
Langdon ‖‖	Pembina		.03												.09				T.	.06	.06				.10	.30	.84						1.48
Larimore	Red		T.											.08			.10				T.					.23	.57	T	.30				1.28
Lisbon	Sheyenne																.20	.13	.02	.12				.01	.15	.33	.15	.15	.89				2.15
McHenry	James	T.		T										.03		.03			.03		.02				.06	.21	.28	.03	.02				0 71
McLeod	Sheyenne																.07			.16				T	.03	.15	.26	.98	.77				2.42
Mayville	Red												T.			.29		T			T.	T.			.13		.14	.14	.02	.20			0.92
Oakes	James														.01		.35	.01	.01	.20					.01	.02	.07	.42	.75				1.85
Park River	Red		T.											.22					.06	T.	T.					1.64		.07			.03		2.02
Pembina	do														T.				.04	T.	.15	.01			.05	.48	.87						1.60
Petersburg	do			.01										.09			.02		T.	T.	.06				T.	.30	.50	T.	.12				1.10
Sharon	do		T.	.01										.01			.21	T.	.01	.01	.01		T.		.01	.24	.26	.18	.15				1.10
Valley City	Sheyenne			T.													.30	.02			T.			.03	.06	.34	.02	T.	T.	.36			1.13
Wahpeton	Red											.01			.13	.05	.44	.09		.18	.05		T.	.02		.18	.18	2.65	.29	.01			4.28
Moorhead, Minn. ***	do	T.	T.	T.										T.		.08	.15	.03	.16	.13	.01		T.	.19		.29	.30	.37	.36				2.07
Middle Division																																	
Ashley	Missouri															T.	.15	.01		.09								.02					0.27
Bisbee	Devils Lake	T.		T.										.03	.12					T.	.09				.10	.63	.57	T.					1.54
Bismarck ***	Missouri	T.	T.	.01	T.						T.			T.		.08	.02	T.	.13	T.	T.				.01	.10	.19	T					0.54
Bottineau	Mouse	.03																						.01	.20		.63	.01					0.88
Carrington ‖‖	James																			.05					.11	.08	.53		T.				0.77
Carson	Heart					.07											.06	T.	T.							.12	.16						0.41
Center	Missouri																		.09							.23	.20						0.52
Dogden Butte	Mouse	T.			.02									.10				T							.11	.42	.65						1.30
Drake ‖‖	do	.01	T.	T.	T.										.14					T.		T.			.15	.02	.74	T.	.01				1.07
Dunseith	do			T										T.					T.	T.	T.			.25		.11							0.36
Eckman	do			T.										T.				T			T.				.07	.68	.15						0.90
Energy	Missouri	T.												T.				T.	T.							.38	.88						1.26
Fessenden ‖‖	James														.04				.01	.03					.18	.10	.82		.02				1.20
Fort Yates	Missouri	T.				T.										.04			T.								.68				T		0.72
Foxholm (near)	Mouse	T.												.23	.05			T.							.07	.54	.14						1.03
Gackle	James			.01	T.												.14	T.						.31		.35	.23		.04				1.08
Garrison ‖‖	Missouri			T.										.02											T	.41	.34						0.77
Granville	Mouse	T.		T.										.16				T.	T.		T.				.52	.64	.14	T.					1.46
Hansboro	Devils Lake			.02																.02					.07	.51	.34						0.96
Linton	Missouri	T.		T.										T.			.05	T.		.12						.12	.57						0.86
McClusky	do	T.	T.	T										T.					T.							.36	.30	T.	.02				0.68
Maddock	Sheyenne		T.	T.										.14					T		T				.20	.31	1.07		.03				1.75
Mandan ‖‖	Missouri	T.	T.								T.		T.	T.		.10		T	.09					T.	.04	.71					.03		0.97
Manfred	James				T.							.11						T.	T.						.18	.27	.65	T.	.01				1.22
Max ‖‖	Missouri		T.		T.										.10										.05	T.	.88						1.03
Minot	Mouse	.05		.01				T.						.15				T.	T.		T.				.36	.39	.13						1.09
Mohall	do																																
Napoleon ‖‖	Missouri	.05	.02	T.													.09			.20				.02			.50						0.88
New Salem	Heart	T.	.01	T.														T.	T.	.04					T.	.18	.15						0.38
Pettibone	James															.10				.14					.13	.28	.41						1.06
Rolla	Devils Lake	T.		.01											.01				T.	.04	.06	T.			.20	.52	.30	T.					1.14
Rugby (near)	Mouse	T.		T.										.09					.02			.09			.46	.58	.23						1.47
Ryder	Missouri													.06					T		T.			.10		.53		T.	T.				0.69
Selfridge	do				T.	.02										T.		T.	T.					T		1.00	T	T.			T.		1.02
Steele	do	T.																T.		.09					.09	.21	.33						0.72
Tagus	Mouse	T.		.02	T.							T		.25	.03			T.	T.	.02	T.				.09	.61	.28	T					1.30
Towner	do	T.												.51					.03						.46	.75							1.75
Turtle Lake	Missouri													.02												.20	.50	T					0.72
Tuttle	do	.02			.02						T.			T.				T.	.01	.09					.13	.25	.73	T.					1.25
Velva	Mouse	T.			T.									.08						T.					.37	.65	.21						1.31
Washburn ‖‖	Missouri	T.																		T.					.07	.07	.22						0.36
Westhope	Mouse																				.06						.87						0.93
Willow City	do	T.												.16	.07			T.	T.						.24	.50	.10						1.07
Wishek ‖‖	Missouri	.01	T.													.11	.01		.17						.06	.40	T.	.03			.25		1.04
Zap	Knife	T.	T.	T.																						.55							0.55
Western Division																																	
Alpha	Lit. Missouri					T.													.08					.09		.05	.05						0.27
Amidon	do	T.			T															.20					.03	.02	.01						0.26
Beach	do	.02				T.								.01				T.	.09	.09				T.	.42	.01	1.42						2.06
Berthold Agency	Missouri	.06		T.																						.52	.14						0.72
Bowman	Grand																	.18		.10	T.				.01	.01	.02	T.					0.32
Crosby	Mouse																				T.				.05		.39						0.44
Dickinson ‖‖	Heart	T.	.01	.02		T.	.01							T.				T.	T.	.12	T.				.06	T.	.40	T.	T.				0.62
Dunn Center	Knife	T.		T.																					.07	.05	.70						0.82
Epping	Missouri													.12												.54	.14						0.80
Fairfield	Lit. Missouri	T.	T.																						.01	.15	1.37						1.53
Fryburg	Heart	T.				T.								T.				T.	.15	T.					.07	.13	.19	.01					0.55
Hettinger	Grand																																
Howard (near)	Missouri	T.		T.	T.	T.					T.				T.			T.	T.		T			T	T.	T							T.
Kenmare	Mouse	T.		.02											T.			T.		T.		T.			T.		.60	T.	.01				0.63
Marmarth	Lit. Missouri	T.	T.															.13	.09					.18		.01	T.						0.41
Mary	do	.03	.01																						T.	.02	.36						0.42
Medora	do																T.	.12	T					.10		.20	.14	T.	T.				0.56
Mott	Cannon Ball										T.									.06					.03	.03	.04						0.16
New England ‖‖	do																		.14							.04							0.18
Parshall	Missouri		.02											T.	.12			T.	T.	.02		T.			.08		.58						0.82
Portal ‖‖	Mouse																		T		.02						.48	.03					0.53
Powers Lake	Missouri													.46										.55									1.01
Richardton	Heart					T								T.				T.		.13					T.	.14	.09						0.36
Sanish ‖‖	Missouri														.15					.01					.05		.35						0.56
Stanley	do	T.	T											.23											.06	.66	.15						1.10
Tioga	do													.28	.02											.55	.04						0.89
Trotters	Lit. Missouri																								.05	.05		.40					0.50
Watford City	Missouri	T.	T.															T.	T.	.01						.57	.05						0.63
Wildrose	do	T.		T.															T.						.03	.36	.08						0.47
Williston ***	do	T.	T.	T.										.18					T.		T.			.04		.61	.07						0.90

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum...	27	42	40	39	36	34	42	47	61	73	61	74	71	67	66	68	69	79	71	54	54	70	64	68	65	79	60	59	76	84	....	60.0
	Minimum ...	13	13	23	12	12	17	16	22	20	24	31	40	38	43	38	46	44	40	40	28	20	31	43	35	33	53	37	34	34	41	....	30.7
Beach	Maximum..	22	37	36	38	35	35	44	54	67	59	65	67	63	63	67	72	67	77	59	56	58	68	64	54	45	50	48	64	77	81	....	56.4
	Minimum ..	10	1	19	21	24	15	17	22	27	34	30	41	41	38	31	39	45	45	36	36	22	36	36	31	37	36	32	30	41	45	....	30.6
Bismarck	Maximum...	28	44	35	37	36	37	46	52	66	67	64	73	62	67	68	74	68	79	57	53	57	72	61	62	55	65	47	62	78	83	....	58.5
	Minimum ...	18	16	24	20	21	19	18	27	31	35	33	44	43	43	36	49	46	41	39	33	24	39	34	42	36	47	39	36	42	49	....	34.1
Bottineau	Maximum...	26	36	33	31	32	37	46	46	64	51	61	59	54	71	75	75	63	68	52	40	40	41	38	33	37	45	56	44	60	72	....	49.5
	Minimum ...	9	15	14	11	14	14	19	19	33	37	37	38	27	37	32	40	41	42	47	28	19	30	29	29	27	34	37	33	39	44	....	29.2
Carson	Maximum...	26	46	40	42	34	41	50	54	67	66	66	75	68	69	68	75	71	80	66	53	60	75	64	67	55	61	49	67	83	89	....	60.9
	Minimum ...	14	9	19	19	19	16	13	21	26	36	28	32	45	40	34	42	46	41	40	36	18	37	32	35	37	43	32	29	40	49	....	30.9
Crosby §	Maximum...	21	35	34	32	32	37	42	52	63	55	62	49	56	67	77	71	65	68	56	44	56	65	58	51	40	47	53	60	78	75	....	53.4
	Minimum ...	12	8	14	14	15	15	17	23	25	34	34	38	29	31	34	37	39	42	35	34	22	29	37	28	33	34	33	30	31	38	....	28.2
Devils Lake	Maximum...	26	37	29	28	32	35	45	45	65	68	62	69	48	65	67	72	67	74	50	51	50	68	56	43	46	64	46	57	70	73	....	53.6
	Miuimum ...	12	18	14	11	11	12	18	22	30	34	32	35	28	37	35	46	44	41	27	22	21	32	31	32	30	46	37	36	36	48	....	29.3
Dickinson §	Maximum...	22	40	36	37	28	37	45	55	74	61	67	69	63	65	67	74	68	78	53	49	56	70	62	54	43	50	42	64	78	84	....	56.5
	Minimum ...	9	6	7	19	19	14	10	11	19	29	29	31	40	37	31	32	35	42	38	37	21	25	30	31	36	33	35	31	34	42	....	27.1
Dunn Center §	Maximum...	23	40	33	31	32	34	44	53	65	64	62	68	56	65	65	66	71	81	58	41	52	67	60	44	40	41	38	63	80	75	....	53.7
	Minimum ...	11	10	13	17	19	15	10	16	22	30	30	36	37	34	28	35	39	39	40	38	19	28	29	33	34	34	35	29	34	40	....	27.8
Fessenden §	Maximum...	32	40	31	33	36	37	47	48	66	70	65	72	48	67	70	74	68	76	52	56	55	70	59	44	52	67	42	58	72	78	....	56.2
	Miuimum ...	12	14	16	10	14	14	14	21	25	36	30	35	29	35	30	38	54	39	40	27	20	30	30	35	30	31	37	33	35	46	....	28.7
Fullerton	Maximum...	30	40	37	35	35	38	42	47	62	74	64	77	68	68	66	61	69	78	65	58	52	68	63	64	67	73	60	59	74	84	....	59.3
	Minimum ...	16	16	25	16	17	21	17	21	21	27	32	35	36	45	36	48	39	39	41	25	23	29	46	37	35	53	38	37	39	41	....	31.7
Garrison §	Maximum...	27	36	33	34	37	37	49	53	69	64	64	68	52	66	70	76	68	77	56	52	58	71	59	54	50	55	44	60	77	78	....	56.5
	Minimum ...	14	12	20	14	18	15	13	22	24	38	32	41	33	37	31	41	48	40	39	40	20	31	30	31	32	44	37	32	36	51	....	30.5
Grafton	Maximum...	25	35	36	30	34	39	48	47	65	71	69	60	60	69	68	58	65	70	70	50	50	56	59	59	42	60	59	57	67	75	....	55.1
	Minimum ...	13	10	14	11	8	11	11	23	30	32	28	33	22	40	34	44	35	29	26	15	23	25	33	33	26	40	38	37	30	42	....	26.5
Grand Forks	Maximum...	24	36	29	29	34	39	45	44	62	74	63	75	54	68	70	56	67	72	57	50	50	61	61	53	50	67	48	53	67	77	....	54.5
	Minimum ...	14	11	16	9	9	14	13	19	31	33	28	35	25	40	28	45	40	35	23	18	23	29	36	34	33	48	40	37	33	41	....	28.0
Jamestown §	Maximum...	40	32	35	35	37	44	48	66	74	66	75	62	67	68	66	69	80	52	57	53	68	60	57	55	67	54	59	71	84	66	....	58.8
	Minimum ...	17	17	17	18	13	16	16	18	24	30	32	37	35	37	35	47	42	40	43	24	24	28	39	39	32	33	41	37	39	43	....	30.4
Kenmare	Maximum...	25	37	31	32	32	36	47	53	67	57	61	60	50	65	66	74	67	70	54	50	58	71	55	54	40	48	50	61	72	61	....	53.5
	Minimum ...	15	11	16	13	14	11	15	19	20	37	34	37	30	30	34	41	44	41	37	35	22	29	21	28	31	33	35	29	33	45	....	28.0
Langdon §	Maximum...	25	36	32	28	30	35	46	45	65	68	59	67	53	61	67	68	67	68	57	52	48	62	53	47	37	62	57	57	70	70	....	53.1
	Minimum ...	10	10	8	7	7	9	15	20	32	33	26	36	25	35	33	42	40	32	25	16	19	27	28	30	24	36	35	33	34	42	....	25.6
Marmarth	Maximum...	26	26	28	42	27	36	47	58	72	60	67	71	49	65	67	72	65	80	60	51	59	67	66	56	46	53	41	71	81	88	....	56.6
	Minimum ...	4	11	25	25	25	12	17	22	30	27	36	46	36	34	36	39	40	38	38	22	33	35	37	41	40	36	24	38	40	60	....	31.6
Minot	Maximum...	27	40	33	31	35	36	49	54	70	63	65	66	45	66	69	75	69	76	55	52	57	72	56	48	37	52	44	60	78	76	....	55.2
	Minimum ...	15	12	19	8	18	14	12	17	32	37	32	43	30	39	37	41	44	36	39	34	20	34	28	31	32	36	37	34	42	47	....	30.0
Mott	Maximum...	24	46	38	39	35	35	45	56	67	64	66	74	67	66	66	75	70	81	63	54	60	75	65	61	57	52	50	67	83	90	....	59.7
	Minimum ...	11	6	21	21	20	16	12	20	20	32	27	34	46	38	32	41	43	43	40	35	19	34	32	34	38	42	36	27	37	47	....	30.1
Pembina	Maximum...	24	35	28	25	33	38	47	44	63	69	50	65	55	70	71	55	65	69	54	43	47	62	59	54	43	60	59	58	68	75	....	52.9
	Miuimum ..	12	8	14	7	8	7	10	21	31	33	28	36	21	34	23	40	40	34	24	14	22	28	34	33	21	41	38	37	32	44	....	25.8
Sharon	Maximum...	28	38	31	30	31	35	44	47	66	74	64	75	50	66	69	58	68	76	56	49	51	64	61	53	46	70	54	56	69	77	....	55.2
	Minimum ...	12	10	14	8	8	12	15	21	30	33	26	37	28	39	35	46	33	34	30	17	21	30	33	34	30	45	38	35	33	45	....	27.9
Steele	Maximum...	26	36	38	30	31	30	42	46	61	68	69	75	67	69	70	74	70	80	68	51	51	70	62	50	53	70	48	60	75	82	....	57.4
	Minimum ...	14	10	19	18	14	14	11	23	22	30	34	41	36	38	30	46	40	33	40	27	16	32	33	39	32	48	36	32	40	42	....	29.7
Valley City	Maximum...	39	40	38	35	36	37	43	48	65	73	72	75	74	67	67	66	67	78	78	55	56	66	65	60	57	68	61	57	67	83	....	59.8
	Minimum ...	15	18	20	16	12	18	16	19	20	33	32	42	34	44	35	47	33	34	44	20	23	27	39	37	31	52	41	39	36	44	....	30.7
Wahpeton	Maximum...	34	40	38	37	36	40	45	49	61	77	76	75	75	69	65	55	73	75	74	54	53	61	62	62	63	75	72	49	63	82	....	59.7
	Minimum ...	15	12	18	13	10	20	18	19	22	36	31	38	31	45	36	48	42	39	41	21	26	32	44	35	49	54	42	39	33	42	....	31.7
Williston	Maximum...	23	38	34	30	34	37	45	55	65	57	65	63	49	63	67	71	67	73	56	48	57	65	56	53	43	50	48	61	77	75	....	54.2
	Minimum ...	10	12	21	19	24	18	24	24	34	40	33	39	41	36	42	41	46	48	39	29	26	42	32	36	34	38	35	31	41	44	....	32.6
Moorhead, Minn.	Maximum...	29	39	30	32	37	38	41	44	61	75	64	75	65	67	69	54	69	78	54	52	50	61	53	60	59	71	57	49	63	82	....	55.9
	Minimum ..	16	15	20	13	12	18	16	26	31	35	35	40	31	44	36	47	43	37	26	24	26	28	43	36	35	55	41	38	33	41	....	31.4

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for April 1938—Continued from page 14.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	......	......	....	....	....	....	......	0.27	−0.90	0.09	T.	4	18	7	5	nw.	H. A. Bury.
Amidon	Slope	......	31	44.0	+2.8	86	30	1	2	44	0.26	−1.00	0.20	T.	4	17	8	5	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	15	43.5	+1.5	81	30	1	2	40	2.06	+1.91	1.42	0.2	7	2	20	8	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	42.6	−0.9	81	29	10	2†	49	0.72	−0.29	0.52	T.	2	18	3	9	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	46.3^{m}	+3.7	77^{m}	30	18^{m}	21	32^{m}	0.32	−0.80	0.18	0	5	......	......	......	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	29	40.8	+0.6	78	29	8	2	47	0.44	−0.54	0.39	0	2	6	13	11	nw.	J. H. Phelps.
Dickinson	Stark	2,543	45	41.8	−0.3	84	30	6	2	55	0.62	−0.46	0.40	0.5	6	11	9	10	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	40.8	−1.0	81	18	10	2†	46	0.82	−0.44	0.70	T.	3	15	9	6	nw.	O. T. Evenson.
Epping	Williams	2,224	27	41.4	−0.8	77	29†	4	1†	50	0.80	−0.23	0.54	0	3	21	3	6	nw.	T. Beachler.
Fairfield	Billings	......	1	......	......	....	....	....	....	......	1.53	....	1.37	T.	3	15	7	8	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	43.6	......	82	30	7	2	42	0.55	−0.62	0.19	0.1	5	13	11	6	nw.	Verne King.
Hettinger	Adams	2,675	30	......	......	....	....	....	....	......	......	....	......	......	.....	.....	......	......	......	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	41.2	+2.1	77	28	5	2†	44	T.	−1.12	T	T.	0	13	7	10	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	40.8	......	74	16	11	2†	47	0.63	−0.32	0.60	0.2	3	8	12	10	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	44.1	+1.1	81	30	4	1	42	0.41	−0.61	0.18	T.	4	12	6	12	nw.	S. P. Grane.
Mary	McKenzie	......	9	......	......	....	....	....	....	......	0.42	....	0.36	T.	4	16	7	7	nw.	Fred Hartman.
Medora	Billings	2,271	22	......	......	....	....	....	....	......	0.56	−0.47	0.20	0	4	12	12	6	nw.	Vernon Thompson.
Mott	Hettinger	2,424	30	44.9	+3.1	90	30	6	2	47	0.16	−1.05	0.06	0	4	7	18	5	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	44.4	+2.1	89	30	5	1	42	0.18	−0.83	0.14	0	2	7	15	8	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	38.9	......	77	30	5	2	47	0.82	−0.13	0.58	0.2	5	7	18	5	nw.	C. E. Shubert.
Portal	Burke	1,954	32	40.8	−0.6	76	29	10	4†	39	0.53	−0.44	0.48	0	3	16	4	10	e.	R. G. Wegener.
Powers Lake	Burke	2,205	32	40.0	−0.3	77	29	13	2	33	1.01	−0.20	0.55	0	2	19	8	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	21	43.6	+2.5	80	30	8	2	41	0.36	−0.78	0.14	T.	3	13	9	8	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	42.8	+1.0	80	29	10	2	51	5.56	−0.51	0.35	0	4	11	9	10	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	40.7	......	74	29	11	6	39	1.10	....	0.66	T.	4	18	7	5	nw.	LeRoy Edwards.
Tioga	Williams	2,279	9	......	......	....	....	....	....	......	0.89	....	0.55	0	4	15	9	6	w.	B. V. Olson.
Trotters	Golden Valley	......	12	......	......	....	....	....	....	......	0.50	−0.53	0.40	0	3	2	9	19	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	44.7	+8.6	79	29	7	2	40	0.63	−0.53	0.57	T.	3	11	15	4	nw.	J. C. Zeller.
Wildrose	Williams	2,258	10	.....	......	....	....	....	....	......	0.47	....	0.36	T.	3	9	9	12	nw.	L. Holter.
Williston	Williams	1,878	58	43.4	+1.4	77	29	10	1	36	0.90	−0.30	0.65	T.	4	16	7	7	nw.	U. S. Weather Bureau.
Average for Western Division		......	.....	42.5	+0.7	90	30	1	2	55	0.64	−0.55	1.42	T.	4	12	10	8	nw.	....
Average for the State		......	.....	42.8	+1.4	90	30	1	2	55	1.09	−0.33	2.65	0.1	5	11	10	9	nw.	....

[WBO, Minneapolis, 5-26-38—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVII BISMARCK, N. D., MAY 1938 No. 5

GENERAL SUMMARY

May 1938 was a cool month, but no unusually low temperatures were reported. Frost occurred at most stations from the 6th to the 9th. No 90° readings were reported at any stations. The precipitation was well distributed throughout the month and sunshine averaged below normal. The eastern and western divisions averaged above normal in precipitation, but the middle division averaged slightly below. The weather was favorable for crops in all sections. Slow general rains from the 17th to the 20th saturated the top soil and replenished the subsoil moisture. Small grains stooled well during the cool weather and pastures and ranges were good to excellent at the close of the month. Severe dust storms occurred at many central and western stations during the third week, but they ended with the rains on the 17th.

TEMPERATURE

The mean temperature for the State was 52.0°, or 1.4° below the 1892—1938 average for May. The mean temperature for the eastern division was 52.4°; for the middle division, 51.9°; and for the western division, 51.8°. The highest mean temperature was 54.4° at Wapeton, and the lowest, 49.7° at Hannah, making a range in mean temperature of 4.7°. The absolute range was 70°, from 88° at Mott on the 28th, to 18° at Bowman, Mott, New Salem, and Parshall on the 7th. The average daily excess in temperature for the State since January 1, 1938 is 2.1°.

PRECIPITATION

The average precipitation for the State was 2.55 inches, or 0.24 inch more than the 1892-1938 average for May. In the eastern division the average amount was 2.93 inches; in the middle division, 2.07 inches; and in the western division, 2.66 inches. The greatest monthly amount reported was 5.42 inches at Hillsboro; the least reported was 1.09 inches at Pembina. The greatest amount recorded in any 24 consecutive hours was 2.05 inches at Howard on the 2d. The accumulated deficiency in precipitation for the State since January 1, 1938, is 0.06 inch. The average snowfall was 0.2 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	5	12	5	..	..	..	..	..	1	8	6	..	..	..	2	1	..	..	..	..	..	..	1	1	..	1	6	5	..	1
Dust storms	24	10	6	1	2	1	..	..	..	..	..	9	33	24	3	5	..	..	..	..	..	1	..	..	1	..	..	3	..	..	..
Fogs	2	..	..	..	..	..	..	1	..	..	..	..	1	1	..	..	1	1	1	..	1	..	..	1	10	2	..	1	..	..	3
Lunar halos	..	..	..	..	2	1	..	..	3	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	1	3	1	..	2	3	1	4	..	..	1	..	..	..	..	..	..	1	..	1	..	1	1	..	..	..	3	5	..
Hail	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	1	..	1	..	..	..
Thund'rst'ms	16	12	4	1	..	..	..	..	..	..	..	1	1	..	..	..	1	1	..	..	..	1	1	2	2	14	..	2	..	..	3

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.91	30.25	9	29.22	2	10.2	32	nw.	14	78	48	46	46
Devils Lake	29.92	30.21	8	29.30	2	10.5	31	nw.	13	85	56	54	60
Williston	29.90	30.24	9	29.09	2	10.3	37	se.	1	77	48	47	48
Moorhead, Minn	29.91	30.20	12	29.40	2	9.6	32	n.	5	81	60	60	50
Averages & ext's	29.91	30.25	9	29.09	2	10.2	37	se.	1	80	53	52	51

† And other dates.

COMPARATIVE DATA FOR MAY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	46.6	96	13	3.43	1.84	1.33	2.20	3.9	12	6	8	17
1893	52.2	97	19	1.29	1.14	2.40	1.61	0.2	6	11	8	12
1894	54.6	98	23	1.40	1.24	1.88	1.51	0.0	5	16	9	6
1895	54.4	101	15	2.60	2.88	2.57	2.48	0.0	8	10	11	10
1896	56.9	103	22	5.44	3.70	5.81	4.95	0.0	13	6	14	11
1897	55.4	97	16	0.85	0.61	0.60	0.67	T.	4	16	10	5
1898	52.7	92	14	1.95	1.84	2.15	1.98	0.0	5	15	9	7
1899	50.6	91	16	3.40	4.80	2.27	3.49	0.4	8	9	9	13
1900	59.2	106	15	0.78	0.70	0.59	0.69	0.0	3	18	8	5
1901	60.0	99	19	0.35	0.24	0.33	0.31	T.	2	21	4	6
1902	55.9	94	24	4.31	3.33	3.06	3.57	0.4	10	13	6	12
1903	54.3	96	11	2.52	3.35	3.50	3.12	T.	4	14	8	9
1904	54.2	93	20	2.05	1.64	1.10	1.60	T.	6	14	9	8
1905	50.1	88	10	4.24	2.78	1.72	2.91	4.0	8	12	8	11
1906	50.8	99	11	4.41	4.74	5.59	4.91	0.4	12	9	8	14
1907	44.0	84	6	1.52	1.02	1.39	1.31	3.1	6	12	10	9
1908	50.8	88	9	3.54	2.58	2.57	2.90	0.9	8	13	7	11
1909	51.0	98	5	4.78	3.92	4.68	4.46	0.1	10	12	9	10
1910	50.7	94	10	0.86	0.95	1.28	1.03	0.1	6	12	11	8
1911	55.0	99	6	4.06	2.25	2.39	2.90	T.	8	14	9	8
1912	54.2	90	16	4.17	4.59	4.42	4.39	0.7	11	10	10	11
1913	51.2	100	11	1.75	1.63	1.74	1.71	0.2	9	10	10	11
1914	55.2	95	16	1.83	2.56	1.98	2.12	1.0	8	16	8	7
1915	51.1	98	15	3.37	3.21	2.81	3.13	0.4	9	10	10	11
1916	51.0	95	7	2.95	1.70	1.64	2.10	0.3	8	11	11	9
1917	51.2	98	15	0.21	0.29	0.53	0.34	0.1	2	20	7	4
1918	51.7	99	6	2.58	2.40	1.83	2.27	0.5	9	10	11	10
1919	55.5	101	16	4.29	3.14	1.91	3.11	0.4	9	16	8	7
1920	53.9	89	20	2.40	1.34	1.54	1.76	0.1	7	13	10	8
1921	53.8	90	21	2.75	2.22	2.36	2.44	T.	9	13	10	8
1922	56.3	93	24	4.29	2.81	3.08	3.39	0.1	12	10	11	10
1923	54.1	100	13	2.56	1.57	1.17	1.77	0.2	6	15	10	6
1924	46.9	84	15	1.05	0.57	0.81	0.81	0.0	5	12	10	9
1925	53.6	111	10	1.94	1.17	1.22	1.44	T.	4	17	9	5
1926	58.5	105	10	2.07	2.09	2.45	2.20	0.0	7	13	11	7
1927	48.0	87	13	5.21	6.06	5.77	5.68	3.2	14	6	8	17
1928	58.2	107	16	1.02	1.23	1.00	1.08	0.0	5	18	7	6
1929	49.1	92	8	2.00	2.69	4.28	2.99	0.4	7	16	9	6
1930	50.8	98	18	3.76	2.40	1.69	2.62	0.7	9	12	8	11
1931	53.1	100	10	2.17	1.09	0.98	1.41	0.3	6	16	7	8
1932	55.9	98	25	2.66	2.02	1.76	2.15	2.2	6	13	9	9
1933	54.8	98	19	2.78	3.18	3.50	3.15	T.	9	9	10	12
1934	63.6	111	18	0.46	0.32	0.29	0.36	0.0	3	17	10	4
1935	49.5	89	20	2.11	2.93	2.79	2.61	1.5	12	6	11	14
1936	61.0	100	20	1.05	0.66	0.70	0.80	T.	4	19	9	3
1937	56.9	99	19	2.35	1.67	1.27	1.76	T.	7	12	11	8
1938	52.0	88	18	2.93	2.07	2.66	2.55	0.2	11	8	12	11
Period	53.4	111	5	2.55	2.19	2.20	2.31	0.5	7	13	9	9

Climatological Data for May 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	50.7	−3.3	78	23	30	5†	44	3.16	+0.32	0.50	0	12	2	6	23	ne.	I. Idso.
Cavalier	Pembina	894	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Burke Bechtel.
Cooperstown	Griggs	1,428	41	50.0	−2.3	78	1	24	7	40	3.36	+0.76	0.64	0	13	15	9	7	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	.....	.....	.....	.....	.....	.....	.....	2.54	.....	0.49	0	12	8	13	10	e.	Alfred Woiwode.
Devils Lake	Ramsey	1,471	41	50.6	−2.0	77	28	27	7	33	2.21	+0.18	0.51	T.	15	5	10	16	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	37	52.0	−1.7	76	2	24	7	39	2.11	−0.52	0.45	0	11	9	16	6	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	50.4	−2.0	75	28	24	7	40	2.92	+1.02	0.65	T.	15	3	12	16	nw.	A. G. Braund.
Ellendale	Dickey	1,457	43	53.4	−2.3	78	25	28	7	38	1.91	−0.86	0.44	0	13	8	11	12	nw.	J. E. Demmer.
Fargo	Cass	895	2	52.2	.....	76	2	30	6†	35	2.44	−0.13	0.48	0.6	13	6	6	19	n.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	53.0	−2.4	76	27†	28	6	38	2.89	−0.26	0.55	0	13	13	6	12	nw.	Helge Dyste.
Fullerton	Dickey	1,439	40	52.8	−1.2	80	28	27	7	38	2.60	−0.58	0.41	0	11	11	7	13	n.	F. O. Alin.
Grafton	Walsh	827	46	53.6	+0.3	76	21†	29	6†	40	2.58	+0.41	0.92	1.0	10	2	14	15	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	51.6	−2.1	75	21†	30	6	39	5.03	+2.44	1.99	4.3	14	3	14	14	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	9	52.6	.....	79	22	28	6	37	3.40	.....	0.95	T.	14	13	9	9	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	49.7	−0.9	74	27†	22	7	39	1.68	−0.44	0.43	4.3	11	4	21	6	nw.	James Muir.
Hillsboro	Traill	901	32	53.4	−0.5	80	29	30	6†	42	5.42	+2.33	1.10	T.	15	8	11	12	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	46	51.9	−1.6	79	28	29	7	37	2.38	−0.62	0.47	0	13	6	15	10	nw.	S. Calvelage.
Langdon	Cavalier	1,615	42	50.8	−0.1	78	1	23	7	39	2.04	+0.02	0.59	T.	12	6	15	10	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	52.2	−0.4	74	21†	28	6†	35	4.23	+1.34	1.01	T.	11	12	6	13	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	54.0	+0.1	79	28	27	7	40	2.86	−0.06	0.43	0	16	11	6	14	ne.	J. O. Halverson.
McHenry (near)	Eddy	1,509	16	50.2	−2.1	76	28	21	7	41	2.41	−0.42	0.61	T.	11	4	15	12	nw.	C. E. Blasky.
McLeod	Ransom	1,075	27	53.7	−0.8	86	2	26	7	37	3.05	−0.22	0.47	0	12	16	4	11	n.	J. G. Carlson.
Mayville	Traill	975	42	51.9	−2.8	75	21	28	7	37	2.65	−0.26	0.62	0	12	8	10	13	n.	H. B. Addicott.
Oakes	Dickey	1,318	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. F. Rossman.
Park River	Walsh	998	34	51.0	−2.0	76	21†	26	7	38	2.56	+0.50	0.82	2.0	9	19	8	13	nw.	E. J. Taintor.
Pembina	Pembina	789	64	52.6	−0.2	78	21†	29	6†	40	1.09	−1.27	0.33	T.	10	10	14	7	nw.	E. N. Russell.
Petersburg	Nelson	1,520	8	.....	.....	.....	.....	.....	.....	.....	3.03	.....	0.67	1.0	11	10	8	13	nw.	T. M. Rykken.
Sharon	Steele	1,516	14	50.2	−3.7	75	31	24	7	38	4.00	+1.13	0.81	T.	13	5	13	13	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	53.4	−0.1	77	1	28	7	35	2.86	+0.06	0.81	0	13	16	6	12	nw.	I. C. Robertson.
Wahpeton	Richland	962	46	54.4	−1.2	81	1	29	6†	32	4.02	+1.36	0.87	T.	18	7	7	17	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	52.5	−2.6	75	2	30	6	32	3.60	+0.71	0.73	0.5	13	6	6	19	n.	U. S. Weather Bureau.
Average for Eastern Division		.....	.....	52.4	−1.1	86	2	21	7	44	2.93	+0.38	1.99	0.5	13	8	10	13	nw.	.....
Middle Division																				
Ashley	McIntosh	2,001	42	52.4	−1.1	80	1†	22	8	39	2.32	−0.22	0.44	0	13	9	11	11	nw.	R. C. Miles.
Bisbee	Towner	1,601	2	50.1	.....	76	29	25	7	38	2.33	.....	0.84	0	12	12	6	13	w.	I. K. Lund.
Bismarck	Burleigh	1,670	64	53.6	−0.9	85	28	25	7	35	2.45	+0.13	1.06	0	12	8	10	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	51.7	+0.4	80	30	23	7	35	2.02	−0.05	0.83	0	10	12	8	11	n.	N. D. School of Forestry
Carrington	Foster	1,579	40	51.6	−0.9	79	1	23	7	37	2.82	+0.25	0.95	0	10	7	8	16	nw.	Soo Line Agent.
Carson	Grant	2,500	26	53.8	+0.7	88	28	20	2	41	2.98	+0.53	0.66	0	13	5	18	8	nw.	J. W. Evens.
Center	Oliver	.....	0	50.8	.....	87	28	21	6†	41	1.77	.....	0.67	0	5	18	0	13	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	52.0	−2.6	83	28†	27	7†	37	1.54	−1.43	0.42	0	10	7	9	15	nw.	R. L. Williams.
Drake	McHenry	1,634	9	51.6	.....	83	28	29	6†	32	1.14	.....	0.40	0	8	5	12	14	nw.	Peter Anton.
Dunseith	Rolette	1,682	42	50.8	−1.3	81	28	21	7	40	1.98	+0.14	0.73	0	11	3	16	12	n.	Geo. Gehres.
Eckman	Bottineau	1,500	33	51.6	+0.2	85	28	24	7	36	1.95	+0.03	0.75	0	8	7	17	7	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	52.7	−3.4	86	28	25	7	41	1.48	−0.68	0.48	0	8	7	20	4	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	26	51.4	−0.6	81	28	27	7	38	2.08	−0.23	0.50	0	12	7	10	14	se.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	52.6	−3.5	76	1†	22	7	34	1.57	−0.73	0.50	0	7	16	9	6	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	50.9	−3.1	85	28	26	8	33	1.78	−0.19	0.63	T.	8	5	10	16	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	53.2	.....	80	1†	25	7	36	2.47	.....	0.50	0	10	5	16	10	ne.	A. H. Haut.
Garrison	McLean	1,901	61	52.3	−0.4	86	28	25	6	40	1.61	−0.72	0.50	0	10	11	9	11	nw.	E. L. Vorachek.
Granville	McHenry	1,504	31	51.3	−0.3	75	27†	28	8	35	1.94	0.00	0.69	0	9	9	8	14	nw.	W. A. Christianson.
Hansboro	Towner	1,597	30	50.7	0.0	75	28	24	7	34	2.14	+0.05	0.70	T.	10	9	14	8	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	53.8	−0.4	84	1†	20	7	41	2.91	+0.50	0.73	0	11	7	17	7	n.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	52.2	−1.4	81	28	26	8	38	1.76	−0.72	0.52	0	12	14	10	7	ne.	Edw. Tapley.
Maddock	Benson	1,604	23	51.9	−0.8	79	28	24	7	41	2.29	+0.18	0.58	0	10	4	12	15	nw.	A. T. Felland.
Mandan	Morton	1,750	24	53.0	−0.9	85	28	23	7	36	2.42	−0.02	1.00	0	11	5	8	18	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	.....	.....	.....	.....	.....	.....	.....	1.80	−0.46	0.40	0	11	.....	.....	.....	.....	P. B. Anderson.
Max	McLean	2,093	9	50.6	.....	84	28	23	7	38	2.27	.....	0.84	0	9	9	9	13	se.	A. W. Rice.
Minot	Ward	1,557	42	52.4	+0.2	86	28	27	7	39	2.42	+0.28	0.87	0	10	2	13	16	nw.	Mark. M. Chatfield.
Mohall	Renville	1,646	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Behan.
Napoleon	Logan	1,955	46	51.4	−1.0	82	28	23	7	42	2.81	+0.38	0.70	0	17	14	4	13	nw.	C. J. Hoof.
New Salem	Morton	2,163	34	51.3	−1.1	87	28	18	7	40	2.02	−0.10	0.67	0	10	13	9	9	nw.	J. Christianson.
Pettibone	Kidder	1,856	29	51.0	−0.8	80	28	26	7	34	1.93	−0.47	0.48	0	9	10	5	16	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	51.2	.....	76	28†	25	7	34	2.93	.....	1.46	0	13	1	17	13	e.	A. Jacobsen.
Rugby	Pierce	1,562	9	.....	.....	.....	.....	.....	.....	.....	1.85	.....	0.61	0	9	2	17	12	nw.	W. B. Paterson.
Ryder	Ward	2,108	9	.....	.....	.....	.....	.....	.....	.....	1.90	.....	0.55	0	8	13	9	9	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	.....	.....	.....	.....	.....	.....	.....	2.25	.....	0.61	0	11	9	14	8	nw.	J. B. Smith.
Steele	Kidder	1,857	44	50.6	−2.8	82	28	22	7	37	2.36	−0.31	0.49	0	11	10	9	12	ne.	R. S. Armstrong.
Tagus (near)	Ward	2,179	9	.....	.....	.....	.....	.....	.....	.....	1.57	.....	0.66	T.	8	15	7	9	nw.	G. N. Pilgard.
Towner	McHenry	1,482	36	52.5	−0.7	83	28†	23	7	38	2.04	−0.10	0.65	0	8	11	8	12	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	52.7	−0.1	86	28	26	7	35	1.37	−0.86	0.36	0	8	15	4	12	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	.....	.....	.....	.....	.....	.....	.....	2.30	−0.21	0.54	0	10	8	16	7	nw.	Adam Leno.
Velva	McHenry	1,511	11	52.8	−3.1	85	28	27	8	36	2.32	−0.31	0.76	0	8	4	15	12	nw.	Oscar Anderson.
Washburn	McLean	1,731	37	53.4	−0.4	85	28	27	6†	35	1.47	−0.82	0.39	0	10	13	5	13	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	54.2	+2.4	75	31	33	9†	37	2.72	+0.89	0.68	0	7	11	11	9	sw.	D. A. Findlay.
Willow City	Bottineau	1,471	46	50.8	−0.7	84	28	22	7	36	2.00	+0.16	0.65	0	7	12	12	7	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	52.8	+2.1	81	1†	20	6	48	1.86	−0.98	0.65	0	12	4	13	14	nw.	H. M. Larson.
Zap	Mercer	1,838	23	.....	.....	.....	.....	.....	.....	.....	1.33	−1.02	1.02	0	3	9	13	9	.....	R. A. Norton.
Average for Middle Division		.....	.....	51.9	−0.8	88	28	18	7	48	2.07	−0.12	1.46	T.	10	9	11	11	nw.	.....

Continued on page 20.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for May 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red	.35	.20	.15	T.	.05			.20					.50				.42	.20	T.	.25				.22		.39					.26	3.19
Cavalier	do																																
Cooperstown	Sheyenne	.64	.13						.02	.01				.59	T.			.24	.14	.07	.44				.55	.02	.39	T.			T.	.12	3.36
Courtenay	James	.13	.07											.35	T.			.26	.14	.09	.43		T.	.01	.45	.49					.05	.07	2.54
Devils Lake •••	Devils Lake	.51	T.				T.		.06					.30	.01	.01		.32	.22	.02	.02		.02	.01	.35		.19		.02		.15		2.21
Edgeley	James	.13	.31											.24				.39	.11	.20	.45				.02		.05				.10	.11	2.11
Edmore	Devils Lake	.65	.60	T.					.30	.01				.27	.04			.16	.02	.11	.03		T.		.24	.10	.28			.01	T.	.10	2.92
Ellendale	James	.15		.10	.05									.23				.44	.08	.07	.15		T.		.22	.13	.03				.25	.01	1.91
Fargo •••	Red	.32	T.	.11		.10			.13					.26	.04	T.		.17	.07	T.	.21		T.		.19		.33			T.	.48	.03	2.44
Forman	Sheyenne	.55	.05	.15	.09					T.				.40				.30	.14	.04	.08		T.		.41		.08				.54	.06	2.89
Fullerton	James	.33		.15		T.								.31	T.		.04	.37	.30	.41	.25		T.	.15	T		.07				.22	T.	2,60
Grafton	Red	.92							.65					.36				.06	.07	.04			.05		T.	.08	.30					.05	2.58
Grand Forks •••	do	1.99	.01	.04		.39			.95					.56	.08			.16	.09		.09		T.		.25	.07	.26				.09	T.	5.03
Hankinson ‖‖	do	.05	.18		.38	T.			T.	.18	T.			.35				.05	.95		.05	.20	.03	.03		.40	.05					.50	3.40
Hannah	Pembina	T.	.38						.43	.02				.36	T.			.13	.05	.08					.03	.08	.02					.10	1.68
Hillsboro	Red	1.10	.60	.13	.13	.30			.37	.17				.75	.07			.20	.07		.27				.56		.40					.30	5.42
Jamestown	James	.04												.35	.10			.26	.36	.06	.47	.26	.01	T.	.11	.16		.05				.15	2.38
Langdon ‖‖	Pembina		.59						.22	.31				.32				.14	.06	.11			.02		.05	.04	.12					.06	2.04
Larimore	Red	1.01	.96						.62					.37	T.			.32	.18	.12	.05				.39		.15					.06	4.23
Lisbon	Sheyenne	.26	.37		.15					.02				.19	.11			.08	.43	.07	.14	.40		.01	.05	.09	.06					.43	2.86
McHenry	James	.24	.08						T.					.32				.35	.18	.08	.16		T.		.61		.27				.07	.05	2.41
McLeod	Sheyenne	.47	.05		.42	T.			.14					.47	T.				.38		.25		.18		.09		.15				.20	.25	3.05
Mayville	Red	.47	.30	T	.04	.05				.07					.06		.17		.10		.30	T			.62	.33						.14	2.65
Oakes	James																																
Park River	Red	.82						.20	.56				.17	T.				.15	.07						.11	.40					.08		2.56
Pembina	do		.28			.11	T.		.33					.18	.01			.04	.01	.04						.01						.08	1.09
Petersburg	do	.67	.42						.34					.25	.04			.30	.27	.07	T				.33		.24					.10	3.03
Sharon	do	.81	.45	T.					.08	.03				.66	.02			.43	.20	.07	.31				.48		.40				T.	.06	4.00
Valley City	Sheyenne	.19	.06	.01					T					.81				.25	.06	.01	.54	.01	.01		.35		.48					.08	2.86
Wahpeton	Red	.19		.01	.42	.51	.01		.24	.01				.39	.01	T.		.11	.75	T.	.18	.03	.06	T.	.11	.02	.10			T.	T.	.87	4.02
Moorhead, Minn. •••	do	.44		.28		.22			.22					57	.03	T.		.22	.10		.21		T.		.26	T.	.32			T.	.69	.04	3.60
Middle Division																																	
Ashley	Missouri	.33	.08	.04										.17			.09	.35	.05	.28	.44				.28			.01			.14	.06	2.32
Bisbee	Devils Lake	.34	.84						.02	.06				.25				.24	.09	.07					.25	.08	.03			T.		.06	2.33
Bismarck •••	Missouri	.19	.01	T.	T.							T.		.08			.01	.77	.11	.66	.44		.02		.02	T	.08				.06		2.45
Bottineau	Mouse	.05	.83	.03						.05				.20		.05			.17	.13					.34	.17							2.02
Carrington ‖‖	James		.05											.05				T.	.95	.30	.05	.17			.23	.27	.55					.20	2.82
Carson	Heart	.11			.10							.05	.02	.10				.66	.09	.65	.46			.28	.25	.13					.08		2.98
Center	Missouri																	.67	.10	.19	.41		T.		T						.40		1.77
Dogden Butte	Mouse		.28			.01								.05	T			.40	.42	.15	.01		T.		.04	.01	.17						1.54
Drake ‖‖	do	T.	.12	.01										.02		T.			.40	.17	T.	T.	T.		.11	.09	.22					T.	1.14
Dunseith	do	.36	.73							.02				.19	.02	T.		.05	.10	.09			T		.33	.02	T.			.07			1.98
Eckman	do	.07	.75		T									.07	T.		T.	.17	.33	.05					.50		.01		T.				1.95
Energy	Missouri		.05									T.					T	.48	.27	.17	.23		.05		.03		.20				T.		1.48
Fessenden ‖‖	James		.09											.14		.01		T.	.50	.11	.04		.05		.16	.26	.45	.05				.22	2.08
Fort Yates	Missouri													.10			T	.50	.05	.42	.35				.02	T					.13		1.57
Foxholm (near)	Mouse	T.	.63		T.		T.							.15				.19	.55	.07			T.	T.	.15	.01	.03		T.				1.78
Gackle	James	.35	.01											.25				.48	.24	.30	.50		T.		.10		.22				.02		2.47
Garrison ‖‖	Missouri		.14											.02				.50	.44	.14	.13		.01		.08	.01	.14				T.	T.	1.61
Granville	Mouse	T.	.31		.02	.04								.12	T.		T.	.12	.69	.14				T	.23		.27				T.		1.94
Hansboro	Devils Lake	.50	.70						.14					.26		.03		.05	T.	.15					T	.22	.04		.05				2.14
Linton	Missouri	.73	.26	T.										.10			.02	.48	.05	.58	.41		T.		.05		.09				.14		2.91
McClusky	do		.13		T.									.10				.52	.34	.05	.13		.02	.02	.05	.06	.16					.18	1.76
Maddock	Sheyenne	.05	.10							.03				.21				.27	.13	.17	T.		T.		.58		.48					.27	2.29
Mandan ‖‖	Missouri	.19												.03	.08		.41	.42	.04	1.00	.16		.02	T.	T.	.05	T				.02		2.42
Manfred	James	.02	.10											.12	T.			.40	.15	.07	.08				.33		.19				.18	.16	1.80
Max ‖‖	Missouri		.28	.05		.02								.07					.84	.52	.04		T.			.16	.29						2.27
Minot	Mouse	.03	.87		.02	.02						T.		.12			T.	.15	.59	.21					.23		.18						2.42
Mohall	do																																
Napoleon ‖‖	Missouri	.20	.52	.02										.21	.02			.16	.26	.03	.70	.33			.02	.05	.07	.01	.01	.10		.10	2.81
New Salem	Heart	.05	.08		T.							.04		.04				.67	.12	.37	.51					T.	.03				.11		2.02
Pettibone	James		.24											.25				.30	.12	.19	.48		.02			T.	.21				.12		1.93
Rolla	Devils Lake	.27	1.46		T.				T.	.04				.44	T.	.01		.14	.12	.13					.21	.06	.02			.01		.02	2.93
Rugby (near)	Mouse	.16		.37						.06				.11				.14	.12	.12					.61		.16						1.85
Ryder	Missouri	.12	.08		.20													.55	.40	.05						.47	.03						1.90
Selfridge	do	.15										.12	T.				.25	.30	.10	.61	.10		.32	.10	.10						.10		2.25
Steele	do	T.	.22											.09				.46	.25	.43	.49		T.		.02	.06	.15			.04	.15		2.36
Tagus	Mouse		.27		.01	T.		T.				T.		.23			T.	.08	.66	.03			T		.12		.17				T.		1.57
Towner	do	.29	.15											.13	T.			.18	.38	.14				T.	.65		.12				T.		2.04
Turtle Lake	Missouri		.25											.03				.36	.25	.05	.24		T.		T.	.02	.17						1.37
Tuttle	do		.16	T.	T.									.12			T.	.50	.17	.36	.54		.02	T.	T.	.11	.15				.17		2.30
Velva	Mouse		.76		T									.11				.41	.46	.07			T.		.14	.01	.36					T.	2.32
Washburn ‖‖	Missouri		.11			T.								.03				.13	.39	.10	.31	.04	.04				.19					.13	1.47
Westhope	Mouse	.23	.61									T.					T.	.09	.68					.31			.39	.41					2.72
Willow City	do	.65	.27							.04				T.			T.	.20	.25	.07					.52								2.00
Wishek ‖‖	Missouri	.04	.03										.21	.01			.23	.21	.05	.65	.15					.10	.02	T.			.16		1.86
Zap	Knife											.14					T				1.02						.17						1.33
Western Division																																	
Alpha	Lit. Missouri	.44					.02					.22		.02			T.	.34	.52	.54	.58		.05	.03		.06					.10	.14	3.06
Amidon	do	.05			T					.01		.05	T.	.03			.27	.46	.58	.58	.70		.02	.02			.10				.27	.06	3.20
Beach	do	.24	.04		T.	T.	T.		.04			.06		.06			.07	.25	.33	.21	.48						.27				.04	.10	2.19
Berthold Agency	Missouri		.06									.07						.35	.45	.08			.12		.18		.22				T.		1.53
Bowman	Grand	.12	.18				T.					.12	.13	.03				.45	.45	.74	1.30	.12				.17	T.	T.			.16	T	3.97
Crosby	Mouse		.80	.64		.04								.05					.18	.60	T.					.11	.27					T.	2.69
Dickinson ‖‖	Heart		.22	.03						.01			.02	.06	T.		T.	.25	.39	.40	.69	.19		.01	.47		.12	.09			.02	T.	2.97
Dunn Center	Knife		.29															.12	.54	.47	.31	07		.03			.07	.82					2.72
Epping	Missouri		1.38	.02										.17				.12	.83	.05					.10		.18						2.85
Fairfield	Lit. Missouri	.74											T.	T.				.35	.58	.22	.23		.06	.08		.48					.06	.03	2.83
Fryburg	Heart	.33	.03		T.		T.					.01	.01				.01	.55	.69	.44	.57		.01	.21	T	.05	.28				.04	T.	3.23
Hettinger	Grand										.06						.37	.62	.25	1.12	.13	.11	.12	.10									2.88
Howard (near)	Missouri	.65	2.05	T.	T.	T.	T.	T			T.	T.		T.			T.	.52	1.28	T			T.		.02		.05		T.		T.	T.	4.57
Kenmare	Mouse	T.	.40	T.		.02								.04					.40	.65	T.				.08	.10	.19						1.88
Marmarth	Lit. Missouri	.64				.01	T.	T.	.03		.56	.02	.04				.37	.11	.68	1.05	.15		.01	T.	.23	.02	T.		T.	.26	.03	.20	4.41
Mary	do	.46	.05											.04				.24	.10	.43	.30		.02	T			.15				T.	.02	1.81
Medora	do	.10	.28	T.	T.	T.						.04		.03		.03	T.	.25	.40	.36	.58		.02	.03			.18				.07	T.	2.37
Mott	Cannon Ball	.24		.02								.06	T.	.04			.05	.37	.16	.53	.43	T.		.06	T.		.20				.01	.15	2.32
New England ‖‖	do	.06											.09				.58	.97	.38	.94	.06					.17	.07			.16		.13	3.61
Parshall	Missouri		.05	.05			T.			T.			.01	.13				.01	.80	.89	.01			.01		.10	.50						2.56
Portal ‖‖	Mouse		.54	.21															.29	.35	.03				.13	.09	.07						1.71
Powers Lake	Missouri		1.08	.16										.05				.41							.51	.79							3.00
Richardton	Heart	.31										.09					.02	.57	.34	.50	.55		.02	.03	.06		.07				T.	.10	2.66
Sanish ‖‖	Missouri		.53	.09		.02	.01							.06				.40	.47					.03			.27	.02					1.90
Stanley	do		.26	T.	.04									.09				.20	1.12	.02					.07	.04	1.01						2.85
Tioga	do	.18	.64														.01	.15	1.12	T.					.02	.29							2.41
Trotters	Lit. Missouri	.27				T.							.04					.20	.25	.27	.16			.40			.25						1.84
Watford City	Missouri	.48	.20											.05				.12	.72	.08					.08		.32						2.05
Wildrose	do	.02	1.04		.06									T.				.14	1.04	.07					.07	.03	.37				T.		2.84
Williston •••	do	.31	.34	T.	T.	T	T	T.				T.	.01	T.			T.	.04	.22				.01		.09	.15	.02				T.	T	1.19

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. •••Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. •Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	80	80	58	64	59	54	56	57	67	69	65	66	62	62	67	63	51	51	52	51	68	70	65	72	75	70	73	78	70	64	75	65.0
	Minimum	54	48	41	35	39	24	26	22	28	34	37	38	45	45	36	39	47	43	42	44	37	43	33	38	36	52	42	45	50	41	50	39.8
Beach	Maximum	72	56	55	60	57	51	55	54	67	74	66	71	68	64	66	61	49	48	58	60	64	66	60	72	76	72	81	78	66	62	75	64.0
	Minimum	52	45	40	35	33	24	24	35	32	44	48	47	44	40	36	46	43	43	43	43	40	43	37	47	45	47	50	56	43	52	44	42.0
Bismarck	Maximum	72	69	58	64	58	48	55	59	65	70	64	68	62	61	66	63	50	50	50	58	69	68	58	68	75	67	75	85	66	62	79	63.9
	Minimum	50	50	43	38	35	30	25	30	31	37	44	44	51	49	41	48	46	45	46	45	40	45	38	46	40	54	46	53	52	49	51	43.3
Bottineau	Maximum	74	64	63	52	60	50	40	49	52	66	70	64	70	60	60	64	63	57	56	59	62	72	64	56	56	68	68	73	69	80	68	62.2
	Minimum	45	50	41	33	35	27	23	28	30	44	43	40	48	43	36	40	49	46	44	46	35	47	29	41	40	49	50	50	48	48	48	41.2
Carson	Maximum	80	70	59	64	60	50	59	61	70	74	62	69	61	63	71	64	56	50	50	59	67	69	63	72	76	68	77	88	78	70	81	66.5
	Minimum	59	46	41	33	34	28	20	31	29	37	46	42	50	45	35	45	44	44	43	44	37	42	35	41	40	49	45	51	50	41	46	41.1
Crosby §	Maximum	61	53	49	53	50	39	51	53	63	71	72	72	59	59	64	64	55	49	55	66	69	63	61	63	69	75	80	81	70	64	73	62.1
	Minimum	45	46	40	33	33	27	28	31	29	32	40	42	47	47	47	40	43	44	40	36	37	37	38	43	41	47	50	54	41	44	46	40.1
Devils Lake	Maximum	53	66	58	57	44	38	48	41	62	65	62	68	61	61	63	65	56	51	59	60	72	65	55	46	68	67	72	77	66	67	75	60.3
	Minimum	44	50	43	37	29	28	27	33	36	38	40	37	45	45	39	38	45	45	46	45	39	39	32	43	40	49	45	49	45	41	52	40.8
Dickinson §	Maximum	77	61	55	60	58	45	56	55	65	72	62	71	60	61	66	62	48	47	47	59	65	67	51	69	73	71	76	82	68	58	75	62.6
	Minimum	49	50	40	30	34	26	20	28	25	33	43	43	46	43	36	42	43	43	42	43	38	41	36	39	42	48	48	53	48	47	40	40.0
Dunn Center §	Maximum	52	51	54	58	44	50	61	60	68	51	70	61	59	59	50	46	46	46	52	57	64	51	69	78	74	76	85	57	57	74	61	59.4
	Minimum	50	51	39	31	35	26	24	26	26	31	46	42	46	45	34	42	45	43	43	42	41	43	35	41	42	48	47	53	49	46	43	40.5
Fessenden §	Maximum	67	67	57	60	52	46	51	49	65	69	67	70	61	63	62	67	57	50	54	61	72	67	54	55	69	67	74	81	67	68	77	62.8
	Minimum	45	49	41	36	38	28	27	29	37	37	37	32	47	44	35	35	47	44	45	44	36	45	31	41	35	49	45	49	49	38	45	40.0
Fullerton	Maximum	74	75	65	63	53	49	52	53	67	69	63	67	63	62	67	64	52	53	56	52	70	72	59	69	74	66	64	80	70	70	76	64.2
	Minimum	54	50	46	40	42	31	27	30	37	45	38	33	45	45	38	41	46	44	45	42	38	42	33	44	41	41	44	42	54	40	48	41.5
Garrison §	Maximum	68	58	55	63	56	43	53	58	68	71	65	70	61	61	67	62	49	48	50	62	69	68	56	62	75	68	76	86	70	62	77	63.1
	Minimum	45	49	41	36	39	25	26	29	28	36	42	41	47	44	40	48	46	44	45	43	40	44	35	41	46	49	44	55	48	44	48	41.5
Grafton	Maximum	75	69	69	67	61	39	48	48	64	67	66	68	68	64	66	70	68	55	63	64	76	76	62	60	71	71	75	76	75	70	75	66.0
	Minimum	42	48	42	39	37	29	29	32	35	41	39	32	45	44	41	36	42	47	47	46	36	49	33	30	40	46	58	50	52	40	51	41.2
Grand Forks	Maximum	59	73	64	60	46	39	48	37	64	65	62	66	63	62	65	70	60	53	60	55	75	68	58	52	71	68	75	74	69	68	73	62.0
	Minimum	44	55	44	40	32	30	32	33	33	43	41	35	44	41	44	41	49	47	48	44	36	38	32	31	38	48	41	52	50	42	52	41.3
Jamestown §	Maximum	66	74	60	64	53	47	52	50	67	69	65	68	61	61	57	62	51	51	50	51	73	70	58	57	73	62	72	79	65	67	75	62.3
	Minimum	47	47	45	39	41	31	29	32	36	43	41	31	44	46	39	36	41	45	47	46	39	45	35	42	39	46	42	45	53	41	51	41.5
Kenmare	Maximum	73	61	62	51	59	54	39	51	54	63	69	68	70	60	61	65	63	52	50	55	66	67	65	48	61	73	69	76	84	69	61	61.9
	Minimum	44	50	42	34	34	26	26	30	27	32	39	44	44	44	38	37	45	45	41	38	43	50	36	40	43	46	50	56	41	46	50	40.7
Langdon §	Maximum	78	67	59	58	55	39	49	48	65	65	61	68	66	62	63	69	64	54	61	67	74	71	54	56	68	70	73	75	73	67	76	63.7
	Minimum	39	39	40	35	36	26	23	30	34	35	36	34	46	38	37	38	47	44	44	43	35	38	27	29	39	45	44	46	46	34	49	37.9
Marmarth	Maximum	75	65	58	62	60	50	58	57	68	73	59	70	58	63	66	58	51	49	48	58	66	68	66	73	77	75	80	81	68	61	68	64.2
	Minimum	50	40	34	30	30	22	36	30	43	48	48	46	42	45	53	45	45	45	43	35	40	37	46	46	47	50	57	50	50	43	44	42.6
Minot	Maximum	67	61	55	61	55	48	55	54	65	71	68	71	62	63	64	62	52	52	55	65	72	68	50	56	73	69	77	86	68	62	77	63.4
	Minimum	46	52	42	35	37	29	27	28	28	32	39	40	47	44	38	36	48	45	45	44	39	51	32	42	44	48	51	55	45	43	49	41.3
Mott	Maximum	82	68	58	66	58	53	61	60	67	72	66	69	66	62	68	61	51	50	48	57	66	65	60	74	76	70	76	88	65	62	71	65.0
	Minimum	51	49	40	33	32	28	18	29	24	31	47	45	49	45	35	45	44	43	43	44	31	44	35	40	41	43	47	53	50	42	45	40.2
Pembina	Maximum	69	73	65	62	55	37	48	43	67	64	64	63	63	68	68	71	65	59	67	69	78	70	61	54	70	74	78	75	67	70	76	64.9
	Minimum	42	50	42	39	34	29	30	33	35	38	37	32	44	40	36	35	49	49	47	41	38	49	29	30	40	48	43	50	52	39	51	40.4
Sharon	Maximum	63	69	60	57	51	37	50	43	64	64	61	65	59	61	64	67	53	50	54	53	72	65	56	50	67	64	70	72	64	66	75	60.2
	Minimum	44	52	42	35	34	26	24	32	35	41	41	33	44	38	39	35	46	44	44	46	34	45	32	42	37	47	43	49	51	40	49	40.1
Steele	Maximum	75	75	52	62	52	41	56	52	64	69	65	69	60	60	60	59	58	50	48	59	65	60	57	58	70	66	75	82	76	58	75	62.2
	Minimum	45	50	39	35	39	27	22	24	27	35	35	37	47	44	32	37	44	44	44	44	34	39	32	41	33	54	38	48	49	40	49	39.0
Valley City	Maximum	77	75	73	60	60	47	50	50	67	68	64	65	65	62	65	65	65	54	54	54	73	70	63	56	69	69	70	75	73	66	72	64.4
	Minimum	47	51	46	40	41	29	28	36	38	41	42	30	46	44	38	33	47	45	46	48	48	46	34	43	42	51	44	45	54	44	52	42.5
Wahpeton	Maximum	81	75	75	59	56	46	47	44	65	69	66	64	64	65	67	68	65	59	57	55	71	73	59	58	70	70	70	72	72	72	72	64.7
	Minimum	54	55	49	44	36	29	29	32	37	47	40	35	44	42	41	49	49	46	47	46	39	45	35	45	42	51	52	51	57	46	55	44.2
Williston	Maximum	68	57	52	57	55	40	52	53	64	70	64	71	59	60	65	60	50	50	53	65	69	65	63	62	75	75	81	81	67	61	72	62.5
	Minimum	52	45	40	35	32	31	30	38	32	42	49	48	46	45	38	47	46	44	43	45	43	47	44	47	49	51	55	51	43	50	49	43.8
Moorhead, Minn.	Maximum	64	75	63	58	48	40	45	39	65	67	60	64	62	62	65	69	55	56	54	54	72	72	56	50	69	60	71	72	68	72	71	61.2
	Minimum	50	56	49	44	33	30	33	32	38	47	42	36	44	44	45	40	49	47	48	47	41	44	36	44	37	50	46	52	55	45	55	43.8

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing, ᵇ 2 days, etc

Climatological Data for May 1938—Continued from page 18.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	......	......	......	......	......	......	......	3.06	+0.63	0.58	0	13	12	13	6	nw.	H. A. Bury.
Amidon	Slope	......	31	52.4	−0.4	86	1	24	6†	39	3.20	+0.68	0.70	0	14	12	11	8	se.	J. G. Jacobson.
Beach	Golden Valley	2,759	15	53.0	+1.6	81	27	24	6†	35	2.19	−0.13	0.48	T.	13	1	23	7	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	52.2	−1.9	87	28	20	7	42	1.53	−0.71	0.45	0	8	15	6	10	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	50.6	−1.6	81	1	18	7	32	3.97	+1.68	1.30	0	12	18	1	12	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	29	51.1	−0.1	81	28	27	6	39	2.69	+0.75	0.80	0	8	4	14	13	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	51.3	−0.9	82	28	20	7	40	2.97	+0.64	0.69	0	15	5	19	7	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	50.0	−2.7	85	27	24	7	42	2.72	+0.33	0.82	0	9	7	15	9	nw.	O. T. Evenson.
Epping	Williams	2,224	27	52.9	+0.1	82	28	26	7	33	2.85	+0.67	1.38	0	8	14	9	8	nw.	T. Beachler.
Fairfield	Billings	......	1	......	......	......	......	......	......	......	2.83	......	0.74	0	10	12	14	7	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	51.8	......	81	28	25	6	37	3.23	+0.84	0.69	T.	14	4	17	10	nw.	Verne King.
Hettinger	Adams	2,675	30	52.6	−1.0	88	28	19	7	......	2.88	+0.50	1.12	0	8	......	......	......	......	Roger Otos.
Howard ‡‡ (near)	Williams	2,275	30	50.5	+0.7	82	28	26	6	34	4.57	+2.30	2.05	T.	6	9	9	13	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	51.3	......	84	29	26	6	43	1.88	−0.08	0.65	0	8	4	15	12	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	53.4	+2.2	81	28	22	6	32	4.41	+2.09	1.05	T.	17	4	10	17	nw.	S. P. Grane.
Mary	McKenzie	......	9	......	......	......	......	......	......	......	1.81	......	0.46	0	10	11	11	9	nw.	Fred Hartman.
Medora	Billings	2,271	22	......	......	......	......	......	......	......	2.37	−0.19	0.58	0	13	8	17	6	nw.	Vernon Thompson.
Mott	Hettinger	2,424	30	52.6	−0.9	88	28	18	7	43	2.32	−0.08	0.53	0	13	3	19	9	n.	W. M. Hendricks.
New England	Hettinger	2,400	43	52.8	+0.8	87	28	19	5	42	3.61	+1.63	0.97	0	11	6	10	15	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	50.0	......	85	28	18	17	47	2.56	+0.39	0.89	T.	11	3	22	6	nw.	C. E. Shubert.
Portal	Burke	1,954	32	51.0	+0.5	81	28	25	6†	34	1.71	−0.35	0.54	0	8	8	9	14	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	32	50.8	−2.4	77	31	25	6	34	3.00	+0.82	1.08	0	6	15	13	3	e.	Geo. B. Gee.
Richardton	Stark	2,467	21	51.6	−1.0	82	28	25	7	31	2.66	+0.08	0.57	0	12	4	15	12	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	52.6	−2.4	85	28	21	7	41	1.90	+0.63	0.53	0	10	4	18	9	uw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	50.0	......	82	28	25	6†	37	2.85	......	1.12	0	9	6	17	8	nw.	LeRoy Edwards.
Tioga	Williams	2,279	9	......	......	......	......	......	......	......	2.41	......	1.12	0	7	11	12	8	nw.	B. V. Olson.
Trotters	Golden Valley	......	12	......	......	......	......	......	......	......	1.84	......	0.40	0	8	1	6	24	nw.	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	54.2	+1.5	83	30	27	7	39	2.05	+0.08	0.72	0	8	4	21	6	nw.	J. C. Zeller.
Wildrose	Williams	2,258	10	......	......	......	......	......	......	......	2.84	......	1.04	0	9	7	12	12	nw.	L. Holter.
Williston	Williams	1,878	58	53.2	−0.8	81	28	30	7	32	1.19	−0.87	0.65	T.	9	5	17	9	se.	U. S. Weather Bureau.
Average for Western Division		......	......	51.8	−0.6	88	28	18	7†	47	2.66	+0.46	2.05	T.	10	7	14	10	nw.	......
Average for the State		......	......	52.0	−1.4	88	28	18	7†	48	2.55	+0.24	2.05	0.2	11	8	12	11	nw.	......

[WBO, Minneapolis, 6-24-38—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

VOL. XLVII BISMARCK, N. D., JUNE 1938 No. 6

GENERAL SUMMARY

The fore part of June was rather dry and top soil needed moisture generally. Rapid progress was made during the first decade in planting corn, flax and potatoes. Showery weather on the 9th and 10th greatly improved conditions. During the second decade showers occurred on the 11th, 15th and 20th, and during the last decade generous showers and rains occurred on the 23d, 24th, 25th, 28th, 29th, and 30th, and at the close of the month ideal soil conditions prevailed. Grasshoppers, however, did considerable damage, especially in southern counties. Mormon crickets were numerous in that district, and black stem rust made its appearance in several parts of the State. Tame and wild grasses were excellent, and ranges and pastures afford abundant feed for livestock, which are in excellent condition.

TEMPERATURE

The mean temperature for the State was 64.2°, or 1.1° above the 1892-1938 average for June. The mean for the eastern division was 63.8°; for the middle division, 64.1°; for the western division, 64.7°. The highest mean temperature was 67.6° at Wahpeton, and the lowest, 60.4° at Hannah, making a range in mean temperature of 7.2°. The absolute range in temperature was 72°, from 99° at Washburn on the 21st, to 27° at Mayville on the 8th. The average daily excess in temperature for the State since January 1, 1938, is 1.9°.

PRECIPITATION

The average precipitation for the State was 2.73 inches, or 0.66 inch less than the 1892-1938 average for June. In the eastern division the average amount was 1.82 inches; in the middle division, 2.87 inches; and in the western division, 3.49 inches. The greatest monthly amount reported was 6.52 inches at Fryburg; the least was 0.54 inch at Hannah. The greatest amount recorded in any 24 consecutive hours was 2.20 inches at Willow City on the 20th. The accumulated deficiency in precipitation since January 1, 1938, is 0.72 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	1	..	..
Dust storms	..	..	..	..	1	4	..	..	1	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Fogs	2	..	..	..	..	..	..	1	3	..	1	2	..	1	5	7	1	..	..	..	1	1	..	..	..	..	..	..	1	17	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..
Hail	..	..	2	..	..	5	..	1	1	2	..	..	..	1	..	1	..	..	4	1	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	7	10	..	..	7	..	4	9	5	..	..	6	8	..	..	3	5	7	18	6	6	10	9	1	..	3	9	9	12	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.91	30.22	12	29.37	9	9.9	37	w.	30	79	48	44	57
Devils Lake	29.94	30.22	26	29.51	14	9.0	30	s.	20	84	52	53	64
Williston	29.90	30.28	25	29.40	9	8.5	30	nw.	6	78	48	47	65
Moorhead, Minn	29.93	30.22	12	29.44	9	8.5	33	nw.	6	81	56	57	67
Averages & ext's	29.92	30.28	25	29.37	9	9.0	37	w.	30	80	51	54	63

† And other dates.

COMPARATIVE DATA FOR JUNE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	60.5	94	28	3.59	4.44	2.03	3.35	0	8	11	9	10
1893	67.4	103	33	3.25	4.28	2.60	3.38	0	9	13	10	7
1894	68.8	103	25	4.08	2.31	3.93	3.44	0	7	17	6	7
1895	59.7	97	29	5.37	4.54	4.11	4.67	0	12	8	13	9
1896	65.6	97	37	3.06	4.33	4.68	4.02	0	9	16	9	5
1897	61.7	109	20	4.40	4.40	2.45	3.75	0	9	11	10	9
1898	62.6	105	26	3.17	3.21	3.18	3.19	0	9	10	10	10
1899	62.2	105	30	3.20	4.25	3.98	3.81	0	10	12	11	7
1900	66.9	109	27	1.59	1.54	1.04	1.39	0	5	15	11	4
1901	61.6	95	22	7.20	5.31	5.90	6.14	0	15	10	11	9
1902	58.0	97	28	3.67	3.75	3.53	3.65	0	11	12	9	9
1903	62.4	96	27	1.02	1.52	1.78	1.44	0	4	17	8	5
1904	61.4	100	30	5.95	5.92	4.82	5.56	0	11	13	8	9
1905	59.7	97	32	4.49	4.64	3.87	4.33	0	12	10	7	13
1906	62.0	95	32	3.80	4.21	6.34	4.78	0	11	13	8	9
1907	61.9	95	25	3.47	2.53	2.80	2.93	0	10	12	10	8
1908	60.4	93	27	2.91	3.63	3.70	3.41	0	10	12	9	9
1909	62.9	98	28	3.94	2.49	3.92	3.45	0	10	12	11	7
1910	67.3	111	19	1.26	1.85	3.00	2.04	0	6	16	9	5
1911	66.9	108	25	3.13	3.42	2.61	3.05	0	9	13	10	7
1912	61.8	104	28	2.27	2.11	1.65	2.01	0	6	16	8	6
1913	65.8	101	27	2.85	1.98	2.52	2.45	0	8	16	9	5
1914	62.2	93	29	5.67	7.13	6.64	6.48	0	13	9	11	10
1915	56.7	94	20	5.59	5.11	3.73	4.81	0	12	9	12	9
1916	58.0	92	29	4.06	3.51	4.05	3.87	0	11	10	11	9
1917	59.7	103	19	2.38	1.88	1.96	2.07	0	8	13	11	6
1918	63.3	102	27	2.23	1.53	0.97	1.58	0	7	14	11	5
1919	67.2	108	22	3.15	1.99	1.50	2.21	0	5	15	10	5
1920	62.2	98	26	3.64	3.74	3.20	3.53	0	11	12	12	6
1921	68.2	108	30	3.28	2.83	4.74	3.62	0	9	14	10	6
1922	63.5	108	30	3.38	3.55	4.44	3.79	0	9	15	8	7
1923	66.1	100	30	4.79	2.83	4.21	3.94	0	8	13	12	5
1924	58.6	89	26	3.45	4.51	4.17	4.04	0	11	10	12	8
1925	61.5	98	30	7.72	5.43	4.84	6.00	0	14	11	10	9
1926	60.7	104	22	2.66	2.47	2.71	2.61	0	9	13	9	8
1927	61.2	99	22	3.81	2.34	2.30	2.82	0	9	11	13	6
1928	58.2	92	24	4.83	5.30	4.53	4.89	0	12	10	10	10
1929	61.4	98	21	1.10	1.10	2.12	1.44	0	7	16	9	5
1930	63.3	96	30	2.31	3.42	3.53	3.09	0	10	13	11	6
1931	68.4	110	27	2.93	2.05	2.07	2.35	0	8	14	10	6
1932	67.0	98	34	3.33	3.61	4.83	3.92	0	10	14	10	6
1933	70.7	110	33	1.99	1.66	1.67	1.77	0	7	18	10	2
1934	64.3	100	29	3.74	2.85	2.54	3.04	0	11	12	10	8
1935	60.3	99	25	3.65	2.70	2.77	3.04	T.	10	11	12	7
1936	66.4	110	28	1.41	1.40	1.20	1.34	0	6	16	10	4
1937	63.5	109	25	3.04	5.62	3.43	4.03	T.	7	15	9	6
1938	64.2	99	27	1.82	2.87	3.49	2.73	0	9	11	11	8
Period	63.1	111	19	3.48	3.36	3.32	3.39	T.	9	13	10	7

Climatological Data for June 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	64.8	+1.4	95	21	32	8	37	0.95	−2.76	0.45	0	3	2	17	11	sw.	I. Idso.
Cavalier	Pembina	894	28	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Burke Bechtel.
Cooperstown	Griggs	1,428	41	60.8	−1.6	87	20	35	8	39	1.61	−1.72	0.53	0	10	20	6	4	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	......	......	......	......	......	......	......	2.20	......	0.62	0	7	3	20	7	nw.	Alfred Woiwode.
Devils Lake	Ramsey	1,471	41	62.9	+1.0	95	21	37	7	37	1.36	−2.20	0.67	0	9	8	9	13	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	37	65.4	+2.5	97	21	33	8	46	1.79	−1.87	0.78	0	9	7	20	3	se.	O. A. Thompson.
Edmore	Ramsey	1,524	14	61.7	−1.3	94	21	32	7†	41	1.41	−1.45	......	0	9	10	8	12	......	A. G. Braund.
Ellendale	Dickey	1,457	43	66.4	+0.4	95	21	37	8	47	3.10	−0.18	1.40	0	6	15	9	6	s.	J. E. Demmer.
Fargo	Cass	895	2	64.4	......	94	21	35	8	39	0.77	−2.93	0.28	0	8	7	12	11	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	65.0	+0.2	92	21	36	8	40	3.55	+0.06	1.17	0	9	19	6	5	ne.	Helge Dyste.
Fullerton	Dickey	1,439	40	66.2	+2.8	98	21	37	8	46	2.04	−1.73	1.00	0	7	15	11	4	nw.	F. O. Alin.
Grafton	Walsh	827	46	64.0	+1.2	92	21	32	8	43	2.65	−0.75	1.09	0	11	1	18	11	se.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	63.2	+0.2	93	21	34	8	40	2.07	−1.28	0.75	0	8	4	14	12	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	9	64.0	......	97	21	38	7†	52	1.83	......	0.70	0	6	17	4	9	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	60.4	+0.5	92	20	30	8	40	0.54	−2.85	0.16	0	5	......	......	......	......	James Muir.
Hillsboro	Traill	901	32	65.1	+0.9	92	20	36	8	37	0.91	−2.46	0.25	0	5	16	4	10	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	46	65.0	+1.8	97	20	36	8	39	2.50	−1.11	0.82	0	11	14	12	4	e.	S. Calvelage.
Langdon	Cavalier	1,615	42	61.8	+1.9	92	21	31	7	40	1.20	−2.20	0.22	0	11	9	14	7	ne.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	63.7	+1.3	92	20†	36	8	40	0.87	−2.99	0.30	0	7	11	5	14	se.	Mabel Walsh.
Lisbon	Ransom	1,091	34	65.6	+2.1	96	21	32	7	50	4.07	+0.23	2.12	0	10	14	10	6	ne.	J. O. Halverson.
McHenry (near)	Eddy	1,509	16	61.6	−0.6	92	21	32	8	45	2.42	−0.97	0.90	0	10	11	10	9	nw.	C. E. Blasky.
McLeod	Ransom	1,075	27	65.1	+0.6	95	21	35	8	42	1.59	−2.42	0.46	0	8	19	5	6	se.	J. G. Carlson.
Mayville	Traill	975	42	61.4	−2.6	93	21	27	8	45	0.77	−2.58	0.26	0	6	13	9	8	n.	H. B. Addicott.
Oakes	Dickey	1,318	9	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	S. F. Rossman.
Park River	Walsh	998	34	62.0	−0.9	91	20	33	8	40	2.58	−0.81	0.75	0	8	11	7	12	nw.	E. J. Taintor.
Pembina	Pembina	789	64	62.9	+0.2	90	21	32	8	48	3.20	−0.13	1.50	0	9	12	10	8	nw.	E. N. Russell.
Petersburg	Nelson	1,520	8	......	......	......	......	......	......	......	0.93	......	0.30	0	8	10	12	8	se.	T. M. Rykken.
Sharon	Steele	1,516	14	62.4	−1.2	95	21	35	7†	41	0.91	−2.82	0.46	0	7	9	12	9	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	64.6	+1.5	92	20	35	8	45	2.35	−1.11	0.85	0	10	19	5	6	nw.	I. C. Robertson.
Wahpeton	Richland	962	46	67.6	+2.5	96	21	36	8	35	1.46	−2.25	0.55	0	9	11	10	9	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	64.8	+0.4	93	21	40	8	39	1.04	−3.01	0.47	0	9	7	12	11	s.	U. S. Weather Bureau.
Average for Eastern Division		......	......	63.8	+0.6	98	21	27	8	52	1.82	−1.66	2.12	0	8	11	10	9	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	42	64.5	+2.1	96	21	35	8	44	5.07	+1.83	2.10	0	11	16	5	9	se.	R. C. Miles.
Bisbee	Towner	1,601	2	61.4	......	92	21	36	8	37	1.42	......	0.36	0	10	14	7	9	n.	I. K. Lund.
Bismarck	Burleigh	1,670	64	66.8	+3.1	96	21	41	8	42	3.17	−0.18	1.23	0	15	9	11	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	62.4	+1.1	91	21†	36	7	40	2.21	−1.11	1.16	0	11	19	0	11	e.	N. D. School of Forestry
Carrington	Foster	1,579	40	63.8	+0.8	97	21	35	25	39	1.12	−2.40	0.40	0	5	8	6	16	nw.	Soo Line Agent.
Carson	Grant	2,500	26	67.4	+5.0	98	21	39	8†	41	4.06	+0.56	1.51	0	11	6	16	8	nw.	J. W. Evens.
Center	Oliver	......	0	65.5	......	93	21	34	8	46	3.07	......	1.12	0	8	20	4	6	se.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	63.6	+0.9	91	21	37	10	38	3.13	−0.12	1.24	0	11	11	9	10	nw.	R. L. Williams.
Drake	McHenry	1,634	9	63.2	......	95	21	34	8	41	1.58	......	0.54	0	9	7	15	8	nw.	Peter Anton.
Dunseith	Rolette	1,682	42	62.6	+1.7	92	21†	36	12	44	1.11	−2.01	0.40	0	6	11	11	8	n.	Geo. Gehres.
Eckman	Bottineau	1,500	33	62.5	+0.9	97	21	32	8	44	0.70	−2.30	0.30	0	9	7	16	7	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	65.6	+1.1	96	21	37	8	43	5.45	+2.05	1.40	0	8	11	17	2	se.	H. S. Solenberger.
Fessenden	Wells	1,610	26	63.2	+1.5	98	21	35	8	44	1.89	−1.80	0.65	0	12	7	14	9	ne.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	67.3	+1.1	98	21	35	9	48	1.98	−1.48	1.22	0	7	15	6	9	se.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	63.0	+0.9	95	21	35	10	38	1.28	−1.81	0.35	0	14	7	13	10	se.	E. C. Bierbaum.
Gackle	Logan	1,951	8	65.1	......	95	21	39	8†	38	2.59	......	1.29	0	6	14	10	6	ne.	A. H. Haut.
Garrison	McLean	1,901	61	64.0	+1.8	94	21	40	10	39	3.95	+0.41	1.32	0	9	15	4	11	se.	E. L. Vorachek.
Granville	McHenry	1,504	31	63.2	+1.0	92	21	34	8	44	3.28	+0.06	1.15	0	11	11	9	10	se.	W. A. Christianson.
Hansboro	Towner	1,597	30	61.6	+1.2	96	21	36	8†	40	0.81	−2.57	0.44	0	4	11	11	8	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	66.4	+2.1	98	21	31	8	46	3.10	−0.06	1.70	0	9	14	13	3	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	64.8	+2.6	95	21	39	8†	38	3.23	−0.14	1.07	0	8	16	7	7	se.	Edw. Tapley.
Maddock	Benson	1,604	23	63.2	+2.1	94	21	34	8	43	2.14	−1.23	0.56	0	8	8	9	13	ne.	A. T. Felland.
Mandan	Morton	1,750	24	66.5	+3.2	96	21	38	8	45	3.11	−0.18	1.00	0	11	11	6	13	se.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	......	......	......	......	......	......	......	2.60	−0.97	0.94	0	8	......	......	......	......	P. B. Anderson.
Max	McLean	2,093	9	63.0	......	94	21	38	4	41	4.35	......	1.55	0	10	13	8	9	se.	A. W. Rice.
Minot	Ward	1,557	42	64.5	+2.2	93	21	37	10	39	2.49	−0.71	0.68	0	12	11	1	18	se.	Mark. M. Chatfield.
Mohall	Renville	1,646	44	......	......	97	21	......	......	......	......	......	......	......	......	......	......	......	......	John Behan.
Napoleon	Logan	1,955	46	64.2	+1.8	94	21	34	8	45	4.52	+1.23	1.20	0	12	13	4	13	nw.	C. J. Hoof.
New Salem	Morton	2,163	34	64.4	+1.5	94	21	35	8	45	4.79	+1.32	1.20	0	8	17	8	5	se.	J. Christianson.
Pettibone	Kidder	1,856	29	64.1	+2.6	95	21	34	11	42	1.55	−1.70	0.85	0	6	8	9	13	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	62.0	......	94	21	38	8	38	1.61	......	0.60	0	10	9	11	10	se.	A. Jacobsen.
Rugby	Pierce	1,562	9	......	......	......	......	......	......	......	2.76	......	0.90	0	10	9	14	7	nw.	W. B. Paterson.
Ryder	Ward	2,108	9	......	......	......	......	......	......	......	3.55	......	0.85	0	10	17	6	7	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	......	......	......	......	......	......	......	5.39	......	1.90	0	10	6	17	7	se.	J. B. Smith.
Steele	Kidder	1,857	44	63.7	+1.2	98	21	34	11	43	2.71	−0.80	1.50	0	6	14	7	9	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	9	......	......	......	......	......	......	......	1.95	......	0.45	0	10	15	8	7	se.	G. N. Pilgard.
Towner	McHenry	1,482	36	63.8	+1.0	96	21	35	8	43	3.13	−0.02	0.72	0	8	13	10	7	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	65.5	+3.7	96	21	39	4	40	3.35	−0.29	0.96	0	9	21	3	6	se.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	......	......	......	......	......	......	......	2.40	−0.94	1.39	0	7	12	11	7	se.	Adam Leno.
Velva	McHenry	1,511	11	64.4	−0.1	93	21	39	10	40	2.33	−0.11	0.68	0	8	7	15	8	nw.	Oscar Anderson.
Washburn	McLean	1,731	37	66.3	+3.2	99	21	43	11	35	4.77	+1.38	1.88	0	8	16	6	8	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	62.9	+0.9	98	21	34	9	41	1.18	−1.85	0.36	0	8	7	14	9	se.	D. A. Findlay.
Willow City	Bottineau	1,471	46	61.6	+0.6	92	21	32	8	45	3.35	+0.20	2.20	0	8	13	11	6	se.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	64.0	+1.7	93	21	33	8	44	3.94	+0.94	1.47	0	15	1	20	9	nw.	H. M. Larson.
Zap	Mercer	1,838	23	......	......	......	......	......	......	......	4.17	+0.23	1.30	0	9	16	10	4	......	R. A. Norton.
Average for Middle Division		......	......	64.1	+1.7	99	21	31	8	48	2.87	−0.49	2.20	0	9	12	9	9	se.	......

Continued on page 24.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for June 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
menia	Red			.15										.35							T.				.45								0.95
avalier	do																																
ooperstown	Sheyenne			.08			.08			.27		T.	.06		.01		T.			.03	.53				.40			.08	.07				1.61
ourtenay	James						T.			.20				.62						.33	.09				.59			.23	.14				2.20
evils Lake ***	Devils Lake		T.	T			.06			.25	.05	T.		T.	.08	.01	T.			.02	T			T.	.14			.66	.09	T.			1.36
dgeley	James			.15			.03			.21	.23	.08									.04				.78	.04					.23		1.79
dmore	Devils Lake			.14			T.			.24	.02	.01		T.	T.		T.			*					*			1.00					1.41
llendale	James						.05			1.40	.15				.11										.96						.48		3.10
argo ***	Red		.06	.22			.06			.10	.02	T.			.06	T.	T.				.01				.24				T.	T.			0.77
orman	Sheyenne			.38						.70	.03	.01			.07	.03				1.17					.51				T.		.65		3.55
ullerton	James			.06			.05			.26	.40	T.			.07				T.	.20					1.00				T.				2.04
rafton	Red			.04						.58	.09		.06	.09	.07	.12				1.09	.24				.05			.22					2.65
rand Forks ***	do		.45							.38	.03	.06		T.	.75	.10					T.	T.			.25			.05	T.	T.			2.07
Hankinson ||||	do			.55			T		.70	T.	.03				.01											.09			T.		.45		1.83
Hannah	Pembina				.12					.12		T.			.16	.06				T.	T.	.08			T				T.				0.54
Hillsboro	Red			T.						.25		.08	.18									.25			.15				T.				0.91
Jamestown	James		.41							.23	.03			.03	.21							.04			.52	.82			.03	.17	.01		2.50
Langdon ||||	Pembina			.07	.02					.19	.05	.18			.18	.02				.18		.22			.06				.03				1.20
Larimore	Red	.04		.02						.30				.07	.05							.14			.25								0.87
Lisbon	Sheyenne			.44						.22		.08	.03			.33	T.		2.12						.23	.24				.10	.28		4.07
McHenry	James			.05			.13			.19				.14						.19	.90				.50			.10	.21	.01			2.42
McLeod	Sheyenne			.41						.39		.04								.04					.46	.06				.04	.15		1.59
Mayville	Red									.07	T.	.06	.10		T.	T.						.25			.26			T.	.03				0.77
Oakes	James																																
Park River	Red								.32	.38				.35	T.					.43	.75				.10			.02			.23		2.58
Pembina	do									.12	.17	.03								1.50	1.03	.23			.02				.02	.08			3.20
Petersburg	do			.01						.30	T.			.06	.05						.21				.20			.05	.05				0.93
Sharon	do	T.		T.			.06			.26	.06	T.		T.	.01						.04				.46			.02	T.	T.			0.91
Valley City	Sheyenne			.20						.20		.03			.19					.11	.85				.65	.01		.01	.10				2.35
Wahpeton	Red			.34			.05	T.		.55	.01	.01				.01	T.							T.	.17	.10			T	T.	.22		1.46
Moorhead, Minn. ***	do		.07	.40			.06			.16	.01	.01			.15	T.	T.								.17				.01	T.			1.04
Middle Division																																	
Ashley	Missouri						.06			2.10	.05	.29			.05					.14				.51	1.24	.04		.21			.38		5.07
Bisbee	Devils Lake			.06						.36	.24				.30	.01					.04			.03	.11			.03	.24				1.42
Bismarck ***	Missouri		.24	T			.02		.01	.02	T.			T.	.20	T.			.11	.01	.09		.23	.16	1.07			.20	.24	.07	.50		3.17
Bottineau	Mouse			.04	.02			.02		.23	.29	.01				.06						1.16			.23	.04			.11				2.21
Carrington ||||	James									.12	.05				.40	T.	T.				T.								.38	.17	T.		1.12
Carson	Heart						.12				.15				.51				.47	.20			.05	.05	1.51				.06	.09	.85		4.06
Center	Missouri		T.				.07		.42					.38									.24	.08	1.12				.13		.63		3.07
Dogden Butte	Mouse			T.			.02	T		.45	.04				.19	T			.04	.01	.19		.18	T.	.70			T.	.07	T.	1.24		3.13
Drake ||||	do				T.			.01		.30	.07	.01	T.			.37						T		T.	.54	.16			.10		.02		1.58
Dunseith	do			.12			T				.07				.18						.40				.22				.12				1.11
Eckman	do			.04			T.			.30	.02	.02			T.					T.	.01			.10	.11			.08	.02				0.70
Energy	Missouri						T.			1.33					.20								1.40	.75	1.35			.08	.10	.24			5.45
Fessenden ||||	James				T			.02		.24	.04	.01				.26					.03	.09			.65	.15			.28	.10	.02		1.89
Fort Yates	Missouri										.18				T.				.18	.14			T.	.03	1.22				.11	.12			1.98
Foxholm (near)	Mouse		.03	.03			.09			.15	.33	.03		.02	.04			T.		.04	T.		.07	.01	.35			T.	.03	.06			1.28
Gackle	James			.50			T			.41	.20													.05	1.29				.14		T.		2.59
Garrison ||||	Missouri	.04	T							.69	T				.14						1.32		.50	.16	.84			.22	.04	T			3.95
Granville	Mouse	.03	T.					T.		.62	1.15			T	.28				.10	.04	.29		.07	T.	.42			.24	.04	T.	T.		3.28
Hansboro	Devils Lake	T.								.33		.03			.44	T.					T.			T.	T.				.01				0.81
Linton	Missouri						.07			T.	.26				.12				.11	.17			.05		1.70				.60		.02		3.10
McClusky	do						T			.59					.93	.01			.10				.19		1.07			.30	.04				3.23
Maddock	Sheyenne			T			.11			.20					.18	.08				.34	T.				.43			.24	.56	T.	T.		2.14
Mandan ||||	Missouri		.04			T.	T.			T.	T.		.01	T.	.19			.11	T.		T.		.36	1.00	.67		.04	.22	.04	T.	.43		3.11
Manfred	James						.03			.21	.05				.92	.02					T				.94			.24	.19	T			2.60
Max ||||	Missouri							.02		.85	.06	.09				.16						.05		.72	1.55	.06			.79				4.35
Minot	Mouse		T.	T	.01		.30			.36	T.				.11					.12	.68		.08	.01	.49			T.	.06	.03	.24		2.49
Mohall	do																																
Napoleon ||||	Missouri			.20				T		.78		.22			.64	02				.01				.20	1.20	.05		.03	1.05	.12			4.52
New Salem	Heart									T	.01				.67				.21	.05			1.19	T.	1.20				1.02	.44			4.79
Pettibone	James									.25					.10					.13					.85			.02	.20				1.55
Rolla	Devils Lake		.03	T.			T.			.34	T.	.03			.60	.01	T.				.03	.40		.01	.08				.08	T	T.		1.61
Rugby (near)	Mouse			.08			.03			.39	.23				.30						.42				.21			.90	.19	.01			2.76
Ryder	Missouri		.01	T.					.40	.03											.33		.54	.72	.06			.52	.09		.85		3.55
Selfridge	do			T.		.03						.04		T.	T.			.50	.27				.15	1.90	.05			.30		1.25	.90		5.39
Steele	do		T.	.02			T			.37				T	.19				.30						1.50				.33				2.71
Tagus	Mouse						.09			.10	.25			T.	.11					.45			.12	.11	.24				.28	.20			1.95
Towner	do		T.	.05			T.			.52	.46				.39						.12		T		.25			.62	.72				3.13
Turtle Lake	Missouri						T.			.58					.85	.02	T			.16	T		.40	T.	.96			.30	.06	.02			3.35
Tuttle	do		T.	T.						.63	T.			T.	.15	.02			T.	T.	.10		T.		1.39			.04	.07	T.	T.		2.40
Velva	Mouse			T.			.23			.61	.24					.08				T.	.13		.19		.68			T.	T.		.17		2.33
Washburn ||||	Missouri									.74	T.				.03	.33						T.		.56	.90	.31		.02	1.88				4.77
Westhope	Mouse			T			T.			.36	.05	T.			.05						T.			.26	.22			.02	.03		.19		1.18
Willow City	do		T.							.35	.02				.10						2.20	T.	T.	.13	.12			.39	.04	T			3.35
Wishek ||||	Missouri					.09			.13		.40			.22	.12	T.			.03		.10		.37	1.47	.03		.05	.21	.01	.09	.62		3.94
Zap	Knife								1.30						.28				.04		.05		.88	.93				.09	.17		.43		4.17
Western Division																																	
Alpha	Lit. Missouri						.06			.51	.01				.42			.08	T.	.17	.60			.36	.80	.05	T	.03	.13				3.22
Amidon	do	.03					.17			1.14	.25	.01			1.01				1.22	.10			T.	.04	1.57		T.		.04				5.58
Beach	do	.03					.05			.18	.06	.01			.13					.14				.12	.61				.05	.33	.86		2.57
Berthold Agency	Missouri						.12			.45	.04				.18						.75		.55	.10	1.18			.17		.02	.38		3.89
Bowman	Grand	.20					T.					T.			.19	.70			.45	.42	.03		T.		1.51	.12			1.27	.04	.06		4.99
Crosby	Mouse	.02						.04		.20	.15									.21				.13	.30				1.15				2.20
Dickinson ||||	Heart	.35		T.	T.	T.	.01			1.12		.03		T	.09	.25	.05		.21	.38				.41	1.70	.07			T.	.03			4.70
Dunn Center	Knife									.47						.14	.13		.20	.04	.15	.04		.52	1.20	.08			.58	.01	.13		3.69
Epping	Missouri									.37	.02					.12							.24	1.32	.13					.30			2.50
Fairfield	Lit. Missouri						T.			.25	.09				.12	.08		1.20	.18	.41			.06	1.58	.24				.25	1.04			5.50
Fryburg	Heart				T.		T			.84	.24				.40				.49	.30				.31	1.01			T.	.34	.39	2.10		6.52
Hettinger	Grand														.13		.29			.81				.03	1.05	.07			.08	.06			2.52
Howard (near)	Missouri					T	T.	T.		.31				T		.12								.86	.07			T		T.	1.64		3.00
Kenmare	Mouse			.04				.08		.04	.11	.17			T.	.03				.22				.10	.58	.09			T.		.05		1.51
Marmarth	Lit. Missouri								.19		.05			.35	.32		T.		.20	.13		.07	.07	.70	.01			.32	.02		.52		2.95
Mary	do									.26	.41			.01	.05			.15		.16	.25		.08		.66						.75		2.78
Medora	do						T.			.30	.04				.61			.59		.13	.17			.22	1.77		T	.02	.19	.03	1.25		5.32
Mott	Cannon Ball						.12				.07				.94			.23	1.76	.22			.04	1.36	.90	.03		T.	.11	.15	.21		6.14
New England ||||	do					.16			.34		.13			.06	.35	.01		.29	.12				.05	1.26	.02			.49			.63		3.91
Parshall	Missouri			.01				T.	T.	.04	.01	.05			.35	.15			.05	T.				.73	1.22	.38			.92		.08		3.99
Portal ||||	Mouse			.06			.03			.40										.17				.10	.70	.01							1.47
Powers Lake	Missouri					.04								.40									.94	.63	.12					1.21			3.34
Richardton	Heart						.01			.31	.10				.74	.01			.52	.15			.50	.27	1.84				T.	.21	.47		5.13
Sanish ||||	Missouri										.35				.15	.03			.12					.38	.40	.18			.13	T.	.06		1.80
Stanley	do								T.	.09	.05							.17		.04			.31	.44	.47				.72	.26			2.55
Tioga	do									.25				.09									.37	1.02	.12			.42	.02	.20	1.04		3.53
Trotters	Lit. Missouri									.21	.04									.49	.02	.07		.20	.19				.48	.02	.69		2.41
Watford City	Missouri									.22				.35									.22	.55	.72						.55		2.61
Wildrose	do						T.			.30	.06									T			.14	.65	.02			.02		.01			1.20
Williston ***	do							T	.09	.25	.02			T.					T.	T.		T.	.28	.89	.05			.01		.51	1.03		3.13

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum...	75	82	78	77	92	69	68	76	75	55	70	80	83	77	74	74	83	81	85	90	96	93	85	62	73	75	77	66	82	81	....	77.8
	Minimum ...	52	42	54	43	48	47	41	35	49	48	40	43	58	60	50	45	48	57	61	62	62	66	61	54	50	45	51	53	54	58	....	51.2
Beach	Maximum..	74	82	74	83	80	71	65	79	75	64	71	84	83	72	83	85	91	83	84	90	92	83	74	63	68	72	81	84	82	79	....	78.3
	Minimum ..	45	50	45	49	55	47	38	38	46	41	37	44	62	57	48	50	60	59	58	64	63	66	59	55	48	48	55	61	62	64	....	52.5
Bismarck	Maximum...	76	85	77	80	87	68	68	77	68	62	72	85	91	72	76	80	88	83	87	89	96	83	83	65	74	73	80	69	83	84	....	78.7
	Minimum ...	55	47	53	49	58	51	48	41	50	45	42	43	65	55	50	51	54	64	65	69	64	64	63	58	50	49	60	60	59	63	....	54.8
Bottineau	Maximum...	76	76	82	68	74	78	62	67	72	56	65	70	78	84	62	70	69	80	86	92	90	91	75	68	65	70	73	70	67	78	....	73.8
	Miuimum ...	50	46	50	46	51	38	36	49	48	39	40	48	58	56	40	46	49	55	66	66	60	56	56	55	45	49	55	57	59	59	...	50.9
Carson	Maximum...	78	89	81	82	89	80	73	79	74	68	74	89	92	82	82	84	93	86	86	94	98	81	82	71	76	75	79	74	86	85	...	82.1
	Minimum ...	51	49	51	45	53	48	42	39	51	41	39	48	63	55	46	52	54	61	61	61	65	64	59	55	47	49	56	57	59	63	...	52.8
Crosby §	Maximum...	75	82	70	75	73	64	61	75	64	65	70	83	83	62	74	80	88	89	84	90	92	74	59	72	75	75	70	75	85	87	...	75.7
	Minimum ...	47	49	45	43	50	45	35	42	45	40	43	44	48	46	51	52	56	56	64	57	60	58	55	55	44	50	56	55	58	56	...	50.2
Devils Lake	Maximum...	76	81	71	72	85	62	66	72	57	66	71	80	78	70	61	65	78	89	89	92	95	81	82	66	74	77	71	66	78	83	....	75.1
	Minimum ...	52	50	47	43	53	44	37	38	48	47	43	45	57	47	47	50	50	57	66	64	58	56	60	50	40	42	51	59	58	61	....	50.7
Dickinson §	Maximum...	72	83	76	79	81	66	66	78	64	61	68	83	82	68	77	82	88	82	82	87	90	72	74	60	67	70	78	80	83	78	....	75.9
	Minimum ...	49	47	47	47	50	47	40	34	44	35	40	43	53	56	50	53	56	59	60	64	64	67	58	55	47	49	53	57	59	64	....	51.6
Dunn Center §	Maximum...	61	85	80	84	83	58	68	74	66	56	70	83	89	63	75	77	88	80	86	87	94	68	74	57	66	63	62	77	79	67	....	74.0
	Minimum ...	49	47	46	50	53	49	40	36	47	39	40	41	63	59	50	52	57	58	62	65	63	66	57	54	46	48	54	58	61	63	....	52.4
Fessenden §	Maximum...	78	83	74	76	90	67	68	77	60	65	83	84	65	61	65	84	84	89	91	92	98	84	86	65	72	77	62	64	82	84	....	77.0
	Minimum ...	58	43	49	41	48	46	39	35	47	39	39	49	52	49	48	40	50	55	64	63	57	59	60	55	43	44	47	57	55	55	....	49.5
Fullerton	Maximum...	76	83	77	78	92	70	69	79	82	64	74	82	82	84	72	71	82	87	86	94	98	94	88	72	75	76	79	71	85	82	....	80.1
	Minimum ...	52	46	55	44	46	50	43	37	57	47	41	47	58	51	50	42	46	56	63	53	66	65	64	59	53	46	52	60	59	64	....	52.4
Garrison §	Maximum...	76	84	73	78	82	67	68	76	66	65	71	83	87	65	73	79	88	86	88	86	94	74	74	66	72	73	73	70	81	82	....	76.7
	Minimum ...	48	46	48	45	53	48	42	42	49	40	41	44	62	52	45	48	52	63	64	65	60	59	57	53	45	46	55	57	55	62	....	51.2
Grafton	Maximum...	79	83	82	75	90	85	61	70	68	67	72	78	78	74	58	64	75	86	86	89	92	87	82	79	76	74	77	73	75	84	....	77.3
	Minimum ...	51	42	52	45	47	49	39	32	48	45	41	42	56	55	46	50	47	51	62	62	60	58	60	60	47	44	51	54	61	60	....	50.6
Grand Forks	Maximum...	76	82	75	75	90	64	63	68	64	67	71	76	74	78	58	64	74	85	84	90	93	80	82	68	73	74	73	74	73	82	....	75.0
	Minimum ...	48	45	48	43	50	43	36	34	51	46	46	45	59	51	49	52	54	54	64	62	63	58	57	57	48	41	52	59	63	61	....	51.3
Jamestown §	Maximum...	76	85	76	77	90	70	70	75	72	66	74	84	81	80	67	68	81	85	90	97	96	89	86	61	73	75	71	67	84	83	....	78.3
	Minimum ...	52	46	53	44	51	49	43	36	48	43	41	46	54	62	49	45	48	57	65	63	63	64	52	56	49	47	54	58	59	57	....	51.8
Kenmare	Maximum...	77	81	71	78	76	65	70	75	66	65	72	80	84	69	75	78	87	87	87	89	96	70	60	60	74	74	70	73	87	85	....	76.0
	Minimum ...	49	52	47	46	56	41	41	41	50	38	42	47	60	58	50	48	52	55	64	63	65	58	56	55	42	50	54	56	59	56	....	51.7
Langdon §	Maximum...	78	80	76	75	83	65	65	70	63	69	71	78	77	72	60	65	74	85	85	90	92	88	79	71	75	75	76	70	75	84	....	75.5
	Minimum ...	44	40	46	38	48	43	31	32	47	43	39	41	55	48	44	48	45	54	63	63	68	54	58	57	40	40	50	50	57	53	....	48.0
Marmarth	Maximum...	74	82	76	81	86	64	68	79	67	58	68	85	82	70	80	83	88	89	81	88	92	86	80	59	68	72	82	83	83	80	....	77.8
	Minimum ...	48	48	48	56	48	50	36	49	42	38	52	63	58	50	50	62	65	58	63	62	67	65	58	55	50	57	62	66	67	59	....	55.1
Minot	Maximum...	76	82	72	77	79	66	69	77	65	65	71	83	87	84	72	75	88	88	90	91	93	69	70	66	73	76	73	74	84	82	....	77.2
	Minimum ...	51	45	45	41	58	47	42	38	51	37	40	44	62	53	48	47	51	61	65	69	60	60	58	56	45	45	51	59	63	62	....	51.8
Mott	Maximum...	76	89	81	83	81	76	68	79	72	63	72	86	89	77	83	85	88	82	82	90	92	85	79	65	68	72	89	79	85	85	....	80.0
	Minimum ...	49	45	54	47	52	43	40	37	47	42	37	42	63	56	49	54	57	59	61	65	64	61	57	55	51	50	56	60	61	65	....	52.6
Pembina	Maximum...	80	84	76	77	87	66	56	72	67	68	73	80	82	75	65	69	78	86	84	89	90	81	81	68	75	74	76	76	72	84	....	76.4
	Minimum ..	44	41	52	40	47	49	40	32	49	48	53	39	50	45	46	50	48	50	63	63	62	53	56	59	44	38	54	51	60	59	....	49.5
Sharon	Maximum...	74	79	74	73	89	69	65	69	61	65	71	76	74	74	61	61	72	85	85	92	95	78	81	72	71	74	68	66	80	84	....	74.6
	Minimum ...	50	44	54	40	48	45	35	35	51	40	40	42	50	53	46	49	49	52	61	64	61	60	57	57	48	47	52	56	57	60	....	50.1
Steele	Maximum...	74	84	74	76	89	64	62	78	71	60	70	82	89	74	80	78	84	82	86	90	98	80	82	64	72	70	75	62	83	84	....	77.2
	Minimum ...	42	41	52	40	51	46	40	38	52	39	34	43	60	53	48	43	50	60	63	60	62	63	60	54	46	42	53	55	55	62	....	50.2
Valley City	Maximum...	74	81	79	74	91	83	67	69	78	70	70	78	78	77	70	63	75	83	83	92	89	88	79	77	69	72	70	67	79	80	....	76.8
	Minimum ...	51	42	56	45	46	49	43	35	53	44	44	46	57	62	49	50	48	57	64	62	62	64	62	59	51	44	53	58	58	62	....	52.5
Wahpeton	Maximum...	75	80	79	73	86	84	66	71	79	77	71	77	76	84	83	66	72	84	88	95	96	95	89	87	78	78	81	81	75	84	....	80.3
	Minimum ...	52	46	57	46	52	58	40	36	55	50	56	49	58	64	50	51	58	57	63	62	68	61	59	61	56	43	53	63	62	63	....	55.0
Williston	Maximum...	76	82	71	79	74	64	67	76	65	62	71	84	82	67	79	85	85	87	84	92	95	75	65	67	70	73	74	79	83	83	....	76.5
	Minimum ...	52	57	48	54	54	48	43	41	47	42	43	47	61	52	50	57	62	62	66	60	66	61	56	55	48	55	59	60	64	62	....	54.4
Moorhead, Minn.	Maximum...	74	80	75	73	89	66	64	69	78	63	70	76	76	82	63	64	71	84	83	89	93	84	82	66	73	75	74	71	73	79	....	75.3
	Minimum ..	55	48	56	48	50	47	41	40	54	50	47	49	59	52	49	51	58	57	65	62	67	65	62	59	52	46	55	59	60	62	....	54.2

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing, ᵇ 2 days, etc

Climatological Data for June 1938—Continued from page 22.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	......	......	...	...	....	...	.....	3.22	−0.18	0.80	0	12	19	9	2	nw.	H. A. Bury.
Amidon	Slope	......	15	65.2	+4.2	89	21	39	8†	39	5.58	+2.49	1.57	0	11	13	12	5	e.	J. G. Jacobson.
Beach	Golden Valley	2,759	32	65.4	+3.7	92	21	37	11	41	2.57	−1.13	0.86	0	12	3	23	4	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	64.0	+1.2	93	21	33	10	44	3.89	+0.02	1.13	0	11	12	14	4	nw.	C. L. Hall.
Bowman	Bowman	2,872	23	65.1	+2.6	92	22	36	11	39	4.99	+2.04	1.51	0	11	14	6	10	se.	Wm. E. Tomlin.
Crosby	Divide	1,954	29	63.0	+1.9	92	21	35	7	39	2.20	−1.16	1.15	0	8	8	14	8	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	63.8	+2.1	90	21	34	8	44	4.70	+1.33	1.70	0	13	12	13	5	se.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	63.2	+1.2	94	21	36	8	42	3.69	−0.18	1.20	0	13	12	12	6	se.	O. T. Evenson.
Epping	Williams	2,224	27	65.0	+2.5	97	21	37	7	38	2.50	−1.07	1.32	0	7	12	16	2	se.	T. Beachler.
Fairfield	Billings	......	1	......	......	...	...	....	...	.....	5.50	....	1.58	0	12	13	15	2	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	6.46	......	91	21	40	11	36	6.52	+3.22	2.10	0	10	13	14	3	se.	Verne King.
Hettinger	Adams	2,675	30	66.7	+3.8	95	13†	37	8†	53	2.52	−0.68	1.05	0	8	.....	.....	.....	.....	O. A. Erlandson.
Howard ‡‡ (near)	Williams	2,275	30	62.2	+2.0	93	21	35	7	40	3.00	−0.06	1.64	0	5	14	12	4	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	63.8	......	96	21	38	10	35	1.51	−1.55	0.58	0	11	7	13	10	se.	Synthia M. Costello.
Marmarth	Slope	2,714	28	66.4	+4.4	92	21	36	7	38	2.95	−0.11	0.70	0	13	10	7	13	nw.	S. P. Grane.
Mary	McKenzie	......	9	......	......	...	...	....	...	.....	2.78	....	0.75	......	10	16	9	5	se.	Fred Hartman.
Medora	Billings	2,271	22	......	......	...	...	....	...	.....	5.32	+2.16	1.77	0	12	13	14	3	se.	Vernon Thompson.
Mott	Hettinger	2,424	30	66.3	+1.9	92	21	37	8†	44	6.14	+2.92	1.76	0	13	4	19	7	e.	W. M. Hendricks.
New England	Hettinger	2,400	43	67.4	+4.8	97	15	37	8	45	3.91	+0.95	1.26	0	13	7	17	6	se.	F. S. Sleight.
Parshall	Mountrail	1,929	22	63.2	......	95	21	31	10	44	3.99	+0.43	1.22	0	12	4	25	1	se.	C. E. Shubert.
Portal	Burke	1,954	32	63.6	+4.4	96	21	37	7	38	1.47	−1.82	0.70	0	7	17	4	9	e.	R. G. Wegener.
Powers Lake	Burke	2,205	32	64.2	+2.9	91	20†	38	8	38	3.34	−0.26	1.21	0	6	14	13	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	21	64.8	+2.2	89	21	41	11	34	5.13	+1.72	1.84	0	12	8	17	5	se.	Assumption Abbey.
Sanish	Mountrail	1,835	12	64.8	+1.1	96	21	36	11	44	1.80	−1.06	0.40	0	9	7	13	10	e.	H. J. Bugge.
Stanley	Mountrail	2,258	0	62.7	......	94	21	35	10	42	2.55	....	0.72	0	9	11	13	6	nw.	LeRoy Edwards.
Tioga	Williams	2,279	9	......	......	...	...	....	...	.....	3.53	....	1.04	0	9	18	5	7	nw.	B. V. Olson.
Trotters	Golden Valley	......	12	......	......	...	...	....	...	.....	2.41	−1.07	0.69	0	10	11	15	4	se.	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	67.0	+5.3	95	21	42	8	39	2.61	−0.59	0.72	0	6	5	23	2	se.	J. C. Zeller.
Wildrose	Williams	2,258	10	......	......	...	...	....	...	.....	1.20	....	0.65	0	7	12	11	7	se.	L. Holter.
Williston	Williams	1,878	58	65.4	+2.7	95	21	41	8	37	3.13	−0.30	1.03	0	9	15	11	4	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	64.7	+2.7	97	15†	31	10	53	3.49	+0.17	2.10	0	10	11	13	6	se.	....
Average for the State		......	.....	64.2	+1.1	99	21	27	8	53	2.73	−0.66	2.20	0	9	11	11	8	se.	....

[WBO, Minneapolis, 7-29-38—1500

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVII Bismarck, N. D., July 1938 No. 7

GENERAL SUMMARY

The minimum temperatures during July were somewhat above average, but the maximum temperatures averaged near the seasonal normal. Only a few stations recorded readings above 100°. The precipitation was well distributed throughout the month, but with heavy amounts at some stations from the 3d to the 5th and again on the 26th. The precipitation was light in some southeastern and extreme west-central counties, but many northern and central stations received copious amounts. The wind was mostly light, there was very little hail and only a few dust storms were reported. Harvesting of small grains was well advanced by the close of the month with mostly fair to very good yields. Grasshoppers caused considerable damage, but many of them migrated northwestward before the close of the month. Pastures and corn were mostly very good.

TEMPERATURE

The mean temperature for the State was 69.7°, or 0.9° above the 1892–1938 average for July. The mean for the eastern division was 70.2°; for the middle division, 69.4°; and for the western division, 69.6°. The highest nean temperature was 74.2° at Amenia, and the lowest, 66.5° at Cooperstown, making a range in mean temperature of 7.7°. The absolute range in temperature was 65°, from 104° at McClusky on the 31st, to 39° at Hannah and Willow City on the 25th. The average daily excess in temperature for the State since Jauuary 1, 1938 is 1.8°.

PRECIPITATION

The average precipitation for the State was 3.34 inches, or 0.90 inch more than the 1892–1938 average for July. In the eastern division the average amount was 3.11 iuches; in the middle division, 3.85 incnes; and in the western division, 3.05 inches. The greatest monthly amount reported was 6.73 inches at Maddock; the least was 0.91 inch at Timmer. The greatest amount recorded in any 24 consecutive hours was 3.14 inches at Maddock on the 4th. The accumulated excess in precipitation since January 1, 1938 is 0.18 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	2	..	..	1	3	..	..	1	6	..	..	4	4	7	1	..	..	..	1	..	1	1	..	..	..	..	..	9	10	2
Dust storms	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	1	..	2	2	3	..	..	1	..	1	..	..	..	..	..	..	..	..	4	3	6	2	..	1	..	12	1	..	..	1
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	..	..	..	..	..	..
Hail		5	1	2	1	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	1	..	1	1	1
Thund'rst'ms	25	13	22	30	27	2	14	5	14	..	8	4	..	..	..	..	2	11	5	2	5	..	1	3	1	14	7	..	7	2	1

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.93	30.18	14	29.61	23	7.4	25	se.	11	81	46	41	70
Devils Lake	29.92	30.16	14	29.35	1	7.3	27	nw.	13	86	52	50	72
Williston	29.92	30.17	14	29.54	1	6.8	31	w.	4	83	49	43	76
Moorhead, Minn	29.90	30.13	14	29.59	1	7.1	24	w.	3	84	50	53	76
Averages & ext's	29.92	30.18	14	29.35	1	7.2	31	w.	4	84	49	48	74

† And other dates.

COMPARATIVE DATA FOR JULY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	68.7	108	31	3.44	2.98	3.28	3.23	0	8	19	8	4
1893	69.5	112	35	2.54	1.94	1.64	2.04	0	7	17	10	4
1894	71.7	107	38	0.92	0.73	0.25	0.63	0	3	20	8	3
1895	66.1	102	29	3.12	2.44	3.13	2.90	0	8	14	11	6
1896	67.5	107	31	1.67	1.48	1.37	1.51	0	6	15	10	6
1897	68.9	109	38	6.46	4.43	2.40	4.43	0	9	13	11	7
1898	67.6	106	28	3.07	2.40	2.00	2.49	0	7	15	11	5
1899	68.3	109	32	2.37	2.30	2.35	2.34	0	6	18	9	4
1900	67.9	107	33	2.89	2.26	1.60	2.25	0	6	16	10	5
1901	70.8	110	40	5.10	4.08	3.66	4.28	0	6	18	7	6
1902	67.6	106	34	2.34	2.00	2.10	2.15	0	5	20	7	4
1903	66.7	109	26	2.59	1.77	2.32	2.23	0	7	17	8	6
1904	64.4	102	34	2.96	2.83	0.60	2.13	0	6	17	8	6
1905	65.6	100	32	4.27	3.90	3.17	3.78	0	8	17	9	5
1906	66.9	102	34	2.90	1.32	0.45	1.56	0	11	13	8	10
1907	65.8	103	31	2.69	3.90	2.60	3.06	0	9	16	11	4
1908	68.6	103	31	1.89	2.37	1.46	1.91	0	6	19	9	3
1909	67.1	99	34	3.45	2.94	1.80	2.73	0	8	15	9	7
1910	70.0	114	33	1.30	2.10	1.40	1.60	0	5	18	9	4
1911	65.1	107	23	2.25	1.76	1.10	1.70	0	6	18	10	3
1912	66.0	106	30	4.52	3.07	3.38	3.66	0	10	12	13	6
1913	65.6	103	35	2.64	2.38	1.65	2.22	0	8	17	8	6
1914	72.1	109	36	2.62	1.85	2.03	2.17	0	6	19	9	3
1915	62.3	97	30	2.42	2.66	4.30	3.13	0	11	12	11	8
1916	73.1	105	33	4.71	2.76	1.41	2.96	0	7	19	9	3
1917	70.9	114	27	1.96	1.80	0.87	1.54	0	7	17	11	3
1918	65.5	102	34	2.84	2.90	2.46	2.73	0	7	14	10	7
1919	71.2	105	37	3.15	1.11	1.32	1.86	0	5	18	10	3
1920	68.3	103	31	2.27	2.33	1.73	2.11	0	7	18	11	2
1921	71.4	110	35	4.47	2.87	1.88	3.07	0	7	17	10	4
1922	65.6	100	30	2.28	2.44	2.72	2.48	0	8	16	11	4
1923	71.2	103	35	2.90	3.34	2.91	3.05	0	8	16	11	4
1924	65.5	99	32	1.93	2.04	1.83	1.93	0	6	18	9	4
1925	66.7	106	29	1.43	1.33	1.30	1.35	0	6	18	9	4
1926	70.3	108	32	2.35	1.78	1.99	2.04	0	7	18	8	5
1927	65.4	97	28	2.33	3.11	3.09	2.84	0	9	15	10	6
1928	67.4	96	38	4.65	5.32	4.49	4.82	0	10	16	10	5
1929	70.6	109	34	1.93	1.09	0.78	1.27	0	5	21	8	2
1930	72.3	107	34	1.83	0.80	0.49	1.04	0	5	21	8	2
1931	70.6	111	37	2.89	3.20	3.01	3.03	0	8	17	8	6
1932	70.0	108	36	1.95	2.22	1.68	1.95	0	7	19	8	4
1933	71.9	109	36	2.04	2.13	1.83	2.00	0	7	19	9	3
1934	71.8	112	29	1.58	1.30	0.77	1.18	0	6	18	10	3
1935	73.8	110	45	3.90	5.44	3.90	4.41	0	10	17	11	3
1936	79.9	121	38	0.71	0.48	0.92	0.70	0	4	22	8	1
1937	71.7	111	40	3.70	2.70	2.40	2.93	0	9	15	10	6
1938	69.7	104	39	3.11	3.85	3.05	3.34	0	9	15	13	3
Period	68.8	121	23	2.79	2.47	2.06	2.44	0	7	17	9	5

Climatological Data for July 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	74.2	+5.5	94	30	54	2†	35	2.45	−0.34	1.65	0	4	5	17	9	s.	I. Idso.
Cavalier	Pembina	894	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Burke Bechtel.
Cooperstown	Griggs	1,428	41	66.5	−1.7	89	29	47	25	33	3.17	+0.71	0.90	0	11	22	9	0	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	.....	.....	.....	.....	.....	.....	.....	4.22	.....	1.49	0	7	3	23	5	nw.	Alfred Woiwode.
Devils Lake	Ramsey	1,471	41	68.9	+1.5	95	30	46	25	35	4.78	+2.21	1.58	0	11	8	14	9	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	37	72.2	+3.4	101	31	49	25†	44	1.46	−1.31	0.68	0	9	7	24	0	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. Braund.
Ellendale	Dickey	1,457	43	71.6	+0.9	95	15†	53	20†	38	1.94	−0.80	0.65	0	8	19	6	6	nw.	J. E. Demmer.
Fargo	Cass	895	2	70.8	.....	99	31	49	21	38	1.68	.....	0.80	0	10	8	12	11	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	70.3	+0.2	97	31	50	21†	39	3.94	+0.97	1.21	0	11	21	7	3	nw.	Helge Dyste.
Fullerton	Dickey	1,439	40	72.6	+3.6	101	31	50	21	42	1.67	−1.45	1.08	0	9	16	14	1	nw.	F. O. Alin.
Grafton	Walsh	827	46	70.4	+2.7	98	31	47	26	38	1.89	−0.66	0.62	0	8	12	15	4	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	69.6	+2.1	94	12†	51	17	35	3.73	+0.98	1.01	0	9	8	14	9	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	9	71.8	.....	100	31	51	21	42	2.60	.....	0.68	0	7	23	6	2	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	67.1	+2.4	98	27	39	25	41	1.97	−0.38	0.46	0	11	5	23	3	nw.	James Muir.
Hillsboro	Traill	901	32	70.8	+1.2	99	31	50	25	42	2.84	+0.16	1.25	0	8	18	9	4	nw.	H. F. Lund.
Jamestown	Stutsman	1,457	46	71.2	+2.7	98	31	50	23	39	4.17	+1.39	1.31	0	10	14	14	3	nw.	S. Calvelage.
Langdon	Cavalier	1,615	42	67.4	+2.8	94	30	40	25	38	5.43	+3.06	2.50	0	13	9	19	3	.....	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	69.6	+2.6	95	30	50	25	35	3.15	−0.07	0.68	0	8	12	8	11	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	71.4	+2.1	100	31	50	11†	45	1.90	−1.29	0.66	0	11	21	5	5	ne.	J. O. Halverson.
McHenry (near)	Eddy	1,509	16	67.0	−0.7	92	30†	45	25	42	5.90	+2.82	2.96	0	10	9	19	3	nw.	C. E. Blasky.
McLeod	Ransom	1,075	27	72.3	+2.1	98	15†	49	20	39	3.10	+0.13	1.42	0	9	22	6	3	nw.	J. G. Carlson.
Mayville	Traill	975	42	71.4	+2.4	97	31	48	21†	35	4.33	+1.57	2.15	0	6	15	11	5	n.	H. B. Addicott.
Oakes	Dickey	1,318	9	71.0	.....	98	31	50	23†	42	1.88	.....	0.96	0	10	20	9	2	s.	S. F. Rossman.
Park River	Walsh	998	34	66.9	−1.0	97	30	43	25	36	2.48	−0.02	0.83	0	9	14	8	9	nw.	E. J. Taintor.
Pembina	Pembina	789	64	68.8	+1.3	95	30	47	17	35	1.80	−0.55	0.49	0	12	20	7	4	s.	E. N. Russell.
Petersburg	Nelson	1,520	8	.....	.....	.....	.....	.....	.....	.....	3.41	.....	1.31	0	10	12	12	7	nw.	T. M. Rykken.
Sharon	Steele	1,516	14	69.1	−1.8	96	31	48	25	37	3.87	+1.78	1.42	0	10	14	13	4	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	69.6	+0.9	94	31	50	14†	37	3.71	+0.90	1.39	0	9	17	12	2	nw.	I. C. Robertson.
Wahpeton	Richland	962	46	71.3	+1.5	100	31	51	9†	37	2.82	−0.40	0.57	0	16	13	9	9	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	71.2	+3.1	98	31	52	23	39	1.96	−1.47	1.06	0	9	8	12	11	s.	U. S. Weather Bureau.
Average for Eastern Division		.....	.....	70.2	+2.1	101	31	39	25	45	3.11	+0.32	2.96	0	4	14	12	5	nw.	.....
Middle Division																				
Ashley	McIntosh	2,001	42	69.8	+1.1	99	31	48	27	41	1.71	−1.12	0.50	0	8	18	7	6	nw.	R. C. Miles.
Bisbee	Towner	1,601	2	68.0	.....	94	30	45	25	40	2.47	.....	0.40	0	10	16	13	2	w.	I. K. Lund.
Bismarck	Burleigh	1,670	64	72.0	+2.2	95	23	52	10	35	2.36	+0.12	0.93	0	11	11	18	2	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	68.4	+1.8	94	31	48	25	36	4.39	+2.02	1.06	0	13	18	5	8	nw.	N. D. School of Forestry
Carrington	Foster	1,579	40	70.0	+1.3	95	30†	46	25	38	4.93	+2.35	1.28	0	7	20	2	9	.....	Soo Line Agent.
Carson	Grant	2,500	26	71.2	+2.4	99	23	45	27	48	2.63	+0.60	0.73	0	8	11	20	0	nw.	J. W. Evens.
Center	Oliver	.....	0	68.9	.....	92	12†	45	10	44	6.05	.....	1.60	0	9	22	8	1	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	67.6	−1.5	88	23	48	2†	33	5.51	+2.37	1.34	0	9	12	16	3	nw.	R. L. Williams.
Drake	McHenry	1,634	9	69.4	.....	93	31	48	19	40	4.78	.....	1.40	0	12	10	18	3	nw.	Peter Anton.
Dunseith	Rolette	1,682	42	67.8	+1.9	93	30	41	25	41	2.13	−0.42	0.50	0	11	15	15	1	w.	Geo. Gehres.
Eckman	Bottineau	1,500	33	69.0	+2.2	96	23	42	19	50	3.01	+0.78	0.90	0	11	10	20	1	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	69.6	−2.4	93	23†	47	10	41	5.35	+3.00	1.50	0	7	12	18	1	s.	H. S. Solenberger.
Fessenden	Wells	1,610	26	68.7	+0.7	96	31	41	22	40	4.66	+2.33	1.40	0	11	13	14	4	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	71.4	−0.3	94	23†	48	27	37	2.07	−0.12	0.62	0	6	18	10	3	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	69.0	−0.4	96	23	46	19	38	3.09	+0.86	1.67	0	7	9	14	8	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	70.2	.....	94	31	52	18†	38	5.87	.....	2.15	0	10	8	18	5	nw.	A. H. Haut.
Garrison	McLean	1,901	61	68.6	+0.4	93	23†	42	2	40	5.59	+3.13	1.38	0	10	18	11	2	nw.	E. L. Vorachek.
Granville	McHenry	1,504	31	69.2	+1.7	96	30	44	19	44	3.64	+1.47	1.06	0	8	16	11	4	nw.	W. A. Christianson.
Hansboro	Towner	1,597	30	68.4	+3.2	94	29†	46	17	46	3.24	+0.78	0.80	0	12	9	21	1	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	70.8	−0.5	96	23†	45	27	42	2.20	+0.07	0.50	0	10	10	19	2	n.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	72.5	+2.6	104	31	42	19	44	3.80	+1.27	1.07	0	7	16	14	1	nw.	Edw. Tapley.
Maddock	Benson	1,604	23	67.2	−0.4	92	31	41	28	44	6.73	+4.14	3.14	0	11	8	19	4	nw.	A. T. Felland.
Mandan	Morton	1,750	24	70.8	+0.2	97	23	50	10	41	2.90	+0.52	1.16	0	8	11	12	8	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	.....	.....	.....	.....	.....	.....	.....	5.38	+3.14	1.22	0	9	.....	.....	.....	.....	P. B. Anderson.
Max	McLean	2,093	9	68.7	.....	95	31	43	14	42	6.33	.....	1.42	0	11	16	4	11	.....	A. W. Rice.
Minot	Ward	1,557	42	70.5	+2.6	96	30	45	19	42	2.88	+0.98	0.75	0	8	17	5	9	w.	Mark. M. Chatfield.
Mohall	Renville	1,646	44	69.4	+3.1	97	23†	41	19	46	2.70	+0.36	0.77	0	11	12	17	2	nw.	John Behan.
Napoleon	Logan	1,955	46	68.6	0.0	95	31	48	10†	41	5.30	+2.80	1.50	0	12	16	10	5	nw.	C. J. Hoof.
New Salem	Morton	2,163	34	69.2	−0.7	95	23	46	19†	46	2.70	+0.52	0.83	0	7	22	8	1	nw.	J. Christianson.
Pettibone	Kidder	1,856	29	69.5	+1.5	92	31	49	22†	33	5.29	+2.45	2.03	0	7	15	13	3	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	68.6	.....	95	30	44	25	37	1.83	.....	0.49	0	12	12	16	3	nw.	A. Jacobsen.
Rugby	Pierce	1,562	9	.....	.....	.....	.....	.....	.....	.....	4.88	.....	1.12	0	9	9	19	3	sw.	W. B. Paterson.
Ryder	Ward	2,108	9	.....	.....	.....	.....	.....	.....	.....	3.01	.....	0.84	0	9	25	4	2	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	.....	.....	.....	.....	.....	.....	.....	1.69	.....	0.68	0	5	10	18	3	nw.	J. B. Smith.
Steele	Kidder	1,857	44	69.6	+0.2	95	23†	48	10	41	4.91	+1.92	1.91	0	8	16	11	4	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	9	.....	.....	.....	.....	.....	.....	.....	3.92	.....	1.87	0	9	21	7	3	nw.	G. N. Pilgard.
Timmer	Morton	.....	1	.....	.....	.....	.....	.....	.....	.....	0.91	.....	0.54	0	6	.....	.....	.....	.....	Geo. M. Sinclair.
Towner	McHenry	1,482	36	70.8	+2.8	95	30	46	20	44	4.18	+1.77	0.92	0	13	10	19	2	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	69.9	+1.6	93	23†	47	19†	43	5.44	+2.89	1.33	0	9	27	3	1	w.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	.....	.....	.....	.....	.....	.....	.....	6.25	+3.73	2.15	0	9	20	9	2	nw.	Adam Leno.
Velva	McHenry	1,511	11	68.8	−2.6	92	31	46	19	34	3.95	+1.35	1.28	0	8	6	22	3	w.	Oscar Anderson.
Washburn	McLean	1,731	37	70.8	+1.3	92	23	50	20	34	6.29	+3.81	1.75	0	11	21	7	3	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	69.2	+2.4	96	23	41	25	46	2.13	−0.04	0.53	0	15	18	8	5	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	46	68.0	+2.3	97	30	39	25	46	2.70	+0.56	0.69	0	11	13	17	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	68.8	+0.2	93	31	45	26	39	2.15	−0.38	0.87	6	10	9	16	6	nw.	H. M. Larson.
Zap	Mercer	1,838	23	.....	.....	.....	.....	.....	.....	.....	3.64	+1.36	1.00	0	7	24	6	1	.....	R. A. Norton.
Average for Middle Division		.....	.....	69.4	+1.1	104	31	39	25	50	3.85	+1.38	3.14	0	9	15	13	3	nw.	.....

Continued on page 28.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for July 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																
Amenia	Red	.65		1.65		.05							.10	T.						T.													2.45
Cooperstown	Sheyenne	.83	T.	.90	.07	.33	T.	T.		.15									.04	T.	.10	.03			.03		.35	.34					3.17
Courtenay	James			1.02	.40	.83															.06		.01		.41		1.49						4.22
Devils Lake ***	Devils Lake	.29	.42	.93	1.29	.84		.14	T.	.29									.02	.09		T.		T.	T.		.43	.04			T.		4.78
Edgeley	James	.68			.07	.20						.04										.20			.04		.06	.05		.12			1.46
Edmore	Devils Lake																																	
Ellendale	James	.65				.62	T	.19				.07										.07					.12	.06			.16		1.94
Fargo ***	Red	.22	.01	.80	T	.13	T		T.	.01									.22		.02	.05			.07		.15	T.	T.				1.68
Forman	Sheyenne	.51		.50	T.	1.21	.08	.67		.05		T.							.06			.28			T.		.13	.08		.37			3.94
Fullerton	James	1.08				.11	T.	.07		T	T.	.10	.04							.03		T.			T.			.05		.07	.12		1.67
Grafton	Red	.16		.32	.62	.07				.07					T.				.25			.32	T.					.08					1.89
Grand Forks ***	do	.22	T.	.70	.83	.29			T.	.33									.06	T.	T.	1.01		T	T.		.14	.15			T.		3.73
Hankinson ‖‖	do	.65				.22	.60												.02			.68					.28			.15			2.60
Hannah	Pembina	.11		.25	.25	.38				T.						.05			.46		.04	.24					.09	.06				.04	1.97
Hillsboro	Red	.41		1.25		.25				.07											.29	.20		.12				.25					2.84
Jamestown	James	.61	1.31	.03	.67	.84		.04			.05	T.							T.		T	T.	.05		.05		.52						4.17
Langdon ‖‖	Pembina	.26		.45	.46		2.50			.02	.14	.08							.16	.45		.24	.46					.20		.01			5.43
Larimore	Red	.68		.45	.40	.44				.43									T.		T.	.06	.04					.65			T		3.15
Lisbon	Sheyenne	.36		.12		.05	.07	.01	T.		.05									.18			.18			.04		.18			.66		1.90
McHenry	James	.75	.60		2.96	.35				.09									.01	.16		.04					.70	.24					5.90
McLeod	Sheyenne	.42		.53		.04	.03	.13		.06									.11			T						.36		1.42			3.10
Mayville	Red			.65		1.05				T.												2.15			.04		.27	.17					4.33
Oakes	James	.96		T.		.19		.01	.39		.05									.01			.01		T			.04			.09	.13	1.88
Park River	Red		.24	.10	.83	.25				.15								.16	.32			.27					.16						2.48
Pembina	do	.06		.03	.10	T.	.19			.19						.10			.08		.25	.49						.05	.03			.23	1.80
Petersburg	do	.35		.35	1.31	.02		.04		.66										.05		.09					.18	.36					3.41
Sharon	do	.50		1.42	.56	.42				.15	.02											.26			.01		.46	.07					3.87
Valley City	Sheyenne	.33		1.39	.05	.15	.01												T		.23	.17			1.00		.38						3.71
Wahpeton	Red	.52		.10	.12	.11	.57	.03			.01								.30	.08	.35	.04	.07			T.	.24	.03		.17	.08		2.82
Moorhead, Minn. ***	do	.23	T.	1.06	.07	.10	T.	T.	T.	T									.05		.09	.03			.14		.19	T.	T.				1.96
Middle Division																																
Ashley	Missouri	.49			.17		.17	.50				.24									.10					.01	.03						1.71
Bisbee	Devils Lake	.30	.33	.27	.33	.24		.10		.40									.17		.21						.12						2.47
Bismarck ***	Missouri	.18	.06	.03	.08	.33		.14				.45	T.						T.		.03	.09					.93	T.		.04			2.86
Bottineau	Mouse	1.06	.01	.15	1.05	.35	.39			.09	.09								.05		.57							.30	.26			.02	4.39
Carrington ‖‖	James	1.20	T.	.48	.12	1.28	.95		T.							T.	T.				.10							.80					4.93
Carson	Heart	.73	.07		.37	.53		.03													.06						.27			.57			2.63
Center	Missouri		.67	1.12	1.60		.27					.20						.14						.27			1.48			.30			6.05
Dogden Butte	Mouse	.58		.90	1.14	1.84	T.		T.	.10		T.							.25			.04					1.12	.04					5.51
Drake ‖‖	do	.58	T.	.55	1.40	.77	T.			.17	.08									.11	.07	T	.03		.02			.94	.06				4.78
Dunseith	do	.37		.11	.50	.15	.30	T.		.09											.15	.12		T.	T.		.20	.11	.03			T.	2.13
Eckman	do	.90		.12	.16	.25		.03	T.	.16						T.			.07	.03					.01	.65	.63			T.			3.01
Energy	Missouri	.75		.50	1.45	1.50						.05										.40					.70						5.35
Fessenden ‖‖	James	.68	.02	.71	1.40	.55	.16		.08		.08										.18							.77	.03				4.66
Fort Yates	Missouri	.62	.17			.35		T.										.46							.07					.40			2.07
Foxholm (near)	Mouse	.56		.07	.27	.09				.34			T.						T.			.09				T.	1.67						3.09
Gackle	James	.45		2.15	.05	1.49		.15				.15										.45					.64	.08		.26			5.87
Garrison ‖‖	Missouri	.78		.48	.68	1.38	.64		.07	.04		.02							T.			.22					1.28						5.59
Granville	Mouse	1.06		.42	.68	.24				.09									.12	.22		T			T		.81						3.64
Hansboro	Devils Lake	.31		.10	.80	.80	.02			.05									.66	.03					T.		.10	.10	.02		.25	T.	3.24
Linton	Missouri	.45	.06		.50	.27		.06	.03	.01		.26									T.	T.			T.		.11			.45			2.20
McClusky	do	1.04		.29	1.07	.38	.04	.03																			.95						3.80
Maddock	Sheyenne	.48		.74	3.14	.80				.53									.07		.11	.03					.62	.06	.15				6.73
Mandan ‖‖	Missouri		T.	.54	.63			.01			.27									T.	.05					.04	1.16		.20				2.90
Max ‖‖	do	1.42		.55	1.16	1.25	.04			.30		.02								.18		.24	.11					1.06					6.33
Minot	Mouse	.74		.50	.29	.25				.15									.17			.03			T.	T.	.75						2.88
Mohall	do	.50		.06	.44	.31	T.			.23			.01						.11	.21		.03				T.	.77				.03		2.70
Napoleon ‖‖	Missouri	.66		1.50	.32	1.45			.40		.01	.35								.01		.09						.20		.03	.28		5.30
New Salem	Heart	.48		T.	.35	.70		.02				.30													T.		.83			.02			2.70
Pettibone	James	1.06		.25	2.03	1.05						.02									T.		.06				.82						5.29
Rolla	Devils Lake	.30	T.	.09	.26	.27	.49			.05						.02			.03	.08	.04	T					.11	.09					1.83
Rugby (near)	Mouse	1.09		.23	1.12	.48		T.		.50									T.	.16					T.		.52	.75			.03		4.88
Ryder	Missouri		.64	.32	.54	.10			.06		.03							T	.08	T	.40					T.	.84						3.01
Selfridge	do		T.	.25	.36			.68								T.		T.			T.	.10				T.			T.	.30			1.69
Steele	do	.45		.02	1.91	.95	.45					.30										.08					.75						4.91
Tagus	Mouse	.42		.08	.30	.47	.02	T		.38		T.	T						.03			.35				T.	1.87				T.		3.92
Towner	do	.92		.50	.23	.36		.05	T.	.15								.08		.72	T.	.07			.03		.57	.10				.40	4.18
Turtle Lake	Missouri	.66		.78	.93	1.33	.31														.06	.05	.02				1.30						5.44
Tuttle	do	.58	T.	.99	1.33	2.15	T.	.01		T.		.05							T.		.03	T.					1.09			.02			6.25
Velva	Mouse	.77		.42	1.28	.37				.19									.08			.01			T.	T.	.83					T.	3.95
Washburn ‖‖	Missouri	.62		.14	1.13	1.10	.75		T.			.08									.39	.15					.12	1.75	.06				6.29
Westhope	Mouse	.53		.12	.26	.03	.01	.03		.10			.06						.01	.06	.02	T			T.		.45	.11			.26	.08	2.13
Willow City	do	.69		.15	.31	.10		.19		.23			T.						.08	.37		T.			.01		.31	.26					2.70
Wishek ‖‖	Missouri		.10	.02	.87			.05	T.			.20							T.		.07				.07	.01	.13			.63			2.15
Zap	Knife		.85	.80	1.00	.12					.09										.03						.75						3.64
Western Division																																
Alpha	Lit. Missouri	.30	1.15	.12	.19	.18		.05		.02		.07								.02		.08				.02	.06			T.			2.26
Amidon	do	.20	.27			.74	T.	.01				.02								.01	.08					.03	.05			.02			1.43
Beach	do	.22	T.	.11	T.	.14		.04				.09								.03	.06						.10			.19			0.98
Berthold Agency	Missouri	.31		.30	.10	.70		T.		.06		.31	T						.01	T.	.06	.08					1.23	.01					3.17
Bowman	Grand	.49				.76	.15		.20			.17					.04				.01				.13	T.	.10			T			2.05
Crosby	Mouse	1.65		.34	.98		.59			.24		.01															.20						4.01
Dickinson ‖‖	Heart	.32	T.	1.39	.12	.71			.03	T.		.06	.11				T.		.03		T.				T.		T.	.35			T.		3.12
Dunn Center	Knife	.36		.38	.05	1.59				.02		.56							.13		.01							1.23		.13			4.46
Fairfield	Lit. Missouri	.37		.40				.05		.05	T.									T.							1.22		T.				2.09
Fryburg	Heart	.53	.33	.27		.57							.16				.03		T.	T.							.29			.21			2.39
Hettinger	Grand	.93			.16	.67		.12	.03								.05			.15	T.				.11	T.	T.			.10	.02		2.34
Howard (near)	Missouri			T.	1.67	1.72	.10	T.		T.		.21	.02					.11	.04	.25		T.			T.	T.	.80						5.12
Kenmare	Mouse	.55		.05	.07	.38	.89			.09			.10						.10			.26					.60	.40	.05				3.54
Marmarth	Lit. Missouri		.86		.60	.03	.05	T.			.09					.01				.04				.01	.04	.77			.03	.01			2.54
Mary	do																																	
Medora	do	.44	.02	.12		.39				.01		.03	T.				T.			T.						T.	.30			.06			1.37
Mott	Cannon Ball	1.00		T.	.21	.63		.02	.05			.13	T					.02		.02	T.			.14		.14	.52			.18			3.06
New England ‖‖	do		2.42			2.32		.03	.02		.02																.13						4.94
Parshall	Missouri	.55		.65	.38	.38	.38	T.	.04		.03	.05		T.					T.	.06	T.	.32					T.	1.23					4.07
Portal ‖‖	Mouse	.91		.13	.05		.06			.10									.13			.20					.13	.06					1.77
Powers Lake	Missouri																																	
Richardton	Heart	.43	1.46		3.08	.61						.50									.05				T.		.56						6.69
Sanish ‖‖	Missouri	.67		.67	.18	.17	.64		.08	.05		T.	.02						T			.33					T.	1.00					3.81
Stanley	do	.46		.12	.04	.20	.01	T.		.10			T.	.03					.15		.12					.02	1.58						2.83
Tioga	do		.17	.10	.06	.01	.06	.07				.12						.07			.10		.04		T.	T.	2.25	T.					3.05
Trotters	Lit. Missouri	.05		.15	.12							.05									.02						1.47						1.86
Watford City	Missouri	.95		.58	.30	.92		.63		.07		.18	.08						.02	T.							.38						4.11
Wildrose	do	.96		.11	.34	.02	.02			.01		.03	.04						.09	T	T.	.05				T	.36						2.03
Williston ***	do		.04	.09	.16	.08		.04		.01		.19	.03					.03	.06	.18						.40	1.70	T.					3.01

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	81	81	90	85	85	72	80	84	85	83	85	93	82	81	92	86	88	92	81	77	80	81	91	69	73	70	80	90	83	94	99	83.6
	Minimum	59	57	62	67	63	62	58	57	56	51	54	58	55	53	51	57	55	60	52	54	51	52	51	61	49	57	48	57	59	53	60	56.1
Beach	Maximum	81	84	82	84	78	78	82	86	82	90	92	86	81	91	87	84	89	90	76	81	80	92	96	83	75	73	87	91	91	94	94	85.1
	Minimum	58	58	57	61	61	53	57	55	63	47	63	66	54	51	56	60	60	64	53	54	57	50	60	61	51	57	46	53	65	59	61	57.1
Bismarck	Maximum	81	87	91	85	83	78	83	84	84	84	88	92	80	83	89	85	88	90	81	77	80	82	95	76	72	67	80	88	82	93	92	83.9
	Minimum	61	59	65	63	62	62	62	61	61	52	61	67	57	58	62	60	59	63	55	59	58	57	60	60	54	58	55	60	65	63	64	60.1
Bottineau	Maximum	85	75	80	75	83	80	77	80	77	80	80	80	86	76	82	82	80	83	86	80	75	78	80	85	75	76	80	82	90	92	94	81.1
	Minimum	60	50	60	60	61	58	56	60	57	50	60	64	50	51	59	51	50	60	50	53	55	50	57	56	48	55	55	53	60	60	62	55.8
Carson	Maximum	80	87	81	84	84	77	82	87	84	83	88	96	96	96	94	96	87	93	85	80	83	86	99	78	74	74	87	94	85	96	98	86.9
	Minimum	56	58	55	63	60	56	56	53	63	46	62	63	52	48	57	58	53	56	48	53	54	49	57	63	51	56	45	49	63	57	61	55.5
Crosby §	Maximum	74	78	81	83	78	78	81	87	73	83	89	81	77	86	80	83	85	81	79	77	79	85	90	72	78	72	86	91	93	95	94	82.2
	Minimum	59	52	57	54	62	58	56	56	62	46	50	59	53	50	57	50	49	60	48	50	52	47	49	52	53	53	47	54	56	56	52	53.5
Devils Lake	Maximum	79	85	83	81	74	78	81	70	79	80	81	90	77	80	83	84	82	82	77	72	79	78	87	76	76	73	75	87	89	95	94	80.9
	Minimum	62	55	63	64	64	63	60	58	55	55	58	64	53	52	59	55	48	59	50	53	56	49	56	57	46	54	57	55	62	60	63	56.9
Dickinson §	Maximum	78	83	81	82	79	75	81	82	79	83	86	86	79	83	87	83	84	89	78	80	81	85	96	75	71	70	84	88	85	94	92	82.5
	Minimum	57	56	54	61	60	54	57	54	61	43	57	60	51	47	53	59	54	59	49	52	52	46	56	59	46	55	46	49	53	55	53	53.8
Dunn Center §	Maximum	81	84	83	85	79	72	85	87	84	82	88	87	79	88	83	80	90	85	77	75	80	79	95	74	75	61	79	79	79	95	90	81.9
	Minimum	59	52	59	53	60	56	57	57	63	43	58	61	52	51	54	53	54	57	47	53	52	48	56	59	46	58	48	53	62	58	56	54.7
Fessenden §	Maximum	80	84	88	85	81	76	82	76	83	82	86	91	80	80	86	85	83	86	80	76	80	79	92	75	82	77	79	87	88	94	96	83.2
	Minimum	59	53	61	62	60	49	58	56	55	55	53	59	51	50	57	50	53	51	47	50	58	41	50	60	45	55	53	55	56	60	59	54.2
Fullerton	Maximum	85	87	93	87	90	85	83	83	82	87	88	97	85	82	82	92	96	95	84	81	83	82	93	84	78	73	80	90	89	96	101	86.9
	Minimum	61	60	60	71	67	65	61	58	59	53	56	64	57	54	54	58	64	58	55	56	52	54	52	63	52	60	50	57	58	57	59	58.2
Garrison §	Maximum	80	81	83	83	82	78	82	82	80	81	88	88	78	84	86	84	87	86	79	77	79	81	93	74	77	66	81	88	82	92	93	82.4
	Minimum	59	42	50	62	59	57	58	57	61	48	57	63	53	53	56	53	53	58	48	53	55	48	53	59	47	55	50	55	57	58	61	54.8
Grafton	Maximum	84	86	85	89	79	81	85	84	72	80	85	95	93	89	84	87	85	80	81	77	75	77	81	82	79	81	80	91	94	97	98	84.4
	Minimum	61	57	64	63	67	60	60	60	53	55	52	61	55	57	58	52	51	54	54	56	50	51	51	60	52	47	58	54	58	59	60	56.5
Grand Forks	Maximum	84	85	87	82	75	83	85	69	73	78	82	94	81	76	88	87	79	80	78	72	74	77	82	78	75	79	77	87	92	94	93	81.5
	Minimum	64	58	65	68	66	63	62	56	52	56	58	62	55	56	57	52	51	55	52	57	52	56	55	57	53	52	59	60	60	60	63	57.8
Jamestown §	Maximum	88	92	84	83	80	83	78	81	83	89	92	85	80	92	87	86	90	82	79	82	79	93	75	76	79	75	87	87	95	96	98	85.0
	Minimum	62	59	64	66	63	63	60	59	55	55	54	63	56	55	54	56	54	57	54	58	55	54	50	63	52	56	52	56	57	57	59	57.4
Kenmare	Maximum	85	77	80	83	86	85	80	83	83	79	83	94	86	79	86	84	87	86	86	77	75	80	83	93	73	75	60	80	88	87	93	82.5
	Minimum	61	53	60	62	61	59	60	57	61	51	63	62	55	53	62	54	49	62	48	53	55	50	59	52	54	58	52	55	64	61	56	56.8
Langdon §	Maximum	80	88	85	81	77	77	83	77	74	82	82	92	83	79	82	83	68	75	75	79	78	77	80	76	77	76	79	89	90	94	92	81.0
	Minimum	61	51	61	62	50	57	67	56	52	52	54	62	49	51	59	48	45	49	47	52	51	49	53	55	40	46	54	51	46	60	61	53.7
Marmarth	Maximum	80	87	83	84	78	77	80	84	81	89	88	90	84	85	90	84	87	92	81	82	81	88	97	74	70	79	85	90	87	95	94	84.7
	Minimum	63	59	68	61	53	57	56	63	51	61	66	60	50	52	64	52	59	58	53	58	58	60	62	54	55	49	59	66	56	57	55	57.9
Minot	Maximum	79	82	83	83	84	80	84	83	82	83	91	89	86	87	86	88	88	88	82	78	81	85	93	92	75	70	83	89	88	96	95	84.9
	Minimum	60	49	62	65	61	59	58	55	62	47	58	62	51	51	63	52	47	61	45	53	54	46	58	58	55	56	54	52	63	63	59	56.1
Mott	Maximum	81	90	86	85	82	78	81	86	83	87	88	92	84	86	92	83	88	95	81	81	80	86	100	81	71	74	85	89	84	95	92	85.4
	Minimum	58	58	62	63	61	54	59	56	63	47	60	64	54	51	54	61	54	55	50	53	56	50	57	62	51	57	48	56	60	57	56	56.4
Pembina	Maximum	81	87	83	79	77	85	86	69	70	80	84	92	84	79	81	84	77	77	76	75	74	78	79	75	76	79	79	86	93	95	87	80.9
	Minimum	61	57	64	66	65	60	60	60	54	54	53	63	54	54	58	54	47	54	50	53	61	53	54	59	48	49	58	53	60	60	62	56.7
Sharon	Maximum	82	84	85	80	77	78	81	71	74	79	80	91	78	77	87	85	82	83	79	79	79	77	86	78	77	80	76	86	92	95	96	81.7
	Minimum	61	57	62	64	65	62	59	58	52	52	57	64	52	52	58	53	52	58	52	56	50	50	51	63	48	55	56	55	58	59	59	56.5
Steele	Maximum	80	84	91	85	80	80	81	83	85	83	88	93	85	82	90	82	85	85	80	76	80	79	95	80	75	73	79	85	80	92	95	83.6
	Minimum	50	55	61	61	60	60	57	55	60	48	59	62	54	52	56	54	54	59	50	52	53	52	54	64	49	55	48	57	59	55	57	55.5
Valley City	Maximum	81	84	85	85	84	81	80	79	79	79	83	90	89	79	92	89	81	89	81	77	77	74	84	82	73	78	74	82	83	90	94	82.5
	Minimum	62	59	63	66	69	62	61	59	53	54	51	64	57	50	58	52	50	56	55	57	51	53	50	61	52	51	55	55	53	56	59	56.6
Wahpeton	Maximum	87	89	89	91	84	88	83	80	81	84	83	91	90	80	91	89	85	93	79	80	74	75	83	83	78	74	74	87	91	85	100	84.5
	Minimum	65	60	66	71	68	65	62	60	51	56	55	69	58	53	56	52	52	57	57	57	51	51	52	67	52	53	54	54	54	60	64	58.1
Williston	Maximum	77	81	84	83	80	78	81	86	75	86	92	83	77	85	79	84	85	82	77	79	80	86	90	73	76	71	85	89	90	94	92	82.6
	Minimum	62	58	61	61	61	58	60	61	58	50	62	62	58	55	61	62	56	60	53	58	60	52	66	58	52	57	54	57	68	64	63	59.0
Moorhead, Minn.	Maximum	85	85	87	83	83	85	83	75	80	82	82	93	82	74	93	87	83	88	78	79	74	76	83	77	75	75	75	87	91	87	98	82.7
	Minimum	64	64	65	72	69	65	63	60	54	58	61	66	61	56	54	57	56	56	58	57	53	54	52	64	54	56	58	57	59	59	65	59.6

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for July 1938—Continued from page 26.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	......	......	....	....	....	....	......	2.26	+0.20	1.15	0	12	20	11	0	w.	H. A. Bury.
Amidon	Slope	......	15	69.8	−0.3	99	23	49	10	39	1.43	−1.04	0.74	0	10	18	9	4	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	32	71.1	+2.6	96	23	46	27	43	0.98	−0.83	0.22	0	9	8	22	1	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	68.4	−0.8	96	23	42	10†	43	3.17	+0.81	1.23	0	11	8	23	0	nw.	C. L. Hall.
Bowbells	Burke	1,958	9	......	......	....	....	....	....	......	......	......	......	......	......	......	......	......	......	G. Hanson.
Bowman	Bowman	2,872	23	70.1	+0.7	98	23	47	27	42	2.05	−0.08	0.76	0	9	18	10	3	se.	Wm. E. Tomlin.
Crosby	Divide	1,954	29	67.8	+1.0	95	30	46	10	42	4.01	+1.90	1.65	0	7	17	8	6	sw.	J. H. Phelps.
Dickinson	Stark	2,543	45	68.2	0.0	96	23	43	10	40	3.12	+0.95	1.39	0	9	15	13	3	nw.	LeRoy Moomaw.
Dunn Center	Dunn	2,191	38	68.3	+0.3	95	23†	46	25	39	4.46	+2.23	1.59	0	10	16	13	2	nw.	O. T. Evenson.
Epping	Williams	2,224	27	70.0	+2.0	98	31	45	10	38	3.45	+1.47	2.04	0	9	20	11	0	n.	T. Beachler.
Fairfield	Billings	......	1	......	......	....	....	....	....	......	2.09	......	1.22	0	5	18	13	0	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	69.5	......	95	23	48	25	35	2.39	+0.20	0.57	0	8	15	15	1	nw.	Verne King.
Hettinger	Adams	2,675	30	72.2	+2.1	98	23	48	27	40	2.34	−0.02	0.93	0	10	18	8	5	nw.	O. A. Erlandson.
Howard ‡‡ (near)	Williams	2,275	30	66.6	+0.6	94	29	46	10†	41	5.12	+3.29	1.92	0	9	22	8	1	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	69.6	......	94	12	49	17	41	3.54	+1.25	0.89	0	12	11	13	7	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	71.3	+1.9	97	23	49	26	39	2.54	+0.66	0.86	0	12	20	3	8	nw.	S. P. Grane.
Mary	McKenzie	......	9	......	......	....	....	....	....	......	2.83	......	1.14	0	8	23	5	3	nw.	Fred Hartman.
Medora	Billings	2,271	22	......	......	....	....	....	....	......	1.37	−0.79	0.44	0	8	15	16	0	nw.	Vernon Thompson.
Mott	Hettinger	2,424	30	70.9	+0.6	100	23	47	10	43	3.06	+0.92	1.00	0	12	11	20	0	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	73.8	+5.0	102	23	47	26	44	4.94	+2.87	2.42	0	6	19	10	2	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	66.8	......	93	23†	41	19	45	4.07	+2.07	1.23	0	11	6	25	0	nw.	C. E. Shubert.
Portal	Burke	1,954	32	68.4	+2.2	97	30	45	27	41	1.77	−0.34	0.91	0	9	20	9	2	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	32	......	......	....	....	....	....	......	......	......	......	....	......	......	......	......	......	Geo. B. Gee.
Richardton	Stark	2,467	21	69.6	−0.5	95	23	52	27	38	6.69	+4.44	3.08	0	7	15	13	3	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	69.2	−1.4	96	30	46	19†	45	3.81	+2.11	1.00	0	10	9	20	2	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	67.3	......	91	30	44	19†	86	2.83	......	1.58	0	11	17	12	2	nw.	LeRoy Edwards.
Tioga	Williams	2,279	9	......	......	....	....	....	....	......	3.05	......	2.25	0	11	15	15	1	nw.	B. V. Olson.
Trotters	Golden Valley	......	12	......	......	....	....	....	....	......	1.86	+0.30	1.47	0	6	17	13	1	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	71.3	+2.0	97	30	47	10	39	4.11	+2.28	0.95	0	10	13	18	0	nw.	J. C. Zeller.
Wildrose	Williams	2,258	10	......	......	....	...	....	....	......	2.03	......	0.96	0	11	17	9	5	sw.	L. Holter.
Williston	Williams	1,878	58	70.8	+1.9	94	30	50	10	36	3.01	+1.12	2.10	0	13	22	9	0	w.	U. S. Weather Bureau.
Average for Western Division		......	.....	69.6	+1.8	102	23	42	10†	45	3.05	+0.99	3.08	0	9	16	13	2	nw.	....
Average for the State		......	.....	69.7	+0.9	104	31	39	25	50	3.34	+0.90	3.14	0	9	15	13	3	nw.	....

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVII   Bismarck, N. D., August 1938   No. 8

GENERAL SUMMARY

The temperature for the month averaged above normal with the highest readings generally on the 1st, 2d, 12th, and 13th. There were no unusually cool periods. The precipitation averaged somewhat below normal with the heaviest amounts in the eastern part of the State. The rainfall was fairly well distributed throughout the month, although the central and western sections had only light amounts after the 15th. There were very few cloudy days at most stations. A severe wind storm occurred in Dickey County on August 13th and some barns were blown down near Fullerton. A few stations reported light to moderate dust storms on the 2d. Crops and livestock deteriorated somewhat due to dry weather at most places.

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TEMPERATURE

The mean temperature for the State was 69.8°, or 3.4° above the 1892-1938 average for August. The mean for the eastern division was 71.2°; for the middle division, 69.6°; and for the western division, 68.5°. The highest mean temperature was 74.2° at Fullerton, and the lowest, 65.6° at Parshall, making a range in mean temperature of 8.6° The absolute range in temperature was 76°, from 109° at Edgeley on the 13th, to 33° at three scattered stations on the 19th and 24th. The average daily excess in temperatue for the State since January 1, 1938, is 2.0°.

PRECIPITATION

The average precipitation for the State was 1.50 inches, or 0.50 inch less than the 1892-1938 average for August. In the eastern division the average amount was 1.79 inches; in the middle division, 1.22 inches; and in the western division, 1.48 inches. The greatest monthly amount reported was 5.22 inches at Lisbon; the least was 0.20 inch at Hettinger. The greatest amount recorded in any 24 consecutive hours was 2.85 inches at Energy on the 9th. The accumulated deficiency in precipitation since January 1, 1938, is 0.32 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	9	3	6	9	6	2	1	..	..	1	2	..	1	..	1	..	..	1	1	2	2	5	4	4	2	1	1	1	6	4	3
Dust storms .	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	2	..	..	..	..	..	..	4	1	..	1	..	..	..	2	1	..	..	..	..	..	..	..	4	..	..	..	..	..	2	3
Lunar halos..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..
Hail		1		..	..	1	..	1	..	..	..	..	..	..	..	1	..	1	2	..	..	..	1	..	..	..	1	..	..	2	..
Thund'rst'ms	5	10	10	1	..	3	13	16	19	5	3	14	17	6	..	2	1	9	10	1	..	..	..	..	..	..	2	2	5	13	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck........	29.88	30.34	24	29.38	18	8.8	34	nw.	2	73	35	30	74
Devils Lake.....	29.90	30.37	24	29.43	18	8.8	26	se.	2	82	36	37	80
Williston........	29.89	30.32	24	29.47	18	7.2	29	w.	19	79	41	37	77
Moorhead, Minn	29.88	30.30	24	29.30	14	8.4	23	se.	7	75	43	41	81
Averages & ext's	29.89	30.37	24	29.30	14	8.3	34	nw.	2	77	39	36	78

† And other dates.

COMPARATIVE DATA FOR AUGUST

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892...	67.3	105	24	2.86	2.80	1.50	2.39	0	8	15	10	6
1893...	66.7	109	29	2.10	1.25	0.58	1.31	0	3	20	7	4
1894...	68.8	102	30	1.37	0.86	1.20	1.14	0	4	17	10	4
1895...	64.5	104	24	1.87	1.36	1.48	1.57	0	5	17	11	3
1896...	64.7	107	21	2.07	0.86	0.42	1.12	0	5	17	10	4
1897...	64.1	106	29	1.28	1.13	1.13	1.18	0	5	15	10	6
1898...	65.4	104	24	2.92	1.40	0.75	1.69	0	5	15	11	5
1899...	65.2	97	32	2.90	2.90	2.69	2.83	0	6	15	11	5
1900...	70.4	114	33	6.05	4.53	4.60	5.06	0	10	14	11	6
1901...	66.9	100	32	2.55	1.90	0.86	1.77	0	6	18	8	5
1902...	64.3	96	26	2.65	2.36	1.88	2.30	0	8	16	9	6
1903...	63.7	103	35	4.72	4.65	4.67	4.68	0	10	13	7	11
1904...	63.3	102	31	1.56	1.92	1.34	1.61	0	6	17	7	7
1905...	67.5	107	34	3.51	2.44	1.34	2.43	0	7	17	8	6
1906...	66.3	105	31	1.53	1.74	2.25	1.84	0	7	17	6	8
1907...	64.5	104	26	2.17	1.23	1.79	1.73	0	6	18	9	4
1908...	63.2	104	25	2.48	2.46	1.55	2.16	0	7	17	8	6
1909...	69.8	109	27	2.98	1.94	1.78	2.23	0	6	18	9	4
1910...	63.1	109	24	1.58	1.30	1.51	1.46	0	5	14	8	9
1911...	62.2	98	23	3.61	3.87	2.15	3.21	0	8	12	11	8
1912...	63.4	118	32	3.41	2.60	2.62	2.88	0	10	11	10	10
1913...	68.9	106	30	3.15	2.32	2.42	2.63	0	6	16	10	5
1914...	64.2	101	26	2.00	2.26	2.61	2.29	0	7	13	11	7
1915...	64.4	100	19	1.16	1.49	0.89	1.18	0	4	19	8	4
1916...	66.0	100	26	3.17	2.79	2.05	2.67	0	8	16	10	5
1917...	65.2	105	25	0.96	0.74	0.76	0.82	0	4	17	10	4
1918...	66.5	102	34	3.51	3.39	3.25	3.38	0	8	15	11	5
1919...	67.9	101	30	2.58	1.57	0.63	1.59	0	5	18	10	3
1920...	68.8	108	28	1.03	2.01	1.55	1.53	0	5	22	6	3
1921...	67.2	108	31	3.08	1.86	0.99	1.98	0	6	18	10	3
1922...	69.8	115	33	1.29	1.63	1.02	1.31	0	6	18	9	4
1923...	63.0	97	28	2.38	1.70	1.45	1.84	0	8	14	12	5
1924...	63.8	102	28	2.27	1.36	1.09	1.57	0	6	17	9	5
1925...	67.9	110	29	1.39	1.06	0.66	1.04	0	5	20	8	3
1926...	65.6	105	36	3.01	2.41	1.68	2.37	0	7	14	8	9
1927...	63.4	96	28	3.17	3.63	2.58	3.13	0	8	18	8	5
1928...	64.8	105	25	3.84	3.15	2.28	3.09	0	8	17	9	5
1929...	68.5	106	26	0.87	0.83	0.60	0.77	0	4	20	9	2
1930...	70.4	104	32	1.40	1.45	1.49	1.45	0	6	15	9	7
1931...	67.0	105	30	2.43	2.33	1.51	2.09	0	6	16	9	6
1932...	68.3	100	28	2.40	1.37	1.89	1.89	0	7	16	10	5
1933...	68.5	104	31	0.81	0.64	0.79	0.75	0	5	17	9	5
1934...	67.4	108	25	1.70	1.15	0.60	1.15	0	5	16	11	4
1935...	66.2	109	26	3.83	1.90	1.32	2.35	0	8	16	9	6
1936...	69.8	110	29	1.67	1.37	1.16	1.40	0	6	14	11	6
1937...	72.9	109	40	2.56	1.11	0.88	1.52	0	5	18	10	3
1938...	69.8	109	33	1.79	1.22	1.48	1.50	0	6	18	10	3
Period	66.4	118	19	2.42	1.96	1.61	2.00	0	6	16	9	6

Climatological Data for August 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	....	....	98	2†	46	21	46	0.37	−2.22	0.15	0	3	1	20	10	s.	I. Idso.
Cavalier	Pembina	894	28	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Burke Bechtel.
Cooperstown	Griggs	1,428	41	67.9	+1.7	96	3	43	24†	40	2.79	+0.16	2.10	0	10	25	4	2	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	....	....	....	....	....	....	....	0.62	....	0.62	0	1	4	26	1	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	41	69.0	+4.2	93	2	42	24	37	1.74	−0.74	1.13	0	8	18	8	5	sw.	U.S. Weather Bureau.
Edgeley	LaMoure	1,568	37	73.8	+6.9	109	13	42	26	50	1.06	−1.41	0.34	0	5	13	18	0	se.	O. A. Thompson.
Edmore	Ramsey	1,524	14	68.0^{f}	+4.3	95	12†	37	24	44	1.41	−0.89	0.75	0	8	....	....	....	....	Mike Davis.
Ellendale	Dickey	1,457	43	73.0	+4.2	107	13	45	26	50	1.61	−1.11	0.63	0	5	25	4	2	s.	J. E. Demmer.
Fargo	Cass	895	2	72.1	....	99	1†	43	26†	44	1.59	−1.48	0.57	0	7	17	12	2	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	72.4	+4.2	105	13	42	21	48	0.56	−2.22	0.35	0	3	25	6	0	s.	Helge Dyste.
Fullerton	Dickey	1,439	40	74.2	+7.1	107	13	45	26	47	2.13	−0.40	1.07	0	8	23	8	0	nw.	F. O. Alin.
Grafton	Walsh	827	46	72.4	+7.2	99	12	42	29	41	1.74	−0.84	1.24	0	6	16	14	1	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	70.4	+5.0	95	13	42	24†	43	1.22	−1.42	0.45	0	10	11	18	2	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	9	73.6	....	103	2†	45	29	46	0.28	....	0.15	0	3	29	2	0	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	66.6	+3.7	93	12	33	24	43	1.12	−1.00	0.53	0	8	11	16	4	nw.	M. J. Rockwell.
Hillsboro	Traill	901	32	72.4	+4.9	98	1†	46	24†	44	1.75	−0.95	0.65	0	7	23	8	0	nw.	Lyle George.
Jamestown	Stutsman	1,457	46	71.1	+4.7	98	1	42	26	52	0.60	−2.09	0.22	0	6	19	12	0	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	42	67.8	+5.3	96	12	38	24	44	2.70	+0.24	1.17	0	11	16	7	8	n.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	71.2	+6.2	93	1	44	24	39	3.07	+0.29	1.85	0	6	22	3	6	se.	Mabel Walsh.
Lisbon	Ransom	1,091	34	72.8	+5.8	104	13	45	26	43	5.22	+2.54	2.52	0	8	20	9	2	sw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	16	68.0	+2.9	93	8†	37	26	49	0.75	−2.16	0.29	0	8	18	12	1	nw.	C. E. Blasky.
McLeod	Ransom	1,075	27	72.6	+4.7	107	13	44	26†	43	2.78	+0.36	1.80	0	6	25	4	2	se.	J. G. Carlson.
Mayville	Traill	975	42	73.8	+6.8	97	1†	44	29	40	0.66	−1.97	0.32	0	4	16	10	5	n.	H. B. Addicott.
Oakes	Dickey	1,318	9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	S. F. Rossman.
Park River	Walsh	998	34	68.9	+2.7	98	12	41	29	43	2.26	−0.16	1.60	0	7	23	3	5	nw.	E. J. Taintor.
Pembina	Pembina	789	64	70.2	+5.9	96	13	42	29†	40	1.37	−0.82	0.53	0	6	24	6	1	s.	E. N. Russell.
Petersburg	Nelson	1,520	8	....	....	....	....	....	....	....	2.99	....	2.01	0	8	12	18	1	sw.	T. M. Rykken.
Sharon	Steele	1,516	14	70.0	+2.7	95	1†	44	26†	43	1.87	−0.23	1.12	0	8	21	10	0	w.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	71.1	+4.3	95	2	41	26	41	1.09	−1.12	0.60	0	7	15	14	2	ne.	I. C. Robertson.
Wahpeton	Richland	962	46	73.8	+5.9	103	13	44	29	41	2.85	+0.17	2.35	0	8	21	7	3	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	72.5	+6.4	99	13	48	26	38	2.59	−0.30	1.21	0	6	17	12	2	s.	U. S. Weather Bureau.
Average for Eastern Division		....	....	71.2	+5.2	109	13	33	24	52	1.79	−0.63	2.52	0	7	18	11	2	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	42	71.4	+4.9	105	13	41	26	47	1.70	−0.85	0.77	0	8	21	9	1	se.	Henry Doerr.
Bisbee	Towner	1,601	2	68.0	....	97	12	43	29	43	0.63	....	0.26	0	7	26	1	4	n.	I. K. Lund.
Bismarck	Burleigh	1,670	64	71.4	+4.1	101	12	42	26	45	0.84	−0.98	0.48	0	8	17	11	3	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	70.0	+5.9	96	1	43	26	40	2.57	+0.16	0.91	0	7	24	3	4	nw.	N. D. School of Forestry
Carrington	Foster	1,579	40	70.4	+3.6	97	1	40	24	42	0.63	−1.53	0.20	0	6	28	1	2	se.	Soo Line Agent.
Carson	Grant	2,500	26	72.9	+5.0	106	12	44	20	49	0.42	−1.38	0.16	0	4	16	15	0	nw.	J. W. Evens.
Center	Oliver	....	0	67.6	....	94	1	37	26	49	0.81	....	0.32	0	4	19	9	3	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	68 0	+1.0	91	18	40	24	39	2.17	+0.25	1.66	0	5	17	11	3	nw.	R. L. Williams.
Drake	McHenry	1,634	9	68.8	....	95	12	42	24	40	0.92	....	0.52	0	7	15	14	2	se.	Peter Anton.
Dunseith	Rolette	1,682	42	66.8	+2.9	93	1	37	26	48	2.28	−0.18	1.17	0	8	21	7	3	n.	Geo. Gehres.
Eckman	Bottineau	1,500	33	67.8	+3.6	95	1†	42	24†	50	1.72	−0.25	0.73	0	8	16	14	1	ne.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	68.2	−0.2	94	1	41	26	45	3.38	+1.45	2.85	0	4	17	14	0	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	26	68.7	+2.8	98	1	40	24†	51	0.89	−1.42	0.30	0	8	19	10	2	se.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	72.6	+3.3	106	12	42	26	46	0.51	−1.66	0.25	0	3	19	9	3	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	68.0	+1.8	96	12	42	24	43	1.48	−0.26	0.83	0	6	17	9	5	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	71.6	....	100	13	43	24	45	1.54	....	0.80	0	7	16	12	3	nw.	A. H. Haut.
Garrison	McLean	1,901	61	68.0	+1.9	94	12	42	26	44	0.93	−1.08	0.53	0	3	21	6	4	se.	E. L. Vorachek.
Granville	McHenry	1,504	31	69.4	+4.5	97	1	41	24	46	1.07	−0.83	0.35	0	7	24	5	2	nw.	W. A. Christianson.
Hansboro	Towner	1,597	30	68.2	+5.8	98	13	37	24	51	0.88	−1.42	0.42	0	7	16	13	2	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	72.0	+2.8	106	12	35	26	55	0.25	−2.12	0.12	0	5	17	13	1	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	70.2	+3.4	96	18	41	24	44	1.94	0.00	0.68	0	6	13	17	1	nw.	F. W. Ferry.
Maddock	Benson	1,604	23	69.0	+3.3	95	4	41	24	50	0.46	−2.01	0.22	0	5	13	13	5	nw.	A. T. Felland.
Mandan	Morton	1,750	24	70.7	+2.6	100	12	42	26	45	0.72	−1.00	0.42	0	8	17	6	8	ne.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	....	....	....	....	....	....	....	1.13	−1.21	0.36	0	8	....	....	....	....	P. B. Anderson.
Max	McLean	2,093	9	67.2	....	95	1	42	24	42	0.98	....	0.48	0	4	18	8	5	se.	A. W. Rice.
Minot	Ward	1,557	42	69.4	+4.4	97	12	41	24	48	1.37	−0.70	0.75	0	6	18	7	6	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	44	68.0	+4.1	98	1	42	6	49	2.08	+0.15	0.80	0	6	12	18	1	sw.	Iver Johnson.
Napoleon	Logan	1,955	46	71.2	+4.8	102	12	40	26	47	0.53	−1.87	0.18	0	7	25	5	1	sw.	C. J. Hoof.
New Salem	Morton	2,163	34	69.6	+2.4	100	12	39	20	50	0.78	−1.04	0.58	0	3	21	9	1	ne.	J. Christianson.
Pettibone	Kidder	1,856	29	72.4	+4.1	95	1†	47	31	39	0.96	−1.32	0.55	0	6	16	11	4	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	67.6	....	95	18	42	24	42	2.34	....	1.29	0	10	18	9	4	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	9	....	....	....	....	....	....	....	0.77	....	0.30	0	7	14	14	3	nw.	W. B. Paterson.
Ryder	Ward	2,108	9	....	....	....	....	....	....	....	1.52	....	1.20	0	5	24	5	2	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	....	....	....	....	....	....	....	0.35	....	0.25	0	3	12	14	5	se.	J. B. Smith.
Steele	Kidder	1,857	44	70.1	+3.4	101	12	41	24†	47	1.12	−1.27	0.46	0	5	20	11	0	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	9	....	....	....	....	....	....	....	1.09	....	0.68	0	6	26	2	3	nw.	G. N. Pilgard.
Timmer	Morton	....	1	....	....	....	....	....	....	....	0.80	....	0.48	0	5	....	....	....	....	Geo. M. Sinclair.
Towner	McHenry	1,482	36	69.6	+4.2	97	18	44	24	45	1.41	−0.62	0.58	0	7	18	11	2	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	....	....	97	18	51	4	40	1.32	−0.80	0.68	0	5	27	3	1	se.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	....	....	....	....	....	....	....	0.72	−1.20	0.22	0	9	21	7	3	nw.	Adam Leno.
Velva	McHenry	1,511	11	68.8	+0.9	94	1†	40	24	47	1.20	−0.70	0.63	0	6	15	13	3	nw.	Oscar Anderson.
Washburn	McLean	1,731	37	69.4	+2.0	95	2	45	24	38	2.77	+1.10	1.98	0	6	23	7	1	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	68.5	+3.8	95	1	43	24†	44	3.18	+1.18	1.22	0	8	16	9	6	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	46	67.3	+3.7	100	13	36	26	53	0.70	−1.42	0.24	0	7	25	4	2	se.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	69.3	+3.5	103	13	36	25	46	0.46	−1.45	0.14	0	7	15	13	3	nw.	H. M. Larson.
Zap	Mercer	1,838	23	....	....	....	....	....	....	....	0.47	−1.44	0.18	0	3	28	3	0	....	R. A. Norton.
Average for Middle Division		....	....	69.6	+3.5	106	12	35	26	55	1.22	−0.74	2.85	0	6	19	9	3	nw.	....

Continued on page 32.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for August 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red									.10				T.	.12																.15		0.37
Cooperstown	Sheyenne		T.	.04		T.	T.	.03		.08	2.10		.01	.22	.04					.22	.03									T.	.02		2.79
Courtenay	James		T.							.62										T.													0.62
Devils Lake ***	Devils Lake		T.	T.			T.	T.	T	.18			.08	T.	.12		.20	T	.86	.27			T.	.01						.02	T.		1.74
Edgeley	James							.34		.09					.05				.25												.33		1.06
Edmore	Devils Lake							.02	.22	.11	.13	.07			.07		.04		T.	.75				T.						T.	T.		1.41
Ellendale	James							.48		.63					.14				.13												.23		1.61
Fargo ***	Red		.04	T.	T		T.	.10		.32			.01	.07	T.				.48	T.								T.			.57		1.59
Forman	Sheyenne			.09				.12			T.								T.									T.		.35			0.56
Fullerton	James		.01		.01			.37		.12				.38					.16	T.		.01					T.				1.07		2.13
Grafton	Red			T.				.12		.03	.30		.02					.03		1.24											T.		1.74
Grand Forks ***	do			.03			.02	.01		.44			.03		.05		T.		.01	.45				T.						.06	.12		1.22
Hankinson ‖‖	do		.05																	.08											.15		0.28
Hannah	Pembina							.53	.03	.26			.06		T.	.07			.12	.01				T.	T.						.04		1.12
Hillsboro	Red		T.	.02			T.	T	.65	.27		.40	.11	.05																	.25		1.75
Jamestown	James		.01		T.			.11	.14	.22				.01		.11				T.										T.			0.60
Langdon ‖‖	Pembina			.20				.02	1.17		.62		.03		.15	.02		.16		.30				.01							.02		2.70
Larimore	Red			.15			T.	T.			1.85		.08	T.					.07	.22											.70		3.07
Lisbon	Sheyenne			.01		T.		.41		.31	1.20				.02					2.52											.02	.73	5.22
McHenry	James	T.	.21				.05		.05	.01			.06	.03						.05								.29					0.75
McLeod	Sheyenne		.07					.11		.34	.20								1.80												.26		2.78
Mayville	Red										.14		.10	T.						T.	.10										.32		0.66
Oakes	James																																
Park River	Red						.12	.06	.26	.16		.02					T.		1.60												.04		2.26
Pembina	do							.16	T	.02	.46		.02		.18					.53	T.												1.37
Petersburg	do			.07				.20		2.01			.17	.06			.05			.11											.32		2.99
Sharon	do			.07						1.12	.02		.04	.33	.01			T.		.22										T.	.86		1.87
Valley City	Sheyenne		.01				.11		.05	.60					.05				.21	.06													1.09
Wahpeton	Red			.10		T.	.07	.04		.04	.15							T.		2.35											.09	.01	2.85
Moorhead, Minn. ***	do		.02		T.		T	.11		.47			T.	.19	T				1.21	T.						T.					.59		2.59
Middle Division																																	
Ashley	Missouri			.77		.02				.16					.08					.23	.02										.35	.07	1.70
Bisbee	Devils Lake			.08						.26	.16		.04		.03		.03							T.							.03		0.63
Bismarck ***	Missouri		.13	T.				.06	.08	.01			T	.01	T.					.04								.48		.03			0.84
Bottineau	Mouse			.01					.91		.62		.32	.05	.57										.09								2.57
Carrington ‖‖	James			.08		.04	.20	.10		.08				.13																			0.63
Carson	Heart		.15							.16								.03		.08													0.42
Center	Missouri						.19			.25		.05			.32																		0.81
Dogden Butte	Mouse							.04		1.66	.14		T.		.29					T				T.						T.	.04		2.17
Drake ‖‖	do			.05						.52	.08				.12	.05		.03			T.			T.							.07		0.92
Dunseith	do			.17			T.		.21	1.17	.11		.25	.07	.20									.10									2.28
Eckman	do			.07					.43	.30			.07	.03	.73					T.				.07							.02		1.72
Energy	Missouri						T.	.38		2.85			.05		.10									T.									3.38
Fessenden ‖‖	James			.07				.14		.30	.02				.04					.13	.10								.09				0.89
Fort Yates	Missouri	.10	T.						.16										T.	T.										.25			0.51
Foxholm (near)	Mouse			.06						.40				.12	.83					.02				.05									1.48
Gackle	James		.18	.12				.80	.32		T.				.01									.02					.09				1.54
Garrison ‖‖	Missouri							.10		.53					.30					T.													0.93
Granville	Mouse			.08					.28	.35			.03		.19					.05				.09								T.	1.07
Hansboro	Devils Lake			.04					.23	.42		.05			.12					.01				.01									0.88
Linton	Missouri		T.			.06				.12				.01	.01					.05													0.25
McClusky	do			.14				.68		.31			.35		.26					.20													1.94
Maddock	Sheyenne							.06		.08				.06	.04		T.			.22													0.46
Mandan ‖‖	Missouri		.42				.07	T.	.10	T.		.02								.05							.01	.01		.04			0.72
Max ‖‖	do			T.						.48	.21			.04	.25																		0.98
Minot	Mouse			.05			T.			.32	T.			T.	.75		T			.03				.15							.07		1.37
Mohall	do			.12					.80	.39			T.		.57	T.	.04			T.				.16									2.08
Napoleon ‖‖	Missouri		.02			.02		.10		.16				.18	.03						.02												0.53
New Salem	Heart							.58								.09				.11													0.78
Pettibone	James					T		.14		.14			.02	.09	.02					.55													0.96
Rolla	Devils Lake			.09					.33	1.29	.01		.09		.27	.01	T.			.09				.13							.03		2.34
Rugby (near)	Mouse								.01	.30	.03		.09		.29				T.						.03						.02		0.77
Ryder	Missouri		.04					T.	T.	.20			T.	1.20	.03									T.						.05			1.52
Selfridge	do	T.							.25				T.	T		T.			.05											.05	T.		0.35
Steele	do		T			.07		.30		.09			T.	.46						T.								T	.20				1.12
Tagus	Mouse			.03						27				T.	.68	.01	T.			.02				.08									1.09
Towner	do								.58	.03	.35		.18		.19		T			.05				.03									1.41
Turtle Lake	Missouri							.40		.68	T.		.02		.20					.02													1.32
Tuttle	do		T.	.04		.02		.15		.10			.22	.02	.01					.15					T.			.01		T.			0.72
Velva	Mouse			.04						.44					.63			.05		.01				T	T.					.03			1.20
Washburn ‖‖	Missouri			.03				.25		1.98			.16		.31	T.					.04					T.							2.77
Westhope	Mouse			.18			T.		.94	1.22			.12		.51	.04	T.			T.				.11	T.						.06		3.18
Willow City	do			.04					.14	.22			.01	.01	.24		T.			T.				.04							T.		0.70
Wishek ‖‖	Missouri		.09					T.	.07				.01	.14						.05					T.					.05	.05		0.46
Zap	Knife								.17	.12				.18																			0.47
Western Division																																	
Alpha	Lit. Missouri		T.				T.			T.		T.			.31					.03				.04			T.			.04			0.42
Amidon	do							T.							.07					.15										T			0.22
Beach	do						.11			.09		.22		.49						.09													1.00
Berthold Agency	Missouri		T.				T.	T.		1.01			.01	T.	.60	T.				T.				T.	T.					.07	T		1.69
Bowman	Grand									.16					.09					.02	.06					.19					.38		0.90
Crosby	Mouse								.42						.70		.02				.03				.20								1.37
Dickinson ‖‖	Heart			T.				.34	.01	.03	.09		T.		.12	.08				T.	.12					T.		T.		.03	T		0.82
Dunn Center	Knife									1.61	.21		.03		.45	.02												.03					2.35
Fairfield	Lit. Missouri						.52				.24				.50									T.									1.26
Fryburg	Heart		T.					.14	T					T.	.47					.02				.01	.01								0.65
Hettinger	Grand													.08	.03					.01	.03										.05		0.20
Howard (near)	Missouri						T.	T	.36	.19				T.	.54	.04				.03				.12	T.						T.		1.28
Kenmare	Mouse			.10					T.		.27		.04		.99	.06	.02				.07			.01	.12								1.68
Marmarth	Lit. Missouri							.01						.13	T				T	.07				T						.36			0.57
Mary	do		T.				.03		.01	.15					1.08					.07				T.									1.34
Medora	do		T.					.06		.05		T.		T.	.19					T.													0.30
Mott	Cannon Ball							.03		.38					.05					.13											T.		0.59
New England ‖‖	do							T.						.22						.10									.01				0.33
Parshall	Missouri			.15					.02	T	.16			T.	1.02	.02	T.	.08			.02				T.								1.47
Portal ‖‖	Mouse			.45					1.05		.75		.08		.57	.10	.03				.07				.13								3.23
Powers Lake	Missouri	1.86								.45					.89									.19									3.39
Richardton	Heart		.01					.60		.29			T.			.13				.04				T.				.02					1.09
Sanish ‖‖	Missouri													.05	.55	.09					.08												0.77
Stanley	do			.02						.55					.83	.09				.10				.19									1.78
Tioga	do		.10							.55					.82		.10																1.57
Trotters	Lit. Missouri								.61	.17				.11	2.18	.03				.11				.14									3.35
Watford City	Missouri		T.						.68	.10					.92					.18				.03									1.91
Wildrose	do		.05						.32	.50					.83	.23				.05				.19									2.17
Williston ***	do		.19					.02	T.	.42			T	.17	.66	T.			T.	.21				.03							T.		1.70

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	101	103	81	95	93	93	90	93	96	80	87	101	105	77	79	85	92	94	83	78	92	97	79	81	78	84	90	89	87	88	85	88.9
	Minimum	58	63	57	49	61	58	62	62	64	56	47	59	65	60	51	49	51	56	55	44	45	54	53	46	52	41	54	60	44	53	44	54.0
Beach	Maximum	95	95	81	94	92	94	91	93	88	78	96	99	91	76	74	83	92	85	72	74	89	84	79	90	84	85	92	86	92	88	84	87.0
	Minimum	56	57	50	50	52	58	54	59	57	47	53	55	42	40	38	39	45	42	35	36	44	47	40	33	34	44	73	59	43	61	49	48.1
Bismarck	Maximum	97	99	82	96	92	89	85	91	87	78	88	101	92	73	79	85	91	97	70	75	92	90	73	81	76	87	91	83	82	92	82	86.3
	Minimum	61	64	58	51	59	59	65	65	65	56	50	68	69	56	52	54	51	70	54	48	49	53	55	49	51	42	60	56	51	60	51	56.5
Bottineau	Maximum	96	95	93	82	90	83	90	89	90	85	82	89	92	91	78	85	83	92	92	85	85	89	86	78	67	74	85	89	90	85	79	86.1
	Minimum	62	57	54	45	63	49	59	60	62	52	54	60	65	64	45	49	50	63	53	49	50	56	53	48	44	43	83	53	50	55	54	54.0
Carson	Maximum	105	105	90	100	99	89	91	98	94	82	91	106	98	80	80	86	90	99	77	76	96	96	79	84	80	91	93	91	89	98	88	91.0
	Minimum	56	67	52	53	54	57	63	62	62	49	52	68	70	55	49	46	57	65	49	44	48	55	56	45	46	45	60	55	54	59	47	54.8
Crosby §	Maximum	93	92	80	93	83	80	92	92	66	79	89	96	89	68	68	78	87	85	67	75	85	78	55	81	78	85	90	81	95	84	79	82.0
	Minimum	52	47	49	49	51	45	48	60	59	48	49	48	59	55	47	46	49	51	49	46	45	53	51	42	45	46	48	58	51	48	50	49.8
Devils Lake	Maximum	93	93	81	90	89	84	86	93	88	77	87	91	91	76	78	80	85	93	78	74	85	87	64	76	73	84	90	78	79	89	72	83.4
	Minimum	57	60	57	56	59	49	59	64	65	54	52	60	70	57	52	51	53	60	56	49	51	58	47	42	47	51	53	54	48	57	49	54.7
Dickinson §	Maximum	97	95	81	92	91	89	85	91	82	78	92	99	90	73	74	83	93	91	68	74	89	88	74	85	77	86	92	85	90	94	84	85.9
	Minimum	49	55	47	44	46	51	55	60	62	45	49	57	64	56	45	45	44	50	49	40	42	48	56	47	41	38	42	48	52	54	40	49.1
Dunn Center §	Maximum	95	92	78	94	88	85	85	91	79	78	88	95	88	71	73	77	91	86	60	68	80	82	59	78	73	84	92	82	91	84	70	81.8
	Minimum	53	53	49	44	50	48	50	50	61	48	47	62	64	57	50	47	46	52	52	41	43	50	57	42	42	38	45	50	48	53	46	49.9
Fessenden §	Maximum	98	96	85	94	91	87	89	94	90	78	90	95	91	75	80	85	91	95	80	76	90	91	69	83	75	89	93	82	85	92	71	86.5
	Minimum	55	57	55	48	47	50	57	59	62	53	48	60	65	58	49	49	50	54	54	47	48	51	53	40	41	43	46	50	40	41	47	50.9
Fullerton	Maximum	103	104	92	100	96	94	88	93	97	81	89	103	107	79	80	86	93	91	80	76	91	97	85	82	79	92	87	92	87	89	80	90.1
	Minimum	67	70	63	57	61	60	59	64	67	68	52	63	70	64	52	53	55	59	64	50	49	63	55	47	58	45	46	60	47	63	53	58.2
Garrison §	Maximum	93	92	82	91	86	83	86	89	87	78	86	94	91	69	73	85	90	93	72	74	88	86	70	80	76	86	90	84	86	89	78	84.1
	Minimum	53	55	53	48	54	51	55	63	61	49	48	61	64	57	48	47	47	58	52	46	46	53	55	44	44	42	51	53	47	58	46	51.9
Grafton	Maximum	94	94	93	93	93	87	87	91	91	86	88	99	87	89	83	85	87	94	93	84	88	87	83	77	77	86	91	92	82	89	77	88.3
	Minimum	59	60	64	52	61	48	59	62	68	60	52	59	70	65	50	52	54	59	61	53	52	54	52	45	54	45	53	66	42	65	57	56.5
Grand Forks	Maximum	93	93	85	91	90	83	86	93	85	79	86	92	95	82	85	85	86	91	84	76	88	90	68	77	74	88	92	80	81	90	72	85.2
	Minimum	63	68	61	53	59	50	62	62	67	56	51	60	70	60	53	54	54	66	60	51	50	58	49	42	50	45	53	50	42	55	50	55.6
Jamestown §	Maximum	98	85	97	94	90	83	98	92	80	89	94	97	78	84	85	98	92	79	77	91	97	72	81	77	86	93	85	83	94	80	75	87.2
	Minimum	63	65	60	54	60	58	63	61	65	59	51	54	65	63	50	52	57	61	57	48	45	53	54	45	50	42	50	59	44	48	50	55.0
Kenmare	Maximum	94	94	91	80	89	84	81	93	92	80	78	87	94	90	67	70	80	85	89	72	74	84	81	60	80	76	86	91	81	90	85	83.2
	Minimum	54	61	52	52	53	44	52	61	59	50	55	60	62	56	51	52	52	59	55	48	51	54	52	44	45	51	51	56	53	55	48	53.2
Langdon §	Maximum	93	93	79	89	87	85	87	85	87	76	85	96	91	80	77	82	85	92	82	72	84	85	63	75	78	89	90	88	81	88	83	84.1
	Minimum	58	51	56	46	53	47	54	60	65	52	46	59	66	58	48	48	48	64	57	48	45	45	44	38	44	45	48	53	44	60	49	51.6
Marmarth	Maximum	98	95	82	92	95	90	92	92	78	81	94	100	89	74	75	82	97	90	67	75	90	90	90	87	78	87	91	87	93	92	88	87.5
	Minimum	57	52	46	50	58	60	58	64	46	55	55	69	55	47	45	49	46	50	40	38	50	55	55	44	43	46	58	65	56	58	50	52.3
Minot	Maximum	96	92	90	92	90	88	90	92	89	77	89	97	92	85	73	84	89	94	86	76	88	86	80	81	80	87	92	88	88	84	78	86.9
	Minimum	54	53	52	46	57	45	53	63	65	50	50	60	60	52	51	50	48	62	54	48	47	54	52	41	46	46	44	50	49	59	48	51.9
Mott	Maximum	101	102	90	95	96	89	86	96	90	79	92	103	96	81	81	87	93	96	80	76	91	89	83	83	77	88	90	85	91	93	86	89.2
	Minimum	55	57	50	46	51	54	59	60	63	48	50	62	65	56	48	44	46	55	50	40	41	49	58	46	43	40	61	52	51	55	46	51.6
Pembina	Maximum	88	89	82	90	87	85	84	90	89	75	85	90	96	79	81	84	82	91	81	74	83	84	82	74	73	84	87	74	80	82	69	83.0
	Minimum	61	60	62	60	59	47	57	64	69	65	62	72	64	61	53	51	69	70	65	54	52	50	44	54	46	60	47	61	42	52	42	57.3
Sharon	Maximum	95	93	82	93	90	84	89	93	80	77	84	87	85	77	81	82	86	91	82	74	87	95	70	77	74	86	92	82	80	90	75	84.6
	Minimum	58	62	59	50	65	56	60	60	65	56	50	60	66	61	51	51	55	64	56	47	46	61	52	46	52	44	50	63	44	59	52	55.5
Steele	Maximum	98	99	85	96	92	90	82	93	91	79	89	101	94	80	78	82	92	95	76	70	89	93	72	85	78	85	92	84	87	93	85	87.3
	Minimum	56	60	54	49	55	52	53	58	64	55	45	63	66	57	46	47	50	69	53	42	43	56	53	41	46	41	55	53	45	60	54	52.9
Valley City	Maximum	94	95	92	89	91	87	84	91	90	85	86	90	92	85	80	82	85	90	77	77	86	93	88	75	75	82	86	88	80	88	73	85.7
	Minimum	61	64	62	52	59	58	62	64	68	60	49	60	74	65	52	49	51	66	60	50	46	60	54	45	54	41	46	61	46	63	50	56.5
Wahpeton	Maximum	98	99	98	93	94	92	85	92	90	85	84	98	103	97	84	86	92	90	86	78	88	94	88	76	79	82	89	91	81	81	80	88.8
	Minimum	65	70	66	53	61	66	58	66	69	66	51	60	69	75	52	61	58	65	61	49	47	63	55	47	59	47	50	58	44	62	52	58.9
Williston	Maximum	93	91	81	92	82	85	91	88	72	80	90	95	83	69	69	79	88	84	67	74	85	79	64	85	78	84	90	82	94	84	82	82.6
	Minimum	58	57	52	53	54	51	52	62	55	52	56	66	59	55	53	53	54	55	50	48	51	57	53	51	46	48	47	55	58	61	51	54.0
Moorhead, Minn.	Maximum	97	99	84	91	93	85	85	92	85	78	84	90	99	86	83	86	89	90	84	76	87	93	72	77	75	86	88	86	81	81	73	85.6
	Minimum	64	70	65	57	67	62	62	66	68	63	56	61	69	64	55	59	59	61	59	52	52	62	56	48	59	48	55	57	49	60	55	59.4

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing, ᵇ 2 days, etc

Climatological Data for August 1938—Continued from page 30.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	.....	......	....	....	....	....	.....	0.42	−1.29	0.31	0	4	19	8	4	w.	H. A. Bury.
Amidon	Slope	......	15	71.6	+3.7	103	12	43	25	46	0.22	−1.00	0.15	0	2	19	10	2	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	32	67.6	+1.2	99	12	33	24	57	1.00	−0.69	0.49	0	5	16	13	2	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	67.2	−0.5	99	1	36	26	52	1.69	−0.23	1.01	0	4	17	14	0	w.	C. L. Hall.
Bowbells	Burke	1,958	9	.....	......	....	....	....	....	......	3.82	....	1.77	0	7	13	15	3	ne.	L. C. Grinney.
Bowman	Bowman	2,872	23	70.9	+3.2	103	12	41	20	44	0.90	−0.90	0.38	0	6	26	4	1	se.	Wm. E. Tomliu.
Crosby	Divide	1,954	29	65.9	+1.3	96	12	42	24	48	1.37	−0.62	0.70	0	5	21	6	4	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	67.4	+1.1	99	12	38	26	50	0.82	−1.17	0.34	0	8	17	12	2	w.	Leroy Moomaw.
Dunn Center	Dunn	2,191	38	65.8	−0.4	95	1†	38	26	50	2.35	+0.64	1.61	0	6	23	7	1	nw.	O. T. Evenson.
Epping	Williams	2,224	27	68.4	+2.5	96	12†	39	25	42	1.91	+0.21	0.97	0	6	20	8	3	nw.	T. Beachler.
Fairfield	Billings	......	1	.....	......	....	....	....	....	......	1.26	....	0.52	0	3	19	10	2	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	69.6	......	99	12	42	20	42	0.65	−1.31	0.47	0	5	22	7	2	nw.	Verne King.
Hettinger	Adams	2,675	30	72.2	+3.4	104	12	41	20	54	0.20	−1.43	0.08	0	5	26	5	0	nw.	O. A. Erlandson.
Howard ‡‡ (near)	Williams	2,275	30	65.8	+0.9	97	29	33	19	46	1.28	−0.36	0.54	0	6	18	9	4	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	68.2	......	94	1†	44	6†	40	1.68	−0.26	0.99	0	9	16	9	6	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	69.9	+2.6	100	12	38	20	51	0.57	−1.17	0.36	0	4	19	2	10	nw.	S. P. Grane.
Mary	McKenzie	......	9	.....	......	....	....	....	....	......	1,34	....	1.08	0	5	20	7	4	nw.	Fred Hartman.
Medora	Billings	2,271	22	.....	......	....	....	....	....	.....	0.30	−1.41	0.19	0	3	18	9	4	nw.	Vernon Thompsou.
Mott	Hettinger	2,424	30	70.4	+3.3	103	12	40	20†	50	0.59	−1.34	0.38	0	4	8	23	0	n.	W. M. Hendricks.
New England	Hettinger	2,400	43	71.8	+4.9	105	1†	40	19†	52	0.33	−1.37	0.22	0	3	21	5	5	se.	F. S. Sleight.
Parshall	Mountrail	1,929	22	65.6	......	97	1	38	26†	52	1.47	−0.49	1.02	0	7	15	16	0	se.	C. E. Shubert.
Portal	Burke	1,954	32	66.1	+1.9	96	1	42	24	46	3.23	+1.34	1.05	0	9	23	2	6	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	68.6	+3.4	96	12	41	23†	44	3.39	+1.62	1.86	0	4	17	10	4	e.	Geo. B. Gee.
Richardton	Stark	2,467	21	69.7	+1.6	97	1†	42	20	38	1.09	−0.86	0.60	0	6	13	15	3	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	68.9	+1.4	99	1	40	26†	54	0.77	−0.54	0.55	0	4	21	8	2	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	66.8	......	95	12	42	25	46	1.78	....	0.83	0	6	22	6	3	nw.	Leroy Edwards.
Tioga	Williams	2,279	9	.....	......	....	....	....	....	......	1.57	....	0.82	0	4	.....	.....	.....	.....	B. V. Olson.
Trotters	Golden Valley	......	12	.....	......	....	....	....	....	......	3.35	+1.84	2.18	0	7	21	6	4	.....	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	69.6	+2.3	98	12	44	25†	47	1.91	+0.20	0.92	0	5	22	9	0	w.	J. C. Zeller.
Wildrose	Williams	2,258	10	.....	......	....	....	....	....	......	2.17	....	0.83	0	7	22	5	4	sw.	L. Holter.
Williston	Williams	1,878	58	68.3	+2.2	95	12	46	25	43	1.70	+0.23	0.82	0	7	23	5	3	w.	U. S. Weather Bureau.
Average for Western Division		......	.....	68.5	+2.0	105	1†	33	19†	57	1.48	−0.13	2.18	0	5	19	9	3	nw.	....
Average for the State		......	.....	69.8	+3.4	109	13	33	19†	57	1.50	−0.50	2.85	0	6	18	10	3	nw.	....

[WBO, Minneapolis, 9-28-38—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVII BISMARCK, N. D., SEPTEMBER 1938 No. 9

GENERAL SUMMARY

The month was warm and dry. It was the warmest September since 1906 and the third warmest since state-wide records began in 1892. Killing frost occurred at many stations on the 19th, but readings were above 90° at almost all stations on the 22d. Some stations in all sections had no frost during the entire month. Precipitation was general from the 5th to the 10th and scattered showers occurred from the 11th to the 17th; only three stations reported measurable amounts after the 17th. There were only four drier Septembers since state-wide records began. The wind velocity was light throughout the month so no severe dust storms were reported. Much smoky weather prevailed during the last half of the month. The weather was excellent for outdoor work, but by the close of the month pastures were short and the soil was too dry for fall plowing.

TEMPERATURE

The mean temperature for the State was 61.9°, or 5.1° above the 1892-1938 average for September. The mean for the eastern division was 61.3°; for the middle division, 61.8°, and for the western division, 62.6°. The highest mean temperature was 65.8° at Berthold Agency, and the lowest, 58.0° at Cooperstown, making a daily range in mean temperture of 7.8°. The absolute range in temperature was 78°, from 99° at Eckman and Hansboro on the 22d, to 21° at Linton and Wishek on the 19th. The average daily excess in temperature since January 1, 1938, is 2.3°.

PRECIPITATION

The average precipitation for the State was 0.63 inch, or 0.90 inch less than the 1892-1938 average for September. In the eastern division the average amount was 0.95 inch; in the middle, division, 0.34 inch; and in the western division, 0.61 inch. The greatest monthly amount reported was 4.24 inches at Hankinson; there was none at Hansboro. The greatest amount recorded in any 24 consecutive hours was 2.82 inches at Fullerton on the 7th. The accumulated deficiency in precipitation since January 1, 1938, is 1.22 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	2	1	2	..	..	..	1	..	..	..	..	2	8	17	10	6	4	2	1	2	2	4	5	1	2	5	10	5	..	1	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	..	2	2	2	12	13	12	21	3	..	1	..	..	2	..	1	1	1	1	..	..	1	..	..	..	1	1	..	5	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	1	..	..	1	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hail	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	1	1	5	2	4	4	..	..	..	1	..	1	..	..	..	..	..	..	..		4	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.03	30.30	1	29.80	16	7.1	22	e.	7	77	46	42	66
Devils Lake	30.03	30.31	1	29.73	23	8.0	20	sw.	10	74	40	41	68
Williston	30.01	30.28	15	29.76	22	7.0	27	w.	10	81	45	41	69
Moorhead, Minn	30.03	30.30	20	29.76	25	7.4	20	n.	26	81	51	52	65
Averages & ext's	30.02	30.31	1	29.73	23	7.4	27	w.	10	78	46	44	67

† And other dates.

COMPARATIVE DATA FOR SEPTEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	59.2	101	24	1.08	1.05	0.40	0.84	0	4	16	7	7
1893	57.1	102	8	0.75	0.75	0.94	0.81	0.1	4	18	7	5
1894	58.2	104	18	1.06	1.67	1.42	1.38	0	5	15	7	8
1895	56.6	100	12	1.29	0.61	0.42	0.77	0	4	12	12	6
1896	53.0	98	11	2.25	2.00	0.57	1.61	0	6	12	8	10
1897	64.1	109	18	0.24	0.25	0.35	0.28	0	2	20	7	3
1898	56.8	98	10	1.85	1.00	0.90	1.25	0	4	14	9	7
1899	55.0	101	11	0.60	0.57	0.57	0.58	T.	3	17	9	4
1900	54.6	98	17	5.15	5.26	4.44	4.95	T.	8	12	7	11
1901	53.6	100	12	2.41	1.80	1.82	2.01	T.	7	10	8	12
1902	53.6	95	15	1.24	0.54	0.44	0.74	0	4	16	8	6
1903	51.6	90	18	3.36	2.85	2.77	2.99	0.7	7	12	6	12
1904	54.7	96	18	2.12	1.18	1.00	1.43	0	5	14	7	9
1905	59.8	104	23	1.62	1.65	1.74	1.67	0	5	16	8	6
1906	62.8	109	20	1.54	0.73	1.07	1.11	0	4	19	6	5
1907	52.1	96	9	2.39	1.11	0.68	1.39	T.	6	14	8	8
1908	60.7	104	16	0.87	0.89	1.97	1.24	0.2	4	17	7	6
1909	59.0	93	24	1.03	0.77	1.04	0.95	0	4	16	8	6
1910	55.3	99	18	2.38	1.88	1.10	1.79	0.1	4	14	7	9
1911	54.9	95	21	2.32	2.41	2.38	2.37	T.	8	12	8	10
1912	51.5	124	18	3.54	2.50	1.82	2.62	0	10	11	6	13
1913	57.2	108	8	2.39	1.47	1.37	1.74	0.4	6	16	8	6
1914	59.3	98	25	1.24	1.00	0.84	1.03	0	5	16	8	6
1915	54.6	104	23	2.42	2.60	1.94	2.32	0	9	10	8	12
1916	55.1	99	15	2.12	1.07	1.10	1.43	T.	6	14	9	7
1917	56.4	97	16	1.53	0.93	0.65	1.04	0	5	12	9	9
1918	51.9	93	11	0.46	0.40	0.33	0.40	T.	3	15	9	6
1919	58.6	100	20	0.92	1.05	0.86	0.94	0.3	5	12	10	8
1920	59.0	99	19	3.94	1.19	1.49	2.21	T	8	15	9	6
1921	57.0	101	25	3.91	3.37	2.34	3.21	T.	12	12	10	8
1922	59.8	104	23	2.42	2.00	1.89	2.10	0	6	16	8	6
1923	60.1	99	15	2.04	2.25	3.25	2.51	0	6	14	8	8
1924	55.0	98	20	3.68	1.91	0.68	2.09	T.	7	15	7	8
1925	58.1	103	20	4.18	2.23	1.61	2.67	T.	8	12	8	10
1926	52.3	95	9	2.80	2.44	1.66	2.30	0.5	9	11	9	10
1927	56.8	101	10	1.06	0.47	1.48	1.00	T.	3	16	9	5
1928	53.9	95	12	1.50	0.75	0.74	1.00	T.	5	17	7	6
1929	52.7	105	12	1.65	1.82	1.47	1.65	0	5	11	9	10
1930	56.2	98	10	1.02	0.88	1.17	1.02	0	4	16	9	5
1931	61.4	107	27	1.97	2.38	2.06	2.14	T.	6	18	7	5
1932	56.8	102	22	1.10	0.56	0.23	0.63	0	3	18	8	4
1933	60.9	101	22	1.03	0.71	0.70	0.81	0	4	16	8	6
1934	52.4	95	9	1.28	0.86	0.74	0.96	2.0	7	11	9	10
1935	57.2	105	16	0.73	0.44	0.12	0.43	0	3	15	9	6
1936	60.3	112	12	1.47	1.29	0.68	1.15	T.	5	15	10	5
1937	58.6	104	20	1.21	1.60	1.61	1.47	0.1	6	13	9	8
1938	61.9	99	21	0.95	0.34	0.61	0.63	0	4	17	7	6
Period	56.8	124	8	1.87	1.44	1.27	1.53	0.1	6	14	8	8

Climatological Data for September 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	63.7	+6.4	93	25	32	18†	42	0.15	−1.97	0.05	0	3	...	...	...	s.	I. Idso.
Cavalier	Pembina	894	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Burke Bechtel.
Cooperstown	Griggs	1,428	41	58.0	+1.7	88	23	25	19	42	0.67	−1.15	0.54	0	3	24	4	2	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	...	...	...	...	...	...	...	0.76	...	0.54	0	3	6	20	4	e.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	41	60.6	+4.7	94	22	29	18	47	0.02	−1.61	0.02	0	1	14	10	6	e.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	37	62.6	+5.0	96	3	26	19	46	1.20	−0.59	0.44	0	6	14	9	7	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	62.6	+7.1	94	22	22	19	55	T.	−1.80	T.	0	0	22	3	5	w.	Mike Davis.
Ellendale	Dickey	1,457	43	62.3	+3.9	94	3	32	19	41	2.29	+0.53	1.67	0	6	15	7	8	nw.	J. E. Demmer.
Fargo	Cass	895	2	60.8	...	92	25	31	19	42	2.06	+0.16	1.37	0	7	20	2	8	n.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	60.4	+1.7	91	3	28	19	45	1.54	−0.63	0.87	0	8	...	...	...	n.	Helge Dyste.
Fullerton	Dickey	1,439	40	61.8	+4.6	93	3	28	19	42	3.19	+1.09	2.82	0	5	19	6	5	ne.	F. O. Alin.
Grafton	Walsh	827	46	63.2	+6.9	93	25	29	19	53	0.40	−1.94	0.14	0	4	14	12	4	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	60.2	+3.8	94	25	25	19	46	1.14	−0.90	0.57	0	5	12	12	6	n.	U. S. Weather Bureau.
Hankinson	Richland	1,068	9	62.4	...	93	3	30	19	47	4.24	...	1.90	0	7	22	2	6	w.	Joseph Rindt.
Hannah	Cavalier	1,568	46	59.0	+5.0	93	25	24	19	54	0.02	−2.18	0.01	0	2	13	10	7	n.	M. J. Rockwell.
Hillsboro	Traill	901	32	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Lyle George.
Jamestown	Stutsman	1,457	46	61.7	+5.2	95	22†	28	19	57	0.15	−1.69	0.07	0	3	16	5	9	ne.	S. G. Calvelage.
Langdon	Cavalier	1,615	42	61.4	+9.1	96	22	26	18	54	0.01	−2.31	0.01	0	1	17	8	5	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	62.0	+6.7	94	25	32	19	50	0.44	−1.82	0.18	0	3	15	6	9	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	60.6	+3.1	91	22†	30	19	55	1.56	−0.58	1.16	0	4	21	4	5	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	16	59.2	+4.1	96	25	23	19	54	0.09	−1.81	0.06	0	2	14	9	7	n.	C. E. Blasky.
McLeod	Ransom	1,075	27	60.4	+1.4	93	3	28	19	45	1.94	−0.27	1.01	0	6	19	4	7	ne.	J. G. Carlson.
Mayville	Traill	975	42	64.6	+7.2	93	25	30	19	48	0.56	−1.63	0.27	0	3	15	8	7	sw.	H. B. Addicott.
Oakes	Dickey	1,318	9	61.2	...	...	...	...	...	...	1.35	...	1.02	0	4	...	...	...	...	S. F. Rossman.
Park River	Walsh	998	34	59.2	+2.6	92	22	27	19	54	0.08	−2.16	0.05	0	2	19	5	6	nw.	E. J. Taintor.
Pembina	Pembina	789	64	59.2	+5.1	89	21†	24	19	47	0.24	−1.98	0.14	0	2	21	3	6	s.	E. N. Russell.
Petersburg	Nelson	1,520	8	...	...	...	...	...	...	...	0.16	...	0.16	0	1	16	10	4	n.	T. M. Rykken.
Sharon	Steele	1,516	14	61.0	+4.4	95	25	31	19	46	0.56	−1.29	0.42	0	4	18	6	6	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	60.7	+2.5	88	22†	25	19	47	0.12	−1.76	0.06	0	3	19	7	4	ne.	I. C. Robertson.
Wahpeton	Richland	962	46	61.7	+2.5	89	25	29	19	42	2.56	+0.18	0.91	0	7	17	6	7	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	61.1	+2.9	91	25	33	19	45	1.97	−0.25	0.64	0	7	20	2	8	n.	U. S. Weather Bureau.
Average for Eastern Division		...	...	61.3	+4.6	96	3†	22	19	57	0.95	−0.92	2.82	0	4	17	7	6	nw.	...
Middle Division																				
Ashley	McIntosh	2,001	42	61.2	+3.9	95	22	26	19	46	0.91	−0.69	0.40	0	7	17	4	9	nw.	Henry Doerr.
Bisbee	Towner	1,601	2	60.4	...	95	22	31	19	48	0.12	...	0.10	0	2	19	4	7	n.	I. K. Lund.
Bismarck	Burleigh	1,670	64	63.6	+5.5	94	22	32	19	44	1.11	−0.12	0.89	0	3	16	6	8	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	61.4	+6.5	94	23	31	19	41	0.04	−1.59	0.02	0	3	22	2	6	nw.	N. D. School of Forestry
Carrington	Foster	1,579	40	61.0	+4.4	97	22	29	18	53	0.15	−1.36	0.15	0	1	19	1	10	...	Soo Line Agent.
Carson	Grant	2,500	26	64.3	+7.9	97	22	29	18	48	0.13	−1.47	0.07	0	5	17	8	5	s.	J. W. Evens.
Center	Oliver	...	0	61.2	...	94	22	25	19	54	0.64	...	0.55	0	2	20	0	10	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	62.4	+6.1	92	22	33	18	41	0.10	−1.06	0.03	0	4	17	7	6	nw.	R. L. Williams.
Drake	McHenry	1,634	9	61.4	...	95	22	35	30	49	0.30	...	0.26	0	2	12	11	7	sw.	Peter Anton.
Dunseith	Rolette	1,682	42	61.0	+6.6	95	22	28	19	54	T.	−1.74	T.	0	0	20	6	4	w.	Geo. Gehres.
Eckman	Bottineau	1,500	33	61.3	+6.1	99	22	26	19	58	0.06	−1.40	0.04	0	3	17	8	5	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	62.2	+4.8	97	22	28	18	55	0.45	−1.02	0.30	0	2	17	9	4	w.	H. S. Solenberger.
Fessenden	Wells	1,610	26	60.6	+4.9	98	22	28	19	58	0.12	−1.52	0.09	0	2	15	7	8	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	63.0	+3.2	95	3	30	19	49	1.40	−0.12	1.15	0	4	23	2	5	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	61.8	+6.8	95	22	31	30	47	0.11	−1.39	0.07	0	3	12	12	6	se.	E. C. Bierbaum.
Gackle	Logan	1,951	8	61.5	...	90	3	28	19	44	0.10	...	0.10	0	1	9	13	8	nw.	A. H. Haut.
Garrison	McLean	1,901	61	62.2	+7.3	95	22	31	18†	52	0.26	−1.29	0.17	0	5	17	7	6	se.	E. L. Vorachek.
Granville	McHenry	1,504	31	60.9	+6.1	98	22	28	18†	57	0.04	−1.57	0.04	0	1	20	4	6	se.	W. A. Christianson.
Hansboro	Towner	1,597	30	60.0	+6.5	99	22	27	19	55	0.00	−1.98	0.00	0	0	13	7	10	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	62.1	+3.6	95	3	21	19	52	0.79	−0.81	0.59	0	6	18	9	3	n.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	62.6	+6.4	95	22	30	19	47	0.90	−0.53	0.50	0	2	12	13	5	nw.	F. W. Ferry.
Maddock	Benson	1,604	23	61.6	+5.9	96	22	23	19	57	T.	−1.81	T.	0	0	13	12	5	nw.	A. T. Felland.
Mandan	Morton	1,750	24	62.9	+5.5	94	22	30	19	44	1.25	−0.24	1.00	0	5	18	6	6	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	...	...	...	...	...	...	...	0.16	−1.39	0.10	0	3	...	...	...	...	P. B. Anderson.
Max	McLean	2,093	9	58.8	...	92	4	30	18	46	0.22	...	0.18	0	2	17	4	9	...	A. W. Rice.
Minot	Ward	1,557	42	63.6	+7.7	98	22	28	18	52	0.15	−1.51	0.07	0	4	19	4	7	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	44	61.2	+7.2	97	22	24	30	54	0.11	−1.45	0.07	0	3	13	12	5	se.	Iver Johnson.
Napoleon	Logan	1,955	46	62.6	+5.9	96	22	24	19	51	0.12	−1.36	0.04	0	5	21	1	8	sw.	C. J. Hoof.
New Salem	Morton	2,163	34	62.0	+4.5	96	22	29	19	50	0.55	−0.81	0.46	0	4	22	1	7	se.	J. Christianson.
Pettibone	Kidder	1,856	29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Sam Loeppke.
Rolla	Rolette	1,860	1	60.9	...	95	22†	32	18	47	0.08	...	0.02	0	4	18	7	5	n.	A. A. Jacobsen.
Rugby	Pierce	1,562	9	...	...	...	...	...	...	...	0.06	...	0.03	0	2	13	12	5	ne.	W. B Paterson.
Ryder	Ward	2,108	9	...	...		...	...	...	...	0.09	...	0.03	0	3	23	1	6	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	...	...	...	...	...	...	...	0.40	...	0.10	0	5	18	6	6	se.	J. B. Smith.
Steele	Kidder	1,857	44	61.3	+4.4	96	22	25	19	49	0.17	−1.35	0.17	0	1	21	4	5	ne.	R. S. Armstrong.
Tagus (near)	Ward	2,179	9	...	...	...	...	...	...	...	0.15	...	0.09	0	5	21	3	6	e.	G. N. Pilgard.
Timmer	Morton	...	1	...	...	...	...	...	...	...	1.02	...	0.86	0	4	...	...	...	...	Geo. M. Sinclair.
Towner	McHenry	1,482	36	62.4	+6.2	98	22	27	19	54	0.03	−1.73	0.03	0	1	15	10	5	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	65.4	+9.1	96	22	35	30	53	0.18	−1.20	0.10	0	4	23	2	5	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	...	...	...	...	...	...	...	0.63	−0.83	0.35	0	4	13	11	6	w.	Adam Leno.
Velva	McHenry	1,511	11	62.2	+5.1	96	22	30	19†	49	0.13	−0.91	0.05	0	3	9	15	6	nw.	Oscar Anderson.
Washburn	McLean	1,731	37	62.8	+4.3	94	22	36	18†	42	0.22	−1.12	0.12	0	2	18	4	8	ne.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	61.4	+6.5	96	22	27	18	57	0.19	−1.24	0.15	0	2	14	4	12	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	46	60.6	+6.4	98	22	22	18	58	0.03	−1.70	0.03	0	1	21	6	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	59.2	+3.6	91	3†	21	19	53	0.43	−0.76	0.13	0	6	14	11	5	ne.	H. M. Larson.
Zap	Mercer	1,838	23	...	...	...	...	...	...	...	0.30	−1.32	0.18	0	2	25	0	5	...	R. A. Norton.
Average for Middle Division		...	...	61.8	+5.7	99	22	21	19	58	0.34	−1.10	1.15	0	3	17	7	6	nw.	...

Continued on page 36.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for September 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red						.05	.05	T.	.05							T.																0.15
Cooperstown	Sheyenne		T.				T.		.09	.54	.04																						0.67
Courtenay	James						.15		.07	.54																							0.76
Devils Lake ***	Devils Lake						T.	T.	T.	.02		T.						T.									T.						0.02
Edgeley	James					.11	.02	.38	.44	.12	.13																						1.20
Edmore	Devils Lake								T.						T.																		T.
Ellendale	James					.25	.04	1.67	.03	.11	.19																						2.29
Fargo ***	Red					.02	.08	.24	1.28	.27	.08						.09																2.06
Forman	Sheyenne					.08	.20	.08	.87	.04	.20			.02	.05																		1.54
Fullerton	James					.15		2.82	.10		.10			T				.02															3.19
Grafton	Red						.05			.08	.13						.14																0.40
Grand Forks ***	do						.05		.41	.57	.09						.02																1.14
Hankinson ‖	do					.03	1.90		1.08	.03	.43			.75			.02																4.24
Hannah	Pembina						.01			.01																							0.02
Hillsboro	Red																																......
Jamestown	James			T.		T.	T.	.05	.07	.03																							0.15
Langdon ‖	Pembina									.01																							0.01
Larimore	Red						T.	T.	.17	.18	.09																						0.44
Lisbon	Sheyenne						.19		1.16	.06	.15																						1.56
McHenry	James								.06	.03																							0.09
McLeod	Sheyenne					.16			1.01	.15	.31		.09					.22															1.94
Mayville	Red						T.		.27	.12	.17					T.																	0.56
Oakes	James						.19		1.02	.05	.09																						1.35
Park River	Red					.03				T.			.05																				0.08
Pembina	do									T	.10						.14																0.24
Petersburg	do								T	.16																							0.16
Sharon	do		T.				.01		.11	.42	.02						T.																0.56
Valley City	Sheyenne								.06	.05							.01																0.12
Wahpeton	Red			T.			.70	T.	.69	.01	.91			.09	.01			.15															2.56
Moorhead, Minn. ***	do		T.			.02	.42	.41	.48	.38	.16				T.		.10																1.97
Middle Division																																	
Ashley	Missouri					.05	.20		.40	.03	.14			.04				.05															0.91
Bisbee	Devils Lake						.10			.02																							0.12
Bismarck ***	Missouri					.89		T.	T.	.12				T.			T	.10															1.11
Bottineau	Mouse						.01		.01		.02																						0.04
Carrington ‖	James									.15																							0.15
Carson	Heart					.07	.02	.01		.01				.02																			0.13
Center	Missouri					.55				T.								.09															0.64
Dogden Butte	Mouse						T.	T.	.02	.02	.03							.03								T.							0.10
Drake ‖	do						.26	T.	T	T.	.04																						0.30
Dunseith	do								T.																								T.
Eckman	do					T.					.04	.01						T.								.01							0.06
Energy	Missouri					.15	T.	T.	T.	T.								.30															0.45
Fessenden ‖	James									.09	.03																						0.12
Fort Yates	Missouri					1.15	.05			.15				.05																			1.40
Foxholm (near)	Mouse							.02	.02	T								.07															0.11
Gackle	James										.10																						0.10
Garrison ‖	Missouri					.03	.01			.03	.02							.17															0.26
Granville	Mouse							T.	T.	.04								T.								T.							0.04
Hansboro	Devils Lake																																0.00
Linton	Missouri					.59	.01	.01			.09			.06				.03															0.79
McClusky	do					.40	.50																										0.90
Maddock	Sheyenne						T.	T.	T.	T.	T.							T.															T
Mandan ‖	Missouri					1.00		.01	.01	.13			T.	T.			.10																1.25
Max ‖	do									T.	.04							.18															0.22
Minot	Mouse						T.	T.	.03	.04	.01							.07															0.15
Mohall	do							T.	.02	.02								.07															0.11
Napoleon ‖	Missouri						.02		T	.04	.03			.02				.01															0.12
New Salem	Heart					.46		T.	.01	.06				T.				.02															0.55
Pettibone	James																																......
Rolla	Devils Lake						.02	T.	.02	.02	T.	.02					T.																0.08
Rugby (near)	Mouse						.03			.03																							0.06
Ryder	Missouri					.03		.03	.03																								0.09
Selfridge	do				T.	.10	T	.10	.05	.05			.10				T.																0.40
Steele	do					.17		T.	T.		T.																						0.17
Tagus	Mouse					T.	T.	.01	.01	.03	.01							.09								T.							0.15
Towner	do							T.	.03	T.																							0.03
Turtle Lake	Missouri					.03	T.		T.	.02	.03							.10															0.18
Tuttle	do					.35	.25	.01	.02	T.																							0.63
Velva	Mouse					T		T	.03	.05								.05															0.13
Washburn ‖	Missouri						.12	T.	T.	T.	T.							.10															0.22
Westhope	Mouse						T.	T	.04	.15	T.						T.									T							0.19
Willow City	do						.03	T.		T.																							0.03
Wishek ‖	Missouri				.05	.13		.09	.07	.07			.02				T.																0.43
Zap	Knife					.18				.12																							0.30
Western Division																																	
Alpha	Lit. Missouri				T.	1.09		.20	.02	.03																							1.34
Amidon	do					.48	.01	.02	.01	.02	.01																						0.55
Beach	do					.78	.09	.79		.10																							1.76
Berthold Agency	Missouri					.50		T.	.04	.02																							0.56
Bowman	Grand					.11	.26	.03	.03	.01				.21	T																		0.65
Crosby	Mouse							.06	.20																								0.26
Dickinson ‖	Heart						.04		.03	.01	.02															T.							0.10
Dunn Center	Knife						.34		.04	.02	.02																						0.42
Fairfield	Lit. Missouri					.30	T.	.18	.09																								0.57
Fryburg	Heart					.28	.04	.21	.03	.05																							0.61
Hettinger	Grand					T.	1.12	.08	.04	.04	.02			.20	.05																		1.55
Howard (near)	Missouri					T.	T.	.50	T.	.10	.02																						0.62
Kenmare	Mouse								.03	.01	.01							.04															0.09
Marmarth	Lit. Missouri				.48	.90	.02	.14		.02			.15																				1.71
Mary	do					T	T	.30		.07																							0.37
Medora	do				.13	.13	.01	.41	T.	.06																							0.74
Mott	Cannon Ball					1.00	.03	.02	.04	.02	.02			.06																			1.19
New England ‖	do					.18	.02	.06	.04																								0.30
Parshall	Missouri						.64		.04	.03																							0.71
Portal ‖	Mouse							T.	.10		.06	.04																					0.20
Powers Lake	Missouri									.09															.22								0.31
Richardton	Heart					.04		T.	.02	.02																							0.08
Sanish ‖	Missouri						.41		.05	.02																							0.48
Stanley	do					.32	T.	.05	.02	.05																.02							0.46
Tioga	do								.10	.07																							0.17
Trotters	Lit. Missouri						.42	.82		.09																							1.33
Watford City	Missouri							.48	.03	.05																							0.56
Wildrose	do							.25		.02																							0.27
Williston ***	do					T.	T.	.43	T.	.06	T.															T.							0.49

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	78	85	93	90	73	80	63	61	70	76	76	80	72	69	69	74	61	54	70	75	87	95	80	79	93	71	85	73	82	76	....	76.3
	Minimum	43	47	54	57	57	57	57	53	53	50	50	48	51	42	39	40	39	31	26	34	41	49	53	47	47	50	45	44	41	39	....	46.1
Beach	Maximum	78	86	90	87	78	75	68	65	65	70	71	75	77	70	71	77	69	67	77	87	89	93	83	87	83	74	81	76	76	78	....	77.4
	Minimum	54	47	55	51	58	62	62	58	57	47	47	45	56	48	42	45	44	35	40	47	44	52	53	52	57	48	46	44	46	40	....	49.4
Bismarck	Maximum	76	87	92	90	70	68	64	63	67	76	74	78	73	71	69	76	62	63	71	82	91	94	77	82	91	74	86	74	77	74	....	76.4
	Minimum	50	55	63	54	61	60	60	56	56	54	54	51	59	49	42	44	42	36	32	43	47	53	54	50	62	54	45	45	49	41	....	50.7
Bottineau	Maximum	74	80	78	90	80	80	76	67	64	60	67	70	80	84	70	71	73	60	64	72	80	92	94	72	84	90	72	83	70	70	....	75.6
	Minimum	45	50	54	58	56	57	54	54	53	47	48	43	49	47	36	43	40	33	31	40	49	53	55	47	50	50	38	42	49	47	....	47.3
Carson	Maximum	79	90	93	94	73	69	64	62	95	78	76	82	70	76	76	80	67	70	75	88	95	97	81	84	95	78	90	75	81	77	....	80.3
	Minimum	51	50	56	57	59	59	59	56	54	47	44	46	57	47	36	50	44	29	33	43	47	54	55	51	60	49	44	40	49	34	....	48.3
Crosby §	Maximum	82	93	94	86	80	75	65	64	61	60	69	80	82	70	74	75	79	74	80	92	95	96	76	89	87	76	81	76	71	71	....	78.4
	Minimum	43	44	48	48	52	52	59	57	54	47	49	44	46	44	39	39	44	32	35	36	44	50	47	45	48	47	44	35	35	36	....	44.8
Devils Lake	Maximum	73	88	88	78	74	70	64	61	62	74	73	79	83	64	69	74	59	58	71	79	91	94	72	78	88	68	84	70	78	70	....	74.5
	Minimum	40	52	52	54	54	57	57	52	54	52	58	51	55	48	38	45	34	29	29	38	44	48	49	39	57	51	46	38	42	37	....	46.7
Dickinson §	Maximum	78	88	91	92	70	74	70	65	69	74	72	80	77	73	73	78	65	68	76	94	92	95	77	87	89	75	83	75	80	77	....	78.6
	Minimum	49	43	45	50	48	60	59	56	55	45	45	38	39	48	33	34	39	25	28	33	40	42	46	48	55	51	39	38	39	34	....	43.5
Dunn Center §	Maximum	75	90	89	90	62	61	60	58	56	64	69	72	80	67	72	80	57	61	73	95	90	92	69	82	91	78	88	70	81	69	....	74.7
	Minimum	44	45	50	48	60	59	56	56	54	47	48	42	46	48	34	37	40	27	27	30	38	41	52	46	50	50	37	35	37	33	....	43.9
Fessenden §	Maximum	76	90	93	85	75	66	64	61	66	77	73	83	81	71	70	77	62	60	74	83	94	98	75	84	92	69	86	74	78	81	....	77.3
	Minimum	38	40	49	49	53	52	56	52	51	49	51	46	52	47	36	38	34	30	28	30	36	47	47	36	50	62	43	39	37	39	....	43.9
Fullerton	Maximum	79	86	93	87	79	73	68	62	69	77	76	77	72	68	66	75	61	51	65	72	79	89	78	78	89	74	85	71	73	73	....	74.8
	Minimum	50	47	63	59	58	59	58	55	57	54	53	52	58	50	43	44	40	34	28	35	37	53	51	42	53	59	47	43	43	42	....	48.9
Garrison §	Maximum	78	88	93	86	77	69	64	65	65	74	73	78	77	72	72	78	63	66	74	83	94	85	76	82	91	75	85	74	80	72	....	77.3
	Minimum	43	50	54	54	58	58	58	55	55	49	51	44	52	45	34	43	44	31	31	39	42	49	55	43	57	53	42	40	46	35	....	47.0
Grafton	Maximum	74	88	91	91	81	78	68	65	61	78	78	82	86	84	77	71	67	59	69	77	91	92	89	77	93	88	86	85	76	75	....	79.2
	Minimum	43	47	53	53	44	55	52	50	54	58	58	50	52	49	49	58	37	34	29	32	38	52	60	35	54	47	45	46	39	42	....	47.2
Grand Forks	Maximum	72	88	90	79	79	67	69	63	64	79	74	80	82	66	67	71	59	55	64	74	86	89	75	76	94	71	87	69	75	69	....	74.4
	Minimum	39	48	48	49	52	56	57	51	55	59	56	52	56	49	48	46	35	30	25	36	40	48	48	37	56	48	41	39	40	40	....	46.1
Jamestown §	Maximum	75	89	92	84	76	72	64	61	67	81	79	82	70	68	68	77	62	58	73	77	93	95	78	80	95	71	87	72	83	72	....	76.7
	Minimum	43	45	52	52	60	58	58	53	53	54	50	50	52	51	45	45	37	32	28	31	36	40	53	40	57	61	43	44	37	41	....	46.7
Kenmare	Maximum	74	79	90	94	82	79	72	63	61	60	70	73	82	84	71	75	77	64	61	75	87	96	97	74	82	91	75	85	72	74	....	77.3
	Minimum	45	48	50	48	50	56	59	55	54	50	53	49	49	43	39	45	44	32	41	44	52	54	47	44	50	52	42	39	39	32	....	46.8
Langdon §	Maximum	82	80	92	80	82	76	68	68	65	75	78	86	88	69	74	75	62	60	74	79	95	96	78	77	92	82	85	74	74	67	....	77.8
	Minimum	48	58	45	49	44	53	50	48	51	52	52	44	51	44	38	44	32	26	27	46	64	42	49	40	55	50	39	34	44	35	....	45.1
Marmarth	Maximum	88	84	90	85	72	78	68	67	66	73	68	75	70	75	71	75	67	67	74	87	86	90	77	85	83	72	81	76	78	78	....	76.9
	Minimum	49	50	55	62	64	60	60	60	42	45	44	47	48	41	43	42	34	35	37	43	43	46	53	52	46	39	40	41	39	39	....	46.6
Minot	Maximum	80	91	93	90	80	74	70	64	63	75	72	81	85	80	73	71	70	65	76	86	96	98	90	84	93	85	86	73	75	74	....	79.8
	Minimum	42	56	48	47	56	59	58	55	55	52	58	46	51	45	32	44	43	28	35	46	47	46	54	39	62	55	41	36	58	32	....	47.5
Mott	Maximum	77	87	93	88	70	70	65	63	73	74	75	72	70	72	73	78	66	66	74	88	91	94	77	84	89	76	87	74	80	75	....	77.4
	Minimum	47	50	51	51	61	60	59	57	55	47	46	44	57	50	38	39	41	30	31	42	41	43	52	49	56	48	40	40	46	36	....	46.9
Pembina	Maximum	70	84	87	73	78	69	69	64	60	76	75	80	83	74	68	66	57	65	65	73	89	87	71	75	89	77	85	66	73	64	....	73.7
	Minimum	34	47	45	45	44	55	47	50	54	58	63	50	48	66	43	46	31	25	24	33	42	44	57	35	57	45	41	37	40	38	....	44.8
Sharon	Maximum	70	88	89	79	71	66	65	58	62	78	74	82	81	64	68	76	58	54	70	75	88	93	76	76	95	72	86	73	77	70	....	74.5
	Minimum	42	46	56	55	49	55	55	50	53	53	50	49	57	50	44	44	37	33	31	40	43	49	59	44	58	52	40	44	44	41	....	47.4
Steele	Maximum	80	90	92	87	74	83	70	65	74	79	73	80	78	67	70	70	64	60	70	80	90	96	75	84	94	80	89	72	76	78	....	78.0
	Minimum	40	48	51	50	58	56	57	52	53	44	45	44	45	48	34	36	37	33	25	35	42	47	51	42	57	53	40	37	43	36	....	44.6
Valley City	Maximum	72	84	87	87	80	74	67	60	65	75	76	77	75	74	65	74	72	56	65	69	81	88	80	75	88	80	85	79	74	72	....	75.2
	Minimum	42	42	51	49	59	57	59	53	55	54	53	48	55	51	43	40	39	32	25	29	34	44	57	39	57	56	41	41	35	45	....	46.2
Wahpeton	Maximum	74	85	88	86	80	71	69	63	71	79	77	78	75	67	68	72	70	54	64	71	78	85	80	74	89[a]	80	81	80	74	72	....	75.2
	Minimum	42	43	55	54	59	58	60	56	59	62	54	52	56	52	48	43	40	31	29	35	41	49	54	42	53	53	42	42	42	41	....	48.2
Williston	Maximum	82	87	93	86	74	71	65	65	65	68	69	78	80	71	73	78	65	69	78	87	91	93	74	87	86	76	82	75	74	75	....	77.2
	Minimum	52	56	58	55	63	62	59	59	56	52	55	48	50	46	40	45	45	33	40	51	47	52	50	58	53	52	47	39	48	41	....	50.4
Moorhead, Minn.	Maximum	71	86	89	82	72	67	65	60	68	79	78	80	72	63	66	74	59	53	65	71	80	89	75	73	91	71	85	69	73	70	....	73.2
	Minimum	45	48	55	54	58	57	54	54	59	61	53	53	58	52	51	44	39	36	33	38	41	51	51	43	56	51	40	46	44	46	....	49.0

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

Climatological Data for September 1938—Continued from page 34.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	....	11	....	....	....	....	....	....	....	1.34	+0.07	1.09	0	4	19	7	4	nw.	H. A. Bury.
Amidon	Slope	....	15	64.2	+7.1	94	22	32	18	45	0.55	−0.95	0.48	0	6	17	2	11	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	32	63.4	+7.0	93	22	35	18	45	1.76	+0.47	0.79	0	4	10	12	8	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	65.8	+8.9	97	22	40	28	41	0.56	−1.03	0.50	0	3	24	2	4	nw.	C. L. Hall.
Bowbells	Burke	1,958	9	....	....	....	....	....	....	....	0.07	....	0.07	0	1	12	12	6	w.	L. C. Grinney.
Bowman	Bowman	2,872	23	63.2	+6.4	94	22	34	18	51	0.65	−0.63	0.26	0	6	21	5	4	se.	Wm. E. Tomlin.
Crosby	Divide	1,954	29	61.6	+7.5	96	22	32	18	56	0.26	−1.13	0.20	0	2	24	1	5	s.	J. H. Phelps.
Dickinson	Stark	2,543	45	61.0	+5.0	95	22	25	18	61	0.10	−1.22	0.04	0	4	18	7	5	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	38	59.3	+3.1	95	20	27	18†	65	0.42	−1.02	0.34	0	4	22	3	5	nw.	O. T. Evenson.
Epping	Williams	2,224	27	63.0	+7.6	94	22	32	19	46	0.28	−1.11	0.28	0	1	15	7	8	se.	T. Beachler.
Fairfield	Billings	....	1	....	....	....	....	....	....	....	0.57	....	0.30	0	3	21	4	5	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	64.0	....	94	22	30	18	43	0.61	−0.76	0.28	0	5	21	4	5	nw.	Verne King.
Hettinger	Adams	2,675	30	63.4	+5.8	95	21	33	18	51	1.55	+0.15	1.12	0	7	21	3	6	nw.	O. A. Erlandson.
Howard ‡‡ (near)	Williams	2,275	30	61.0	+6.7	95	3†	28	17	53	0.62	−0.76	0.50	0	3	24	1	5	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	62.0	....	97	23	32	18†	50	0.09	−1.52	0.04	0	4	11	13	6	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	61.8	+5.3	90	3†	34	17	44	1.71	+0.42	0.90	0	6	14	7	9	nw.	S. P. Grane.
Mary	McKenzie	....	9	....	....	....	....	....	....	....	0.37	....	0.30	0	2	18	6	6	se.	Fred Hartman.
Medora	Billings	2,271	22	....	....	....	....	....	....	....	0.74	−0.41	0.41	0	5	18	6	6	nw.	Vernon Thompson.
Mott	Hettinger	2,424	30	62.2	+5.6	94	22	30	18	51	1.19	−0.22	1.00	0	7	13	10	7	n.	W. M. Hendricks.
New England	Hettinger	2,400	43	64.2	+7.8	98	22	30	17	47	0.30	−1.08	0.18	0	4	21	1	8	se.	F. S. Sleight.
Parshall	Mountrail	1,929	22	59.0	....	95	22	24	18	68	0.71	−0.83	0.64	0	3	15	11	4	sw.	C. E. Shubert.
Portal	Burke	1,954	32	61.4	+7.0	97	22	29	30	48	0.20	−1.39	0.10	0	3	22	0	8	e.	R. G. Wegener.
Powers Lake	Burke	2,205	32	62.6	+7.6	93	22	31	30	47	0.31	−1.20	0.22	0	2	20	6	4	sw.	Geo. B. Gee.
Richardton	Stark	2,467	21	64.2	+7.4	93	22	38	19	45	0.08	−1.28	0.04	0	3	14	10	6	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	62.9	+6.3	98	22	27	18	59	0.48	−0.32	0.41	0	3	16	10	4	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	60.8	....	93	22	28	18	52	0.46	....	0.32	0	5	16	7	7	se.	Leroy Edwards.
Tioga	Williams	2,279	9	....	....	....	....	....	....	....	0.17	....	0.10	0	2	....	....	....	....	B. V. Olson.
Trotters	Golden Valley	....	12	....	....	....	....	....	....	....	1.33	+0.08	0.82	0	3	22	3	5	....	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	64.4	+8.1	96	22	32	18	49	0.56	−0.76	0.48	0	3	20	5	5	w.	J. C. Zeller.
Wildrose	Williams	2,258	10	....	....	....	....	....	....	....	0.27	....	0.25	0	2	17	5	8	sw.	L. Holter.
Williston	Williams	1,878	58	63.8	+7.2	93	22	33	18	44	0.49	−0.60	0.43	0	2	21	2	7	se.	U. S. Weather Bureau.
Average for Western Division		....	....	62.6	+6.6	98	22	24	18	68	0.61	−0.66	1.12	0	4	18	6	6	nw.	....
Average for the State		....	....	61.9	+5.1	99	22	21	19	68	0.63	−0.90	2.82	0	4	17	7	6	nw.	....

[WBO, Minneapolis, 10-24-38—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVII Bismarck, N. D., October 1938 No. 10

GENERAL SUMMARY

October was a warm, dry month. It was the warmest October since state-wide records began in 1892. Killing frost did not occur at some stations until the 19th. Precipitation was considerably below the average in the eastern and central divisions, but was slightly above the seasonal average in the western division. The snowfall was light, except in extreme northwestern counties where from 6 to 12 inches fell. Most of the snow occurred on the 18th and 19th. The wind was mostly light and no severe storms were reported. An unusually large number of smoky days occurred during the month. It was an excellent month for outdoor work, but the soil was too dry for fall plowing. Pastures and ranges were dry and livestock shipments were heavy.

TEMPERATURE

The mean temperature for the State was 50.9°, or 7.1° above the 1892–1938 average for October. The mean for the eastern division was 51.2°; for the middle division, 50.6°; and for the western division, 51.0°. The highest mean temperature was 54.4° at three stations, and the lowest, 46.4° at Portal, making a range in mean temperature of 8.0°. The absolute range in temperature was 91°, from 95° at Napoleon on the 3d, to 4° at Linton on the 23d. The average daily excess in temperature for the State since January 1, 1938, is 2.8°.

PRECIPITATION

The average precipitation for the State was 0 55 inch, or 0.46 inch less than the 1892–1938 average for October. In the eastern division the average amount was 0.27 inch; in the middle division, 0.45 inch; and in the western division, 0.95 inch. The greatest monthly amount reported was 2.07 inches at Crosby; the least was 0.03 inch at Oakes. The greatest amount recorded in any 24 consecutive hours was 1.30 inches at Howard on the 18th. The accumulated deficiency in precipitation since January 1, 1938, is 1.68 inches. The average snowfall was 1.1 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	..	..	..	..	..	7	8	..	..	..	..	..	..	..	1	..	..	6	5	..	2	3	13	14	12	10	2	1	..	..
Dust storms	..	1	..	..	..	1	..	..	..	2	..	4	..	..	1	..	..	..	..	..	..	..	..	..	1	..	3	..	3	1	..
Fogs	..	1	1	10	5	5	1	..	..	..	..	..	..	..	..	1	7	3	4	..	..	1	1	2	..	..	..	..	1	..	3
Lunar halos	..	..	2	1	..	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Sleet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	4	..	2	..	1	..	..	7	2	..	..	1	2	5	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.00	30.34	5	29.52	11	9.2	28	nw.	13	72	44	45	63
Devils Lake	30.00	30.40	5	29.52	25	10.6	28	nw.	13	76	46	52	66
Williston	30.00	30.37	19	29.50	11	9.2	27	nw.	13	79	57	56	62
Moorhead, Minn	30.00	30.37	5	29.53	21	9.5	23	s.	10	76	48	49	62
Averages & ext's	30.00	30.40	5	29.50	11	9.6	28	nw.	13	76	49	50	63

† And other dates.

COMPARATIVE DATA FOR OCTOBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	47.2	95	7	0.25	1.20	0.30	0.58	T.	3	15	8	8
1893	40.6	79	0	1.17	1.08	0.89	1.05	0.9	5	11	11	9
1894	43.0	77	16	2.28	1.76	0.94	1.66	0.0	6	14	8	9
1895	40.5	85	−12	0.31	0.15	0.27	0.24	0.0	2	16	8	7
1896	40.2	88	5	1.25	0.43	0.40	0.69	0.0	3	14	8	9
1897	45.9	93	6	1.01	0.75	0.56	0.77	0.8	4	13	9	9
1898	38.8	84	8	2.60	2.42	1.67	2.23	4.7	6	8	8	15
1899	42.1	86	7	1.16	1.21	1.15	1.17	1.3	5	11	8	12
1900	48.2	87	14	2.34	1.30	0.98	1.54	T.	6	15	4	12
1901	47.5	88	11	2.96	1.22	0.65	1.61	T	5	17	7	7
1902	43.7	87	10	1.70	1.20	0.95	1.28	0.7	4	16	6	9
1903	47.0	81	11	1.42	0.80	0.60	0.94	0.2	3	19	5	7
1904	46.6	87	10	1.55	0.60	0.46	0.90	T.	5	12	7	12
1905	40.3	93	0	0.59	0.22	0.28	0.36	1.2	5	8	12	11
1906	45.0	89	0	0.75	0.45	0.27	0.49	1.4	4	14	9	8
1907	44.4	88	4	1.02	0.66	0.16	0.61	0.2	3	21	5	5
1908	43.0	86	8	1.46	1.36	2.07	1.63	0.7	6	11	7	13
1909	43.1	97	0	0.88	0.63	0.45	0.65	0.9	3	14	8	9
1910	48.2	95	0	0.49	0.66	0.28	0.51	0.1	3	16	8	7
1911	42.5	86	−10	1.25	1.27	1.20	1.24	0.5	6	11	8	12
1912	44.4	90	0	0.68	1.09	1.44	1.07	3.5	4	16	6	9
1913	39.3	90	− 2	2.40	1.34	1.03	1.59	0.7	4	12	9	10
1914	50.0	97	0	1.20	0.93	0.65	0.93	T.	4	16	8	7
1915	46.6	87	10	1.22	0.91	1.14	1.09	0.2	4	17	8	6
1916	40.0	85	− 2	0.49	0.88	0.73	0.70	2.0	4	12	8	11
1917	34.7	82	− 4	0.87	0.76	0.71	0.78	6.4	5	8	11	12
1918	46.2	90	4	0.80	0.45	0.35	0.53	0.8	4	14	8	9
1919	33.5	84	−18	0.93	1.14	1.35	1.14	9.3	6	11	9	11
1920	49.3	95	6	0.53	0.28	0.83	0.55	0.1	3	16	8	7
1921	47.3	88	16	0.80	1.09	0.10	0.66	T.	4	16	8	7
1922	45.7	98	8	0.37	0.65	0.73	0.58	2.3	3	15	7	9
1923	44.0	84	− 8	0.56	1.02	1.08	0.89	0.5	4	14	7	10
1924	50.3	86	19	2.31	2.14	2.82	2.42	0.3	7	17	5	9
1925	33.3	66	−16	0.83	0.64	0.96	0.81	3.7	6	8	9	14
1926	42.6	85	4	2.54	0.86	0.68	1.36	1.0	6	10	10	11
1927	47.0	88	12	1.53	1.49	0.96	1.33	1.0	5	14	8	9
1928	43.5	85	3	0.69	0.18	0.51	0.46	0.6	2	15	8	8
1929	46.8	88	10	2.87	1.63	1.05	1.85	5.1	6	17	5	9
1930	40.8	86	0	2.04	1.90	1.48	1.81	0.3	7	10	9	12
1931	47.7	90	10	2.63	0.93	0.60	1.39	0.2	6	15	6	10
1932	38.3	90	− 3	2.33	2.41	2.06	2.27	9.1	8	9	7	15
1933	41.5	88	5	0.39	0.48	0.74	0.54	1.7	4	14	8	9
1934	49.0	94	5	2.11	0.83	0.08	1.01	0.1	3	14	8	9
1935	43.5	86	−10	0.29	0.08	0.12	0.16	0.7	2	15	9	7
1936	42.3	90	− 5	0.23	0.16	0.21	0.21	1.1	3	14	9	8
1937	43.9	94	1	0.40	0.92	1.08	0.80	0.2	4	12	9	10
1938	50.9	95	4	0.27	0.44	0.95	0.55	1.1	4	16	7	8
Period	43.8	98	−18	1.25	0.96	0.83	1.01	1.4	4	14	8	9

Climatological Data for October 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	50.6	+6.0	80	1†	17	22	32	0.15	−1.32	0.10	0	2	2	12	17	sw.	I. Idso.
Cavalier	Pembina	894	28	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Burke Bechtel.
Cooperstown	Griggs	1,428	41	47.8	+4.4	75	9	13	23	44	0.37	−0.75	0.16	1.0	5	21	4	6	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	......	......	......	......	......	......	......	0.30	......	0.18	0	2	5	19	7	w.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	41	49.4	+7.0	84	3	20	23	43	0.38	−0.87	0.20	T.	6	14	8	9	nw.	U.S. Weather Bureau.
Edgeley	LaMoure	1,568	37	53.7	+8.4	89	3	19	23	48	0.28	−0.81	0.15	0	3	17	11	3	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	48.8	+6.6	82	3†	12	23	55	0.29	−0.76	0,14	0	4	23	0	8	w.	Mike Davis.
Ellendale	Dickey	1,457	43	52.4	+6.8	85	3	20	23	47	0.11	−1.00	0.09	0	2	15	7	9	s.	J. E. Demmer.
Fargo	Cass	895	2	51.6	......	85	9	16	23	48	0.13	−1.76	0.07	T.	4	13	8	10	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	50.9	+4.8	84	3	20	22	46	0.06	−1.39	0.06	T.	1	22	6	3	ne.	Helge Dyste.
Fullerton	Dickey	1,439	40	52.1	+7.3	86	3	18	23	44	0.17	−1.26	0.12	0	2	15	9	7	nw.	F. O. Alin.
Grafton	Walsh	827	46	52.7	+10.6	85	9	16	29	53	0.31	−0.91	0.14	0	5	16	7	8	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	50.0	+6.4	85	9	15	23	49	0.52	−0.88	0.15	0	6	13	8	10	nw.	U. S. WeatherBureau.
Hankinson	Richland	1,068	9	52.9	......	86	3†	23	29	51	0.12	......	0.08	0	2	17	12	2	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	47.8	+7.2	84	3	17	23	52	0.48	−0.66	0.28	0	4	13	7	11	nw.	M. J. Rockwell.
Hillsboro	Traill	901	32	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Lyle George.
Jamestown	Stutsman	1,457	46	51.6	+7.1	90	3	18	23	48	0.29	−0.99	0.16	0	4	19	7	5	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	42	49.8	+8.9	84	1	11	23	50	0.53	−0.61	0.20	0	5	11	11	9	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	51.8	+7.9	84	9	21	23	46	0.34	−1.22	0.21	0	3	17	5	9	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	52.8	+9.0	88	3	16	23	49	0.17	−1.16	0.07	0	3	15	8	8	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	16	48.7	+5.8	84	3	15	23	53	0.41	−0.58	0.21	T	6	17	8	6	w.	C. E. Blasky.
McLeod	Ransom	1,075	27	52.3	+6.1	86	9	20	30	55	0.07	−1.41	0.07	0	1	17	6	8	sw.	J. G. Carlson.
Mayville	Traill	975	42	54.4	+8.5	86	3	18	23	47	0.04	−1.30	0.04	0	1	17	5	9	nw.	H. B. Addicott.
Oakes	Dickey	1,318	9	52.4	......	87	3	15	22	51	0.03	......	0.03	0	1	17	7	7	nw.	S. F. Rossman.
Park River	Walsh	998	34	49.4	+5.6	84	9	20	23	59	0.28	−1.00	0.23	0	2	20	2	9	nw.	E. J. Taintor.
Pembina	Pembina	789	64	49.8	+8.4	83	9	17	23	49	0.67	−0.64	0.28	0	7	19	2	10	nw.	E. N. Russell.
Petersburg	Nelson	1,520	8	......	......	......	......	......	......	......	0.33	......	0.13	0	4	16	8	7	ne.	T. M. Rykken.
Sharon	Steele	1,516	14	50.0	+7.1	82	3	15	23	43	0.37	−1.69	0.18	T.	6	18	4	9	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	51.8	+7.2	81	3	16	23	47	0.07	−1.11	0.07	0	1	19	3	9	ne.	I. C. Robertson.
Wahpeton	Richland	962	46	54.4	+7.8	86	3	17	23	45	0.20	−1.37	0.11	0	4	14	10	7	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	52.1	+7.6	85	9	20	23	46	0.15	−1.54	0.08	T.	2	13	8	10	s.	U. S. Weather Bureau.
Average for Eastern Division		......	......	51.2	+7.3	90	3	12	23	59	0.27	−0.98	0.28	T.	3	16	7	8	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	42	49.8	+5.7	92	3	16	23	49	0.36	−0.80	0.15	0	3	14	10	7	nw.	Henry Doerr.
Bisbee	Towner	1,601	2	48.7	......	84	3	18	24	51	0.45	......	0.25	1.0	3	20	3	8	w.	I. K. Lund.
Bismarck	Burleigh	1,670	64	52.6	+7.7	86	3	17	23	39	0.24	−0.70	0.11	T.	4	14	9	8	w.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	50.3	+9.3	84	2†	19	22	44	0.52	−0.56	0.29	T.	6	17	8	6	nw.	N. D. School of Forestry
Carrington	Foster	1,579	40	49.6	+5.8	85	3	20	23	46	0.45	−0.53	0.20	0	4	9	9	13	nw.	Soo Line Agent.
Carson	Grant	2,500	26	53.4	+10.1	92	3	17	23	41	0.61	−0.36	0.41	0.3	5	17	7	7	nw.	J. W. Evens.
Center	Oliver	......	0	49.3	......	85	3	12	22	54	0.20	......	0.13	0	3	17	7	7	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	51.1	+7.1	85	3	17	23	43	0.45	−0.68	0.27	1.0	5	19	3	9	nw.	R. L. Williams.
Drake	McHenry	1,634	9	49.8	......	85	3	20	22†	44	0.33	......	0.10	1.0	7	16	8	7	nw.	Peter Anton.
Dunseith	Rolette	1,682	42	48.9	+7.5	82	3	17	22	45	0.32	−0.63	0.19	T	5	17	6	8	s.	Geo. Gehres.
Eckman	Bottineau	1,500	33	49.8	+8.0	86	3	19	22	48	0.73	−0.20	0.34	2.0	4	16	7	8	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	52.2	+8.0	88	3	15	23	42	0.20	−0.74	0.10	0	2	17	9	5	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	26	51.2	+8.2	86	3	17	23	51	0.66	−0.43	0.20	0	6	18	5	8	n.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	52.4	+6.0	84	2	11	23	42	0.12	−1.00	0.12	0	1	20	6	5	n.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	51.3	+9.5	86	3	24	23	42	0.69	−0.41	0.25	2.0	5	15	5	11	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	51.8	......	85	5	16	24	44	0.25	......	0.10	T.	3	14	11	6	w.	A. H. Haut.
Garrison	McLean	1,901	61	51.4	+8.7	89	3	17	23	44	0.43	−0.51	0.16	1.0	5	17	6	8	nw.	E. L. Vorachek.
Granville	McHenry	1,504	31	50.8	+7.5	87	3	18	22	45	0.64	−0.29	0.22	T.	4	19	4	8	nw.	W. A. Christianson.
Hansboro	Towner	1,597	30	48.3	+7.6	85	9	19	22	48	0.59	−0.52	0.30	T.	4	15	7	9	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	52.2	+7.5	91	3	4	23	50	0.17	−0.94	0.08	0	4	16	10	5	w.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	51.6	+9.2	88	3	16	23	42	1.05	+0.02	0.80	0	3	15	5	11	nw.	F. W. Terry.
Maddock	Benson	1,604	23	51.2	+8.3	88	9	14	23	52	0.23	−0.86	0.12	0	4	19	4	8	nw.	A. T. Felland.
Mandan	Morton	1,750	24	51.8	+7.8	86	3	56	23	43	0.21	−0.78	0.12	0	5	13	9	9	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	......	......	......	......	......	......	......	0.51	−0.62	0.18	0	6	......	......	......	......	P. B. Anderson.
Max	McLean	2,093	9	48.0	......	86	3	12	24	50	0.24	......	0.09	0.5	4	11	12	8	nw.	A. W. Rice.
Minot	Ward	1,557	42	51.3	+8.0	87	3	20	23	43	1.18	+0.17	0.37	T	4	20	3	8	w.	Kenneth Chatfield.
Mohall	Renville	1,646	44	48.9	+7.2	87	3	21	19†	46	0.84	−0.33	0.49	4.0	5	14	10	7	nw.	Iver Johnson.
Napoleon	Logan	1,955	46	51.8	+8.1	95	3	8	23	50	0.25	−0.85	0.11	0	5	20	4	9	s.	C. J. Hoof.
New Salem	Morton	2,163	34	51.8	+7.0	87	3	17	22†	43	0.21	−0.75	0.09	T.	5	17	6	8	ne.	J. Christianson.
Pettibone	Kidder	1,856	29	50.2	+8.4	89	3	13	23	44	0.30	−0.63	0.19	0	2	18	4	9	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	48.8	......	81	1	20	22	44	0.44	......	0.13	T.	7	19	3	9	w.	A. A. Jacobsen.
Rugby	Pierce	1,562	9	......	......	......	......	......	......	......	0.50	......	0.22	0	5	15	3	13	sw.	W. B. Paterson.
Ryder	Ward	2,108	9	......	......	......	......	......	......	......	0.63	......	0.41	0	4	21	0	10	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	......	......	......	......	......	......	......	0.10	......	0.05	T.	2	16	11	4	nw.	J. B. Smith.
Steele	Kidder	1,857	44	49.5	+5.7	91	3	8	23	48	0.12	−1.05	0.04	T	4	21	6	4	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	9	......	......	......	......	......	......	......	1.08	......	0.35	3.0	9	19	2	10	w.	G. N. Pilgard.
Timmer	Morton	......	1	......	......	......	......	......	......	......	0.22	......	0.13	0	3	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	36	50.9	+7.5	86	3	20	22†	48	0.63	−0.36	0.29	T.	4	15	8	8	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	52.2	+8.9	88	3	15	23	41	0.19	−0.72	0.06	0	4	20	1	10	w.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	......	......	......	......	......	......	......	0.48	−0.28	0.15	0	6	16	8	7	nw.	Adam Leno.
Velva	McHenry	1,511	11	51.5	+7.6	85	3	20	22†	47	0.42	−0.63	0.21	0.5	4	15	6	10	nw.	Oscar Anderson.
Washburn	McLean	1,731	37	51.9	+7.4	89	3	19	23	44	0.29	−0.76	0.14	1.0	3	24	0	7	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	48.2	+6.1	81	3	25	19	44	1.00	+0.14	0.39	T.	6	13	8	10	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	46	47.6	+6.2	86	3	13	23	49	0.46	−0.42	0.18	T.	3	20	5	6	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	49.8	+5.9	90	3	13	22	47	0.27	−0.51	0.09	0	4	14	11	6	sw.	H. M. Larson.
Zap	Mercer	1,838	23	......	......	......	......	......	......	......	0.39	−0.54	0.23	0	2	22	4	5	......	R. A. Norton.
Average for Middle Division		......	......	50.6	+7.4	95	3	4	23	54	0.45	−0.51	0.80	0.4	4	17	6	8	nw.	......

Continued on page 40.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow.
‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for October 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																	.05	.10	T.													0.15
Cooperstown	Sheyenne										T.					.02	T.	.09	.16	.02		.08											0.37
Courtenay	James																	.12	.18														0.30
Devils Lake ***	Devils Lake	T.	T.	T	T.	.01	T.				.03	T.	T.	T.		T.	.02	.18	.10	T.		.04										T	0.38
Edgeley	James																	.07	.06				.15										0.28
Edmore	Devils Lake										T	.05	T.					.07	.14			.03											0.29
Ellendale	James					T.												T.	.02				.09										0.11
Fargo ***	Red				T	T.	T	T.			.02	T.				T.	T.	.03	.01	T.		.07	T.									T.	0.13
Forman	Sheyenne				T.	T.									T.								.06			T.							0.06
Fullerton	James										T.					T.		.05	T.			T.	.12										0.17
Grafton	Red										.03	.06					.03	T.	.14			.05											0.31
Grand Forks ***	do					T					.12			T.	T.	T	.03	.15	.11	T		.10				.01							0.52
Hankinson ‖	do					T		.04									.08	T.				T.											0.12
Hannah	Pembina													T.		.02	.28	.09	.09														0.48
Hillsboro	Red																																
Jamestown	James										T.							.16	.06	.03		.04											0.29
Langdon ‖	Pembina						T.					T.				.03	.19	.09	.20			.02											0.53
Larimore	Red						.10				T.					T.	T.	T	.21	.03		T.											0.34
Lisbon	Sheyenne										.07							.03				T.	.07			T.							0.17
McHenry	James					T.					.01					.01		.05	.21	.05		.08											0.41
McLeod	Sheyenne											.07					T.	T.															0.07
Mayville	Red																		.04														0.04
Oakes	James				T.																	.03										T.	0.03
Park River	Red										T.							.23	.05			T.											0.28
Pembina	do										.28	.03				.12	.04	.07	.11			.02											0.67
Petersburg	do				T.		.03											.09	.13	.08													0.33
Sharon	do					T.	T.				T.					.01	.04	.09	.18	.01		.04										T.	0.37
Valley City	Sheyenne																					.07											0.07
Wahpeton	Red						T.	.05				.03					T.	.01	T.				.11										0.20
Moorhead, Minn. ***	do					T.	T	T.			.07					T.	T.	T.	T.	T.		.08				T.						T.	0.15
Middle Division																																	
Ashley	Missouri																	.10	.15	T.		.11											0.36
Bisbee	Devils Lake											T.					.25	.10	.10														0.45
Bismarck ***	Missouri				T.	T.	T.				T.	T.	T.			.10	.01	.06	.07			T.											0.24
Bottineau	Mouse						.01	.01			.02					.06		.29	.13														0.52
Carrington ‖	James																.01	T.	.20	.18			.06										0.45
Carson	Heart					.02					.41					.06		.09	.03														0.61
Center	Missouri										.03							.13	.04														0.20
Dogden Butte	Mouse					T.	T.				T.	.03				T.	.03	.09	.27			.03											0.45
Drake ‖	do						.02	T.				.02					.03	.03	.10	.09			.04										0.33
Dunseith	do					.02							T.			.04	.04	.19	.03														0.32
Eckman	do			T.		T.	T.	T			.12					.01		.26	.34														0.73
Energy	Missouri										T.					T.		.10	.10														0.20
Fessenden ‖	James						.02				.13					.05		.10	.16			.20											0.66
Fort Yates	Missouri															T.		.12															0.12
Foxholm (near)	Mouse					.19	.02				T.		T.			T.	.09	.14	.25			T.											0.69
Gackle	James										.05					T.		.10	.10														0.25
Garrison ‖	Missouri					.02	T.				T	.08				T.	.03	.16	.14														0.43
Granville	Mouse			T.		.14	T.			T.	T.					T.	.19	.09	.22			T											0.64
Hansboro	Devils Lake						T				T.					.01	.30	.09	.19		T.												0.59
Linton	Missouri					T.					T.	T.				.02	T.	.05	.08				.02										0.17
McClusky	do										.80							.13	.12														1.05
Maddock	Sheyenne					T.						.01					T.	.04	.12			.06											0.23
Mandan ‖	Missouri				T.	.02				T.					T.	.04	.01	.12	.02			T.											0.21
Max ‖	do						.03	T				.04						.09	.08														0.24
Minot	Mouse					.17	T.				T.	T.	T.		T.	T.	.36	.28	.37			T.											1.18
Mohall	do			T.		T.	.01				.05		T.			.02		.27	.49													T.	0.84
Napoleon ‖	Missouri									.02		T.					.03	.04	.11				.05										0.25
New Salem	Heart					.04					.02					T.	.09	.03	.03			T.											0.21
Pettibone	James					T.										T.		T	.19			.11											0.30
Rolla	Devils Lake						.01					.06				.06	.13	.05	.12			.01											0.44
Rugby (near)	Mouse					.05	T.				.22						.08	.07	.08													T	0.50
Ryder	Missouri										T.						.02	.41	.18													.02	0.63
Selfridge	do					T.										T.	T	.05	.05														0.10
Steele	do										T.					.04	.02	.02	.04			T.											0.12
Tagus	Mouse		T.	T.	.01	.33	.02				T		.02			.02	.02	.30	.35			.01	T.									T.	1.08
Towner	do					.12					T.	T.				T.	.29	.10	.12			T.											0.63
Turtle Lake	Missouri					.06	T.				.02					T.		.05	.06			T											0.19
Tuttle	do					.06			T.		.15					.02	.10	.04	.11	T.		T				T							0.48
Velva	Mouse					.03	T.				T.	T.				T.	.10	.08	.21			T.											0.42
Washburn ‖	Missouri					T.	.09											.06	.14	T.													0.29
Westhope	Mouse					.03	.01									.22	.04	.31	.39														1.00
Willow City	do				T		T.				T.					T.	.18	.16	.12			T.											0.46
Wishek ‖	Missouri				T.											.03	.08	.09	T.			.07											0.27
Zap	Knife					.16												T.	.23														0.39
Western Division																																	
Alpha	Lit. Missouri				.03	.01					.02						.02	.27	.06													T.	0.41
Amidon	do					.12						T.					.04	.16	.05	T.													0.37
Beach	do				T.	T.					04		T.				.14	.31	.12							T.							0.61
Berthold Agency	Missouri				T.	T					.08							.42	.20							T.							0.70
Bowman	Grand				.01	.06	.02					T.						.12	.08														0.29
Crosby	Mouse				.16						.08					.23		.49	1.11														2.07
Dickinson ‖	Heart				T	T.	.20					.12					.07	.11	.22	.02													0.74
Dunn Center	Knife				.04	.06	.01										.01	.37	.11														0.60
Fairfield	Lit. Missouri				T.	.10											.12	.34	.07														0.63
Fryburg	Heart					.07	T.				.05					T	T.	.43															0.55
Hettinger	Grand					.04	.01				T.						.15	.05															0.25
Howard (near)	Missouri		T.		T	T.	T				T.	.04	.01	T.		T.	.03		1.30				T			T						T	1.38
Kenmare	Mouse				.13		.08									.10	.05	.56	.84													T.	1.76
Marmarth	Lit. Missouri					.07					T.	T.					.16		.05														0.28
Mary	do				T.												.02	.35	.33														0.70
Medora	do				.01	.02	T.				.01		T.			T.	.08	.35	.04														0.51
Mott	Cannon Ball				T.	.05	.01					.02				T	.06	.07	.04														0.25
New England ‖	do					.15						T.				.06	.26	.09	.04													.25	0.85
Parshall	Missouri					.04											.35	.39	.24														1.02
Portal ‖	Mouse					.05	.16									.02	.21	.04	1.02													.05	1.55
Powers Lake	Missouri															.07		.51	.77													.53	1.88
Richardton	Heart					.29	T.									T.	T	.16	.09														0.54
Sanish ‖	Missouri				.03	.10	.05					.05					.14	.28	.37													T	1.02
Stanley	do				.03	.77	.07				.01						.02	.52	.49				.02										1.93
Tioga	do					.20										.10		.37															0.67
Trotters	Lit. Missouri				.06												.14	.51	.21														0.92
Watford City	Missouri					.05											.15	.68	.42							T.							1.30
Wildrose	do				.15	T.	T									.13		.78	.65													T	1.71
Williston ***	do			.05	T	.01					.04					T.	T.	.82	.28							T.					T.	.06	1.26

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	83	81	92	76	59	70	65	72	81	64	78	65	80	64	57	50	47	39	54	65	60	36	47	62	66	60	77	58	57	67	52	64.0
	Minimum	40	43	47	43	45	42	44	35	38	50	44	45	43	37	42	39	35	32	28	29	30	25	16	22	31	34	32	31	19	24	39	35.7
Beach	Maximum	79	82	85	72	56	66	64	70	72	65	76	65	76	58	55	46	41	41	52	62	54	48	54	64	59	65	74	66	67	66	57	63.1
	Minimum	49	52	47	49	50	50	49	42	46	43	47	40	44	37	43	35	33	29	29	35	35	31	24	31	34	32	38	31	40	39	38	39.4
Bismarck	Maximum	83	83	86	72	57	62	64	72	80	71	80	66	82	64	54	54	44	40	57	67	57	41	54	65	64	62	79	57	62	73	56	64.8
	Minimum	52	45	48	54	49	48	42	40	57	51	49	47	47	36	41	39	37	33	30	36	33	22	17	32	30	38	40	34	32	46	38	40.4
Bottineau	Maximum	82	84	84	68	80	53	61	67	80	80	80	75	72	65	63	62	51	40	54	65	54	44	48	60	60	56	77	68	58	68	67	65.4
	Minimum	47	50	54	38	50	42	36	42	46	50	41	38	39	29	28	30	32	31	25	29	38	19	21	20	30	30	33	27	30	30	35	35.2
Carson	Maximum	87	84	92	78	58	71	69	74	79	72	80	85	82	65	56	56	46	40	57	68	59	55	56	57	65	66	82	75	62	79	60	68.2
	Minimum	49	52	48	54	48	48	41	44	52	49	46	47	42	31	39	36	36	31	23	33	37	18	17	25	43	30	41	30	33	38	37	38.6
Crosby §	Maximum	78	81	82	53	52	59	62	68	77	71	78	67	68	59	49	48	41	39	42	49	49	46	59	63	61	60	75	60	65	65	53	60.6
	Minimum	36	46	48	50	42	48	50	36	39	40	39	42	38	25	34	35	30	29	25	39	38	36	24	28	42	35	37	32	35	43	34	37.3
Devils Lake	Maximum	80	76	84	58	52	55	61	66	83	72	78	63	76	62	51	51	40	37	57	63	47	38	52	60	62	57	78	57	57	65	49	60.9
	Minimum	51	40	50	50	44	42	40	31	48	53	50	46	43	36	36	35	35	33	28	33	32	22	20	29	41	37	35	35	25	42	36	38.0
Dickinson §	Maximum	83	84	88	68	54	69	64	71	77	72	78	63	77	61	52	47	36	40	54	64	56	43	54	65	60	65	78	59	67	72	51	63.6
	Minimum	34	44	45	46	51	49	42	41	45	43	45	42	40	30	29	36	35	30	27	28	33	32	16	21	29	28	29	33	36	35	34	35.7
Dunn Center §	Maximum	82	77	83	66	52	66	57	70	72	66	79	66	76	58	48	44	40	38	55	66	52	42	58	60	61	68	75	63	56	76	55	62.2
	Minimum	47	39	46	50	48	48	38	35	45	40	48	46	58	48	44	40	38	36	32	40	39	30	22	27	38	29	34	34	34	35	37	39.5
Fessenden §	Maximum	81	82	86	79	53	55	62	70	83	80	79	79	78	63	54	54	51	39	57	65	65	37	52	63	64	61	80	79	61	70	52	65.6
	Minimum	38	41	45	50	45	42	41	26	45	48	48	50	41	34	38	39	36	31	27	33	39	21	17	28	36	33	32	28	22	45	39	36.7
Fullerton	Maximum	77	80	86	78	61	71	65	70	80	73	79	67	79	64	58	52	52	48	55	66	62	40	50	62	69	60	72	61	58	69	59	65.3
	Minimum	42	46	47	46	45	41	47	36	50	56	45	45	42	38	42	41	42	38	32	37	34	30	18	29	31	42	28	40	22	31	42	38.9
Garrison §	Maximum	83	82	89	75	54	61	63	68	79	70	79	70	77	66	54	50	44	42	55	66	56	41	55	63	61	61	79	55	61	73	59	64.2
	Minimum	45	46	49	52	47	48	40	33	49	44	44	47	42	32	43	38	34	32	29	36	39	21	17	31	37	36	35	38	30	40	40	38.5
Grafton	Maximum	83	83	81	79	56	55	64	66	85	84	81	80	79	78	62	54	53	43	59	67	64	42	55	61	65	63	79	75	57	65	60	67.0
	Minimum	44	45	46	54	47	42	46	26	45	56	51	44	36	44	29	43	37	34	30	38	36	29	18	35	30	40	26	42	16	40	40	38.4
Grand Forks	Maximum	79	78	81	62	56	57	65	66	85	82	81	67	80	64	53	52	44	41	56	66	52	41	52	60	67	58	75	60	56	65	54	63.1
	Minimum	46	41	51	51	45	42	36	27	49	57	52	41	34	38	35	42	40	37	29	33	34	21	15	29	33	34	26	29	19	41	41	37.0
Jamestown §	Maximum	81	80	90	63	56	68	64	67	82	71	81	68	81	69	55	54	46	43	56	66	56	38	51	63	66	58	78	61	59	70	57	64.5
	Minimum	42	45	46	47	46	42	46	31	49	56	51	44	43	38	44	40	40	34	30	35	37	28	18	28	33	39	30	39	20	38	38	38.6
Kenmare	Maximum	81	79	89	76	59	62	65	61	76	72	77	77	71	64	59	50	47	38	48	57	60	54	58	63	60	62	76	73	61	69	54	64.5
	Minimum	32	43	46	51	44	47	43	37	40	45	43	45	46	35	33	32	32	31	28	38	40	29	27	33	47	36	42	34	33	42	35	38.4
Langdon §	Maximum	84	76	82	73	60	50	65	67	81	75	77	73	74	67	52	53	42	38	57	67	56	45	57	65	63	55	80	74	55	64	58	64.0
	Minimum	48	40	48	50	40	40	41	30	45	52	42	46	47	33	29	35	30	31	25	30	30	19	11	26	35	34	30	33	25	42	35	35.5
Marmarth	Maximum	80	81	86	67	63	67	61	70	73	71	78	65	78	80	62	50	44	41	46	60	56	45	56	68	65	69	77	63	71	70	61	65.3
	Minimum	39	47	43	46	53	53	43	39	45	42	44	42	42	32	46	38	36	31	27	30	40	36	16	34	35	29	32	29	45	33	37	38.2
Minot	Maximum	82	81	87	76	55	62	62	70	80	70	81	71	71	66	52	49	44	40	52	62	55	43	58	65	62	62	78	63	62	75	59	64.4
	Minimum	53	38	48	50	45	46	38	30	44	48	45	46	45	35	37	36	34	31	28	35	40	23	20	27	43	37	36	32	29	49	38	38.2
Mott	Maximum	82	83	85	75	69	74	65	73	76	71	79	65	81	65	56	51	47	40	56	68	56	43	56	69	64	68	84	63	65	78	58	66.6
	Minimum	46	42	45	51	50	49	44	42	48	41	49	43	38	31	43	37	36	31	23	32	37	30	15	25	35	26	35	31	34	34	40	37.5
Pembina	Maximum	82	75	79	67	67	56	61	64	83	78	76	63	76	64	50	53	43	39	58	65	52	41	54	58	61	56	77	72	55	61	57	62.7
	Minimum	41	50	45	51	46	40	40	27	46	55	53	40	37	40	30	41	33	34	27	31	28	28	17	29	32	39	28	36	20	40	36	36.8
Sharon	Maximum	80	76	82	66	54	55	63	66	82	80	81	64	80	61	48	50	42	40	55	64	47	35	49	61	66	57	76	64	60	65	55	62.1
	Minimum	48	50	46	51	44	41	43	33	47	53	50	44	37	35	36	39	36	32	29	34	34	27	15	29	32	37	30	34	30	39	40	37.9
Steele	Maximum	82	76	91	70	63	68	62	71	80	72	80	81	69	51	50	49	48	40	53	60	50	35	51	62	58	60	80	60	60	68	52	63.0
	Minimum	48	41	45	50	41	50	40	30	54	53	42	40	30	37	41	37	37	31	23	32	35	17	8	25	30	30	32	32	23	45	37	36.0
Valley City	Maximum	76	75	81	76	59	60	64	65	79	76	80	78	79	72	56	58	52	46	59	63	59	41	56	61	66	58	72	72	58	67	58	65.2
	Minimum	42	40	49	53	47	43	48	32	47	58	49	50	38	40	38	40	40	37	29	36	38	30	16	29	31	36	25	30	17	40	41	38.4
Wahpeton	Maximum	76	78	86	83	68	59	66	67	85	83	80	75	80	76	68	56	57	57	56	66	61	54	51	62	68	64	74	71	58	67	66	68.3
	Minimum	45	47	54	48	48	42	50	33	52	58	55	48	38	39	40	45	46	39	33	32	38	31	17	26	33	39	29	39	20	36	52	40.4
Williston	Maximum	81	82	86	58	54	65	64	68	76	68	79	62	71	57	50	48	42	41	48	60	50	45	55	63	62	61	75	58	67	68	50	61.7
	Minimum	49	54	50	50	49	51	40	43	49	43	45	46	43	36	40	37	32	31	30	34	41	33	28	30	43	34	42	34	44	43	35	40.6
Moorhead, Minn.	Maximum	75	80	84	69	57	59	65	65	85	83	79	68	79	62	59	52	53	47	54	65	54	39	49	60	70	59	74	58	57	66	58	64.0
	Minimum	47	46	54	54	43	42	44	35	55	59	52	45	37	44	42	43	43	37	31	38	34	25	20	32	31	38	28	36	26	39	45	40.2

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

Climatological Data for October 1938—Continued from page 38.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	.....	......	...	...	...	...	.....	0.41	−0.57	0.27	0.6	6	18	5	8	se.	H. A. Bury.
Amidon	Slope	......	15	52.4	+8.8	86	3	21	23	40	0.37	−0.77	0.16	0.5	4	13	11	7	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	32	51.2	+7.6	85	3	24	23	38	0.61	−0.33	0.31	1.0	4	7	19	5	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	54.4	+9.8	90	3	26	22	40	0.70	−0.19	0.42	0	3	22	2	7	nw.	C. L. Hall.
Bowbells	Burke	1,958	9	.....	......	...	...	....		...	1.31	......	0.69	6.0	5	14	6	11	w.	L. C. Grinney.
Bowman	Bowman	2,872	23	50.8	+6.8	87	3	19	23	44	0.29	−0.69	0.12	0	5	24	0	7	se.	Wm. E. Tomlin.
Crosby	Divide	1,954	29	49.0	+7.2	82	3	24	23	42	2.07	+1.23	1.11	12.0	5	12	10	9	w.	J. H. Phelps.
Dickinson	Stark	2,543	45	49.6	+6.0	88	3	16	23	49	0.74	−0.24	0.22	0.7	6	9	16	6	w.	Leroy Moomaw.
Dunn Center	Dunn	2,191	38	50.8	+6.4	83	3	22	23	41	0.60	−0.31	0.37	0	6	15	10	6	nw.	O. T. Evenson.
Epping	Williams	2,224	27	50.0	+6.6	86	3	22	19	47	1.47	+0.68	0.63	1.0	4	14	9	8	se.	T. Beachler.
Fairfield	Billings	......	1	.....	......	...	...	...	...	.....	0.63	......	0.34	1.5	4	12	13	6	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	51.7	......	92	3	24	23	43	0.55	−0.50	0.43	0	3	16	9	6	se.	Verne King.
Hettinger	Adams	2,675	30	53.6	+8.0	87	3	18	23	42	0.25	−0.52	0.15	T.	4	22	5	4	nw.	O. A. Erlandson.
Howard ‡‡ (near)	Williams	2,275	30	47.6	+6.0	86	3	18	19	47	1.38	+0.59	1.30	11.4	4	14	10	7	sw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	51.4	......	89	3	27	23	49	1.76	+0.70	0.84	7.0	6	13	9	9	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	51.8	+6.3	86	3	16	23	48	0.28	−0.57	0.16	0.7	3	13	10	8	nw.	S. P. Grane.
Mary	McKenzie	......	9	.....	......	...	...	...	...	.....	0.70	......	0.35	2.0	3	16	8	7	se.	Fred Hartman.
Medora	Billings	2,271	22	.....	......	...	...	...	...	.....	0.51	−0.22	0.35	T.	6	15	10	6	se.	Vernon Thompson.
Mott	Hettinger	2,424	30	52.0	+8.7	85	3	15	23	49	0.25	−0.69	0.07	T.	6	13	12	6	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	51.1	+7.7	86	2	18	22	50	0.85	+0.01	0.26	1.0	6	13	8	10	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	49.6	......	88	3	17	23	52	1.02	+0.21	0.39	T.	4	14	10	7	sw.	C. E. Shubert.
Portal	Burke	1,954	32	46.4	+5.0	83	3	20	19	46	1.55	+0.66	1.02	2.0	7	13	7	11	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	52.6	+9.0	92	4	27	22	42	1.88	+0.66	0.77	7.0	4	17	8	6	sw.	Geo. B. Gee.
Richardton	Stark	2,467	21	53.2	+9.8	85	3	23	23	38	0.54	−0.34	0.29	0	3	14	10	7	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	51.0	+7.7	88	3	17	23	46	1.02	+0.40	0.37	3.0	7	18	6	7	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	48.8	......	85	3	23	19	42	1.93	......	0.77	5.5	8	12	11	8	w.	Leroy Edwards.
Tioga	Williams	2,279	9	.....	......	...	...	...	...	.....	0.67	......	0.37	T.	3	.....	......	......	......	B. V. Olson.
Trotters	Golden Valley	......	12	.....	......	...	...	...	...	.....	0.92	+0.09	0.51	2.5	4	17	3	11	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	52.0	+9.1	86	3	19	23	41	1.30	+0.43	0.68	2.0	4	13	12	6	w.	J. C. Zeller.
Wildrose	Williams	2,258	10	.....	......	...	...	...	...	.....	1.71	......	0.78	10.0	4	12	8	11	nw.	L. Holter.
Williston	Williams	1,878	58	51.2	+7.8	86	3	28	23	36	1.26	+0.40	0.98	9.2	6	16	8	7	w.	U. S. Weather Bureau.
Average for Western Division		......	.....	51.0	+7.5	92	3†	15	23	52	0.95	+0.12	1.30	2.8	5	15	9	7	nw.	......
Average for the State		......	.....	50.9	+7.1	95	3	4	23	59	0.55	−0.46	1.30	1.1	4	16	7	8	nw.	......

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

Vol. XLVII Bismarck, N. D., November 1938 No. 11

GENERAL SUMMARY

The temperature averaged below normal at all stations and sub-zero readings were recorded on many dates between the 20th and 27th. The precipitation was slightly above normal in all but the eastern section where most stations reported sub-normal amounts. The first heavy snowfall of the season occurred at many stations on the 10th-12th. Except for a few stormy days on the 10th-12th and 23d-25th, the weather was excellent for outdoor work and for livestock. Main highways were open all month and only a few side roads were blocked for short periods.

TEMPERATURE

The mean temperature for the State was 23.8°, or 2.8° below the 1892-1938 average for November. The mean for the eastern division was 23.1°; for the middle division, 23.3°; and for the western division, 25.1°. The highest mean temperature was 28.4° at Hettinger, and the lowest, 17.6° at Hannah, making a range in mean temperature of 10.8°. The absolute range in temperature was 96°, from 75° at McLeod on the 1st, to -21° at McHenry and Willow City on the 24th. The average daily excess in temperature for the State since January 1, 1938, is 2.3°.

PRECIPITATION

The average precipitation for the State was 0.87 inch, or 0.27 inch more than the 1892-1938 average for November. In the eastern division the average amount was 0.63 inch; in the middle division, 0.94 inch; and in the western division, 1.04 inches. The greatest monthly amount reported was 2.13 inches at Berthold Agency; the least was 0.14 inch at Hansboro. The greatest amount recorded in any 24 consecutive hours was 1.46 inches at Parshall on the 1st. The accumulated deficiency in precipitation since January 1, 1938, is 1.41 inches. The average snowfall was 7.9 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	1	..	..	1	1	4	4	..	..	..	1	..	..	1	5	2	3	2	2	4	1	3	4	7	..	1	1	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	18	2	1	1	..	1	..	..	..	..	3	..	..	1	2	..	1	..	..	..	..	..	..	..	..	5	1	2	..	32	..
Lunar halos	..	..	..	1	..	..	1	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Solar halos	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	3	4	..	..	..	1	..
Sleet	..	..	..	..	..	..	..	..	..	..	2	3	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.02	30.75	23	29.37	1	9.2	30	nw.	13	82	68	70	41
Devils Lake	30.00	30.71	23	29.33	1	10.0	30	nw.	13	89	74	80	47
Williston	30.01	30.71	23	29.36	1	8.9	26	n.	21	88	71	78	35
Moorhead, Minn	30.02	30.75	23	29.38	3	8.7	27	w.	4	84	74	77	41
Averages & ext's	30.01	30.75	23	29.33	1	9.2	30	nw.	13	86	72	76	41

† And other dates.

COMPARATIVE DATA FOR NOVEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	22.3	75	−26	0.80	0.95	0.61	0.79	7.4	4	8	9	13
1893	22.4	74	−27	0.72	0.75	0.24	0.57	4.6	3	9	10	11
1894	23.1	71	−25	0.44	0.54	0.43	0.47	2.6	4	10	8	12
1895	20.6	76	−25	1.18	1.01	1.08	1.09	8.2	5	8	9	13
1896	8.1	62	−32	2.06	2.47	2.17	2.23	21.7	9	8	7	15
1897	20.0	86	−28	0.27	0.33	0.36	0.32	2.8	3	12	9	9
1898	23.0	69	−30	0.42	0.30	0.30	0.34	3.1	3	13	8	9
1899	36.0	68	2	0.26	0.51	0.16	0.31	1.0	2	15	4	11
1900	20.4	64	−29	0.28	0.29	0.40	0.32	5.2	5	14	7	9
1901	26.8	70	− 7	0.10	0.09	0.19	0.13	1.6	1	15	8	7
1902	29.6	69	−12	0.25	0.11	0.36	0.24	1.9	3	11	6	13
1903	25.3	78	−20	0.27	0.22	0.28	0.26	2.5	2	13	4	13
1904	35.7	80	−10	0.10	0.09	0.07	0.09	0.7	1	18	5	7
1905	31.6	88	−38	1.66	1.54	0.89	1.36	11.0	9	7	13	10
1906	23.8	68	−16	1.90	1.34	1.23	1.49	10.2	7	10	7	13
1907	30.2	85	−15	0.08	0.10	0.05	0.08	0.7	1	16	8	6
1908	31.1	75	−15	1.10	0.91	0.80	0.94	8.2	4	12	8	10
1909	29.4	88	−23	0.68	0.31	0.44	0.48	4.6	3	11	9	10
1910	23.9	68	−23	0.34	0.44	0 43	0.40	3.2	2	8	10	12
1911	16.7	58	−33	0.70	0.60	0.63	0.64	7.1	6	12	8	10
1912	31.8	70	1	0.09	0.06	0.06	0.07	0.5	1	14	9	7
1913	34.1	77	− 2	0.21	0.23	0.21	0.22	1.6	2	15	8	7
1914	30.7	83	−30	0.45	0.31	0.23	0.33	2.6	2	13	10	7
1915	28.1	71	−10	0.81	0.83	1.21	0.95	3.7	4	10	10	10
1916	28.8	75	−18	0.10	0.25	0.46	0.27	1.7	2	16	8	6
1917	36.8	77	− 7	0.20	0.13	0.05	0.13	1.4	1	16	6	8
1918	28.9	71	−18	1.31	1.09	0.49	0.96	5.3	4	13	6	11
1919	15.6	57	−36	1.88	0.96	0.62	1.15	11.8	5	11	8	11
1920	28.0	65	−14	0.55	0.33	0.14	0.34	2.1	3	10	9	11
1921	21.0	69	−30	0.52	0.71	0.83	0.69	6.3	5	7	8	15
1922	31.8	65	− 8	2.97	2.26	1.50	2.24	6.3	6	7	7	16
1923	36.5	72	− 5	0.58	0.45	0.39	0.47	0.6	3	13	8	9
1924	27.6	69	−15	0.19	0.17	0.17	0.18	1.9	2	11	9	10
1925	28.8	69	−17	0.42	0.17	0.13	0.24	1.3	2	14	8	8
1926	21.5	68	−23	0.72	0.54	0.60	0.62	6.2	5	6	7	17
1927	20.7	59	−24	0.71	0.72	0.65	0.69	7.1	6	7	8	15
1928	31.0	70	−11	1.08	0.28	0.09	0.48	0.2	1	15	8	7
1929	24.8	70	−21	0.57	0.46	0.56	0.53	5.2	5	9	8	13
1930	29.4	72	−21	1.56	0.62	0.43	0.87	6.2	5	13	7	10
1931	30.3	78	−10	0.98	0.40	0.27	0.55	5.0	3	13	7	10
1932	25.2	70	−17	0.70	0.38	0.45	0.51	4.6	4	10	10	10
1933	28.3	78	−15	0.81	0.58	0.56	0.65	6.6	5	9	8	13
1934	33.9	73	− 1	0.51	0.22	0.10	0.28	1.0	3	13	.7	10
1935	17.2	57	−25	0.70	0.79	0.69	0.73	8.1	6	8	8	14
1936	28.0	69	−28	0.37	0.33	0.31	0.34	4.0	4	13	8	9
1937	25.2	73	−25	0.51	0.40	0.33	0.41	3.5	4	10	7	13
1938	23.8	75	−21	0.63	0.94	1.04	0.87	7.9	6	8	10	12
Period	26.6	88	−38	0.72	0.58	0.50	0.60	4.7	4	11	8	11

Climatological Data for November 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Idso.
Cavalier	Pembina	894	28	21.2	.....	56	1	−13	24	45	0.48	−0.31	0.23	5.4	3	2	10	18	n.	Burke Bechtel.
Cooperstown	Griggs	1,428	41	20.6	−7.0	63	1	−17	24	43	0.75	+0.07	0.38	7.0	6	14	8	8	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	.....	.....	.....	.....	.....	.....	.....	0.72	.....	0.53	8.0	2	0	22	8	n.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	41	21.2	−3.3	58	1	−14	26	35	0.59	−0.13	0.27	7.4	8	5	10	15	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	37	26.8	−3.0	64	1	− 8	24†	55	0.53	+0.07	0.37	5.3	4	8	15	7	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	20.8	−4.0	58	1	−18	26	50	0.20	−0.50	0.14	4.5	2	12	4	14	nw.	Mike Davis.
Ellendale	Dickey	1,457	43	25.6	−0.5	62	1	− 7	24	42	0.36	−0.26	0.24	4.4	4	9	7	14	nw.	J. E. Demmer.
Fargo	Cass	895	2	23.6	.....	72	1	−14	15	39	0.84	+0.31	0.34	7.8	10	5	5	20	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	23.9	−6.1	70	1	−11	22†	40	0.70	+0.08	0.32	5.0	3	15	5	10	nw.	Helge Dyste.
Fullerton	Dickey	1,439	40	25.9	−3.3	65	1	− 7	25	44	0.77	−0.09	0.39	5.9	5	5	13	12	nw.	F. O. Alin.
Grafton	Walsh	827	46	23.3	−1.4	61	1	−17	24	43	0.71	−0.03	0.30	10.5	4	3	13	14	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	21.2	−4.8	63	1	−15	24	43	1.08	+0.26	0.48	15.2	9	3	13	14	w.	U. S. WeatherBureau.
Hankinson	Richland	1,068	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Joseph Rindt.
Hannah	Cavalier	1,568	46	17.6	−2.7	52	2	−15	23†	40	0.39	−0.36	0.11	7.5	6	5	10	15	nw.	M. J. Rockwell.
Hillsboro	Traill	901	32	22.3	−5.5	66	1	−18	24	43	0.94	+0.12	0.43	8.2	5	.....	.....	.....	nw.	Lyle George.
Jamestown	Stutsman	1,457	46	24.4	−2.9	61	1	−10	24	42	0.95	+0.27	0.40	9.5	4	13	10	7	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	42	20.1	−3.9	54	1	−18	22	37	0.46	−0.36	0.16	4.4	5	9	10	11	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	24.0	−1.8	62	1	−11	22†	39	0.84	−0.07	0.49	6.7	4	9	4	17	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	26.6	−2.3	68	1	−10	27	40	0.87	+0.21	0.24	4.0	7	5	9	16	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	16	19.8	−7.6	61	1	−21	24	44	0.59	−0.03	0.31	11.9	5	9	11	10	nw.	C. E. Blasky.
McLeod	Ransom	1,075	27	26.4	−3.9	75	1	−12	22†	50	1.23	+0.57	0.47	7.1	8	13	9	8	nw.	J. G. Carlson.
Mayville	Traill	975	42	24.4	−3.8	59	4	−13	21	49	0.55	−0.14	0.40	1.5	4	11	7	12	n.	H. B. Addicott.
Oakes	Dickey	1,318	9	26.1	.....	70	1	−13	24	45	0.40	.....	0.19	3.2	4	13	9	8	nw.	F. H. Murray.
Park River	Walsh	998	34	21.2	−6.6	60	1	−15	22	44	0.87	+0.18	0.23	8.0	6	6	9	15	nw.	E. J. Taintor.
Pembina	Pembina	789	64	19.8	−3.5	55	2	−16	24	38	0.76	−0.05	0.36	7.0	4	5	6	19	nw.	E. N. Russell.
Petersburg	Nelson	1,520	8	.....	.....	.....	.....	.....	.....	.....	0.67	.....	0.27	5.0	5	9	11	10	sw.	T. M. Rykken.
Sharon	Steele	1,516	14	21.8	−2.7	62	1	−15	24	41	0.93	+0.06	0.32	9.6	8	3	10	17	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	25.2	−2.8	65	1	−12	22	49	0.52	−0.17	0.18	10.0	7	7	12	11	nw.	I. C. Robertson.
Wahpeton	Richland	962	46	27.0	−1.8	73	1	− 6	22	39	0.57	−0.19	0.39	5.7	7	4	11	15	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	24.2	−2.9	72	1	−10	15	35	0.86	−0.04	0.39	11.3	10	5	5	20	s.	U. S. Weather Bureau.
Average for Eastern Division		.....	.....	23.1	−3.6	75	1	−21	24	55	0.63	−0.09	0.53	7.1	5	7	10	13	nw.	.....
Middle Division																				
Ashley	McIntosh	2,001	42	22.8	−5.2	57	1†	− 8	26	40	0.42	−0.20	0.28	5.5	2	9	8	13	nw.	Henry Doerr.
Bisbee	Towner	1,601	2	20.3	.....	46	2†	−14	26	42	0.56	.....	0.24	5.0	6	16	1	13	w.	I. K. Lund.
Bismarck	Burleigh	1,670	64	25.8	−2.7	52	9	− 4	22	31	0.81	+0.24	0.49	8.1	8	5	11	14	w.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	21.6	−2.0	42	4†	−12	24	34	0.56	−0.07	0.17	5.0	8	6	10	14	nw.	N. D. School of Forestry
Carrington	Foster	1,579	40	22.8	−5.0	56	1	−14	26	44	1.10	+0.52	0.40	8.0	4	9	0	21	nw.	Soo Line Agent.
Carson	Grant	2,500	26	26.0	−4.0	54	9	−10	26	37	0.87	+0.30	0.50	8.0	5	10	8	12	nw.	J. W. Evens.
Center	Oliver	.....	0	23.4	.....	49	3†	−12	13†	42	0.79	.....	0.42	11.5	5	7	9	14	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	23.6	−2.8	47	4†	− 6	15†	34	1.28	+0.77	0.30	15.5	8	10	8	12	nw.	R. L. Williams.
Drake	McHenry	1,634	9	23.0	.....	49	4†	− 8	24	42	0.56	.....	0.20	10.1	7	2	12	16	nw.	Peter Anton.
Dunseith	Rolette	1,682	42	19.8	−4.6	45	2†	−15	22†	39	0.46	−0.09	0.28	7.0	4	13	7	10	n.	Geo. Gehres.
Eckman	Bottineau	1,500	33	21.4	−4.4	47	8	−17	22	42	1.85	+1.38	1.00	10.0	9	7	12	11	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	25.6	− 2.9	50	3	−11	22	36	1.43	+0.99	0.70	10.5	6	4	17	9	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	26	24.6	−2.5	52	3†	−12	22	55	0.89	+0.20	0.43	9.0	4	12	8	10	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	27.7	−2.1	53	8	− 2	22†	42	0.65	+0.15	0.60	5.5	2	11	9	10	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	23.8	−1.5	47	3†	− 8	26	31	1.85	+1.18	0.95	7.5	8	5	10	15	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	22.4	.....	59	2	− 9	27	37	0.69	.....	0.33	16.0	4	4	8	18	nw.	A. H. Haut.
Garrison	McLean	1,901	61	24.4	−1.9	48	3†	−10	22	29	1.56	+1.11	0.69	11.0	9	11	6	13	nw.	E. L. Vorachek.
Granville	McHenry	1,504	31	22.3	−4.4	50	4	−12	21	42	1.10	+0.54	0.54	10.5	5	8	13	9	nw.	W. A. Christianson.
Hansboro	Towner	1,597	30	20.3	−3.2	48	1	−15	26	40	0.14	−0.45	0.05	5.2	4	10	6	14	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	24.5	−4.5	53	4†	−13	22	41	0.34	−0.16	0.30	6.0	3	9	10	11	se.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	23.8	−1.7	50	8	− 9	22	33	0.87	+0.30	0.45	9.5	2	12	7	11	nw.	F. W. I erry.
Maddock	Benson	1,604	23	22.0	−4 6	58	8	−19	22	50	0.41	−0.05	0.22	5.0	7	12	7	11	nw.	A. T. Felland.
Mandan	Morton	1,750	24	25.6	−3.6	51	8†	− 8	22	36	1.04	+0.53	0.63	8.6	6	7	9	14	w.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	.....	.....	.....	.....	.....	.....	.....	0.59	−0.04	0.28	6.7	6	.....	.....	.....	.....	P. B. Anderson.
Max	McLean	2,093	9	21.6	.....	50	9†	−12	22	37	1.33	.....	0.50	7.2	6	6	4	20	nw.	A. W. Rice.
Minot	Ward	1,557	42	24.2	−3.3	50	8	−12	22	32	1.67	+1.00	0.97	10.2	12	12	2	16	w.	Kenneth Chatfield.
Mohall	Renville	1,646	44	23.6	−1.2	47	8	−11	26	34	1.64	+1.10	1.04	6.2	7	6	16	8	nw.	Iver Johnson.
Napoleon	Logan	1,955	46	23.8	−2.9	60	1	−12	26	40	0.90	+0.33	0.40	10.0	5	11	2	17	w.	C. J. Hoof.
New Salem	Morton	2,163	34	25.4	−4.4	52	3	− 9	26	34	0.85	+0.36	0.24	10.0	8	8	12	10	sw.	J. Christianson.
Pettibone	Kidder	1,856	29	22.0	−4.4	59	1	−13	22	36	0.39	−0.19	0.29	6.8	3	8	7	15	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	20.6	.....	46	8	−11	15	36	0.48	.....	0.21	4.5	6	9	7	14	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	9	.....	.....	.....	.....	.....	.....	.....	0.82	.....	0.21	6.5	7	7	15	8	sw.	W. B. Paterson.
Ryder	Ward	2,108	9	.....	.....	.....	.....	.....	.....	.....	1.39	.....	0.81	6.0	9	9	2	19	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	.....	.....	.....	.....	.....	.....	.....	0.69	.....	0.32	8.0	4	13	9	8	nw.	J. B. Smith.
Steele	Kidder	1,857	44	22.3	−4.0	60	1	−12	22	39	0.43	−0.10	0.31	7.0	4	8	8	14	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	9	.....	.....	.....	.....	.....	.....	.....	1.43	.....	0.85	9.5	12	8	12	10	nw.	G. N. Pilgard.
Timmer	Morton	.....	1	.....	.....	.....	.....	.....	.....	.....	0.81	.....	0.62	6.0	3	.....	.....	.....	.....	Geo. M. Sinclair.
Towner	McHenry	1,482	36	22.4	−2.8	49	5†	−14	22	39	0.63	+0.11	0.21	11.0	6	7	12	11	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	26.0	−2.2	53	10	− 7	26	42	1.24	+0.32	0.33	11.0	6	14	2	14	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	.....	.....	.....	.....	.....	.....	.....	0.85	+0.43	0.40	7.5	8	8	9	13	nw.	Adam Leno.
Velva	McHenry	1,511	11	24.1	−3.5	51	4	− 7	15†	37	1.26	+0.80	0.59	9.5	6	3	14	13	nw.	Oscar Anderson.
Washburn	McLean	1,731	37	25.6	−4.7	51	3†	− 4	22	35	1.08	+0.62	0.37	9.0	6	12	1	17	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	22.2	−3.4	47	1	−13	22	35	2.03	+1.51	1.05	16.0	7	14	8	8	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	46	18.6	−4.0	45	1	−21	24	50	1.09	+0.53	0.30	10.0	6	9	8	13	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	23.5	−6.3	54	3	−10	21	44	0.60	+0.25	0.42	6.0	5	10	7	13	nw.	H. M. Larson.
Zap	Mercer	1,838	23	.....	.....	.....	.....	.....	.....	.....	0.84	+0.46	0.40	4.4	3	14	5	11	.....	R. A. Norton.
Average for Middle Division		.....	.....	23.3	−3.7	60	1	−21	24	55	0.94	+0.36	1.05	8.5	6	9	8	13	nw.	.....

Continued on page 44.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for November 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																
Cooperstown	Sheyenne	.03	.02									T.	.38				.03					.23					.06						0.75
Courtenay	James										T.	T.	.53	T	T.	T.					.19												0.72
Devils Lake ***	Devils Lake	.05	T.	T		.01	T.	T.		T	T.	T.	.27	T.	T.	.08			.01		.07	.02		T.	.08	T.		T.					0.59
Edgeley	James											.04	.37										.05			.07							0.53
Edmore	Devils Lake					T.							.14	T.		T.					T.	T.			.06								0.20
Ellendale	James		.01									T.	.24		T.							.06				.05							0.36
Fargo ***	Red	.02	.10	T.							.02	.01	.34		.04	T.			T	T.	.18	.08	T.	T.	.01	.04	T.						0.84
Forman	Sheyenne	T.	.20										.32		T.	T.								T.	T.	.18	T.						0.70
Fullerton	James	T.	T.								.10	.39		T.	T.							.18		T.	.06	.04							0.77
Grafton	Red	T.											.30			.13						.22			.06								0.71
Grand Forks ***	do	.03									T.		.48	T.		.15		.01	.04		.17	.06		T.	.13	.01							1.08
Hankinson ‖‖	do																																
Hannah	Pembina	.11				.02								.07		.11		T.			.04	T.	T.			.04							0.39
Hillsboro	Red	T.	.06	.10										.43			.03		T.		.32												0.94
Jamestown	James											.20	.40								.25				.10								0.95
Langdon ‖‖	Pembina		.02										.16				.10				T.	.10					.08						0.46
Larimore	Red		.07										.49			T.	.15		T.		T.	.13		T.		T.							0.84
Lisbon	Sheyenne	T.	.18	.02								.03	.24	T.	T.	T.		T.			.15	.15		T.		.10							0.87
McHenry	James	T.								T.	T.	T.	.31		.02	T.					.09	.12			T.	.05							0.59
McLeod	Sheyenne	.05	.47									.01	.09	.30							.01	.11				.19							1.23
Mayville	Red			.40									.08	T		T.				.02				T.		.05							0.55
Oakes	James	T	.08	.06								T.	.19		T.											.07							0.40
Park River	Red	.05										.23	.22				.17				.15				.05								0.87
Pembina	do		.10			T.							.36			.20									.10								0.76
Petersburg	do	.17											.27			.05						.15				.03							0.67
Sharon	do	.05									T.	T.	.32	T.	T.	.06	.01		T.		.16	.28		T.	.02	.03	T.						0.93
Valley City	Sheyenne											.03	.11	.12					.01		.18	.01			.06								0.52
Wahpeton	Red	T.	.02	.01								.03	.39			T.					.02	.04				.06							0.57
Moorhead, Minn. ***	do	.01	.17	.01							T.	.01	.39	T.	.02	T.				T.	.10	.04	T	T.	.07	.04	T						0.86
Middle Division																																	
Ashley	Missouri			T.								T.	.28									.14											0.42
Bisbee	Devils Lake	.04				T.							.12			.24					.04	.08			.04								0.56
Bismarck ***	Missouri	.10				T.	T				.03	.22	.30		T.	T.			T.		.06	.03	T.	T.	.05	.02							0.81
Bottineau	Mouse	.15	.06			.01							.02	.01		.03					.17					.11							0.56
Carrington ‖‖	James										T		.40	.10			.30					.30											1.10
Carson	Heart	.07									.10	.10	.50									.10											0.87
Center	Missouri	.30									.01	.01	.05									.42	T.		T.								0.79
Dogden Butte	Mouse	.25	T.			T	T.				.05		.30		T.	.05					.20	.29			.07	.07							1.28
Drake ‖‖	do	.02	.02			T.	T.				T.	T.	.18	.04	T.	T	.02					.20		T.		.08							0.56
Dunseith	do	.01				T.				T.				T.		.11			T.			.28			T.	.06							0.46
Eckman	do	1.00				.05							.15		.03	.10			.02		.30				.10	.10							1.85
Energy	Missouri	.70				T.					T.	.05	.40								.10	.10		T.	.08								1.43
Fessenden ‖‖	James												.34		.02						.43				.10								0.89
Fort Yates	Missouri	T.											.60									T.			.05								0.65
Foxholm (near)	Mouse	.95	.01			T.					T.		.25		.03	.02				.38	.19			.02									1.85
Gackle	James											.23	.33		.10	T.					.03			T.									0.69
Garrison ‖‖	Missouri	.69	T.			T.					.15	T	.27	T.	.01	.03					.23	.14	T.	.01	.03	T.							1.56
Granville	Mouse	.54	.04			T.							.26		T.	T.					.19					.07							1.10
Hansboro	Devils Lake	T.					T.			T.			.01			.05					.04				.04								0.14
Linton	Missouri										T.		.30		T.				T.			.01			.03								0.34
McClusky	do													.45							.42				T.								0.87
Maddock	Sheyenne												.22	T.	.01	.02					.04	.08		T.	.02	.02							0.41
Mandan ‖‖	Missouri	.16									.06	.63	T	T.	T.	T.		T.		.05	.11		T.	.03									1.04
Max ‖‖	do	.25	.50			T.						.08	.20									.24				.06							1.33
Minot	Mouse	.97	.03			.01	T.				.01		.22		.04	.04					.18	.11		.01	.03	.02							1.67
Mohall	do	1.04	.08			T.				T.			.10		.02	.05					.30	.05			T.								1.64
Napoleon ‖‖	Missouri											T.	.40	.10									.10		.05	.25							0.90
New Salem	Heart	.05									.10	.08	.19		T.						.02	.24		T.	.15	.02	T						0.85
Pettibone	James										T.	.01	.29		T.	T.						.09											0.39
Rolla	Devils Lake	.01	T.		.01	T.				T.			.15	T.		.21						.04			T.	.06							0.48
Rugby (near)	Mouse	.07			.02								.21		.12		.10					.20				.10							0.82
Ryder	Missouri	.81	.02							T.	T	.14	.01		T.	.03					.23	T.	.02	T.	.05	T.		.08					1.39
Selfridge	do	.05									T	.16	.32					T.			T.	.16	T.		T.	T							0.69
Steele	do											.04	.31								T	.04			T.	.04							0.43
Tagus	Mouse	.85	.05			.01					.05		.10	T.	.01	.03			T.		.18	.10	T.	.01	.03	.01							1.43
Towner	do	.10	T.			T.				T.			.21	T.	T.	.01					.15	.15		T.	.01	T.					T		0.63
Turtle Lake	Missouri	.29	.03										.33	T.							.23	.32			.04								1.24
Tuttle	do	T.									.04	.06	.40		T.	.01					.04	.20		.01	.09	T.							0.85
Velva	Mouse	.59				T					T.		.28		T.	.07					.10	.20			.02	T.							1.26
Washburn ‖‖	Missouri	.03	.23			T.					T.	.06	.36									.37				.03							1.08
Westhope	Mouse	1.05			T.	.04					T.		.11		.02	.39			T.			.38				.04							2.03
Willow City	do	.09	T.			T.							.15			.30					.30	.10			.15								1.09
Wishek ‖‖	Missouri		T.								T.	.42	.09								.02	T.			.05	.02							0.60
Zap	Knife	.40											.35							.09					T.	T.							0.84
Western Division																																	
Alpha	Lit. Missouri										.02	.26	T			T					.09	T.			.04	T.							0.41
Amidon	do	.03									.03	.10	.30								.04	.07			.04								0.61
Beach	do	T.					T.				.02	.21	T.							T.	T	.18	T.	T.	.08	.02							0.51
Berthold Agency	Missouri	1.08	.05			T.					.05		.35		.02	T.					.15	.40	T		T.		.03						2.13
Bowman	Grand										T.	.36								T.	.01				.08								0.45
Crosby	Mouse	.48	.03											.05							.30		.03		.03								0.92
Dickinson ‖‖	Heart	.04	.59								.01	.18	.29	T.			T.		T.		.03	.19	T.	T.	T.	.05	.03						1.41
Dunn Center	Knife	.97									.06		.27		T.						.07	.05		T.	T.	.01							1.43
Fairfield	Lit. Missouri	T				T.					.09		.25								.09				.08	.06							0.57
Fryburg	Heart	.01									T.	T.	.34	T.	T.	T.	T.	T.	T.	.08	.32	T.	T.	T.	.16	.12	T						1.03
Hettinger	Grand	.35									.04	.06	.33									.09			T.	.02							0.89
Howard (near)	Missouri	.25			T.	.10	T.			.06		T.	.10	T.		.23					.40		T.		T	T.							1.14
Kenmare	Mouse	.86	.09			.05					.02		.07	.01	.02	.03					.12	.02		.11	T.	.03							1.43
Marmarth	Lit. Missouri	.01									.10	.17	.11	.01				T			.01	.09			.07	.01							0.58
Mary	do	.02				T.						.08	.17								.02			.03	.04	.01							0.37
Medora	do	T.									.04	.07	.31	T.				T.	T.		.12	.04		T	.03	.02							0.63
Mott	Cannon Ball	.33									.10		.32									.05				.09							0.89
New England ‖‖	do	T.									.24	.47									.28				T.	.15							1.14
Parshall	Missouri	1.46	.06								.14		.06			.02					.03	.07	T		T.								1.84
Portal ‖‖	Mouse	.19	.82							.05					.05	.05						.20											1.36
Powers Lake	Missouri	.83			.06								.08								.47												1.44
Richardton	Heart	.70									.19	.14										.46			.05	.03							1.57
Sanish ‖‖	Missouri	T.	.81		T.					.08		.24								T	.48		T										1.61
Stanley	do	.84	.10								.04	.15				.03					.20	.09			.06								1.51
Tioga	do	.20	.24												.05						.40		.10		T	.10							1.09
Trotters	Lit. Missouri	.16									.10	.30									.08	.25			.05	.05							0.99
Watford City	Missouri	.27			T.								.24								.16	.12	T.	T.	.05								0.84
Wildrose	do	.47	.04		T.						T.	T	T.		.05	T.					.20	.21	T.		.05								1.02
Williston ***	do	.06		T.	T.	.01				T.	.06	.16	T.		T.	T.		T.			.31	.01	T.	T.	.07	T.							0.68

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	57	43	45	31	57	33	33	51	50	37	32	33	14	30	29	25	39	43	48	20	14	22	17	28	15	24	33	43	43	32	....	34.0
	Minimum	37	32	26	23	21	9	5	14	20	25	22	10	6	−3	6	9	20	12	20	9	3	−6	0	−3	−7	−8	−7	17	18	22	....	11.7
Beach	Maximum	46	40	51	47	38	34	42	48	43	39	28	27	26	39	43	49	37	41	41	37	24	18	15	30	22	26	36	43	45	40	....	36.5
	Minimum	34	34	21	34	18	12	16	26	25	27	19	12	−2	−2	21	32	29	25	29	24	3	−5	4	2	7	6	16	21	22	28	....	17.9
Bismarck	Maximum	45	42	49	51	31	31	41	52	52	36	29	32	25	23	27	43	37	41	45	22	16	18	14	31	26	19	35	46	41	38	....	34.6
	Minimum	37	35	34	31	19	15	13	24	31	27	23	21	9	2	14	23	18	18	20	12	−2	−4	2	0	8	−1	15	21	25	22	....	17.1
Bottineau	Maximum	40	41	41	42	34	41	36	37	41	35	36	31	29	21	18	37	35	31	27	20	16	10	8	20	18	20	30	39	41	42	....	30.6
	Minimum	33	30	28	28	20	20	15	20	18	27	25	19	18	−6	6	14	15	5	15	5	0	−10	−3	−12	−5	5	9	5	20	22	....	12.7
Carson	Maximum	47	42	53	48	36	34	42	52	54	44	33	25	21	40	26	44	40	42	45	35	24	15	14	31	30	23	37	45	48	38	....	36.9
	Minimum	37	30	28	32	16	7	8	20	30	22	20	12	4	3	9	24	22	15	30	18	−3	−8	0	−2	6	−10	9	22	23	25	....	15.0
Crosby §	Maximum	36	35	48	44	28	29	41	48	38	34	30	30	25	19	39	49	39	38	40	22	14	17	15	30	17	24	37	45	35	38	....	32.8
	Minimum	31	32	31	27	17	12	18	24	26	23	21	14	5	9	4	27	20	18	20	9	1	3	−3	0	5	−5	14	14	12	18	....	14.9
Devils Lake	Maximum	58	44	45	50	30	29	38	47	46	34	27	32	22	13	21	42	35	35	40	13	12	11	10	28	26	9	29	39	34	28	....	30.9
	Minimum	36	30	27	29	16	14	15	15	28	25	20	16	3	−2	−7	16	13	11	10	3	−8	−8	−5	−7	0	−14	7	19	20	19	....	11.4
Dickinson §	Maximum	39	38	53	46	22	32	44	48	44	30	22	25	16	38	42	45	37	39	42	24	13	17	16	30	13	28	35	45	41	36	....	33.3
	Minimum	33	35	24	24	21	12	13	13	27	29	20	20	1	1	11	19	26	20	24	22	10	−10	4	−6	11	−10	−6	15	21	20	....	14.8
Dunn Center §	Maximum	38	38	52	50	32	32	41	49	45	37	26	31	23	25	38	45	37	40	42	23	13	19	15	32	24	25	36	46	42	31	....	34.2
	Minimum	33	33	27	31	20	15	14	23	28	25	20	23	4	0	14	25	18	18	20	12	−5	−2	2	0	9	−7	18	25	19	18	....	16.0
Fessenden §	Maximum	43	47	52	40	88	41	50	52	35	44	32	38	18	19	45	46	49	43	35	28	14	18	29	10	11	34	40	41	29	30	....	35.0
	Minimum	35	36	30	26	38	28	20	16	23	29	20	22	12	−3	−10	19	30	12	31	−5	−8	−12	1	−11	6	−9	−2	19	20	9	....	14.1
Fullerton	Maximum	65	55	45	56	46	34	34	52	51	40	39	34	30	23	24	43	42	44	49	33	19	23	23	30	18	12	34	45	41	36	....	37.4
	Minimum	38	38	27	18	23	12	8	9	27	20	25	25	10	3	0	17	27	15	33	14	8	−5	−5	−5	−7	−5	−2	15	27	22	....	14.4
Garrison §	Maximum	40	40	48	47	39	27	41	48	45	38	30	27	21	20	26	44	36	40	41	27	14	19	13	30	29	17	35	45	41	31	....	33.3
	Minimum	33	34	33	34	20	14	14	21	30	27	20	17	7	3	8	22	19	14	27	13	3	−10	3	−3	6	−5	8	17	21	17	....	15.6
Grafton	Maximum	61	60	45	54	52	32	37	49	48	42	39	33	32	17	15	42	41	34	41	29	16	9	11	19	23	11	30	40	40	32	....	34.5
	Minimum	40	39	32	23	25	13	8	6	20	30	18	19	14	−5	−11	13	21	5	25	1	5	−14	9	−17	8	−4	−6	12	23	10	....	12.1
Grand Forks	Maximum	63	51	44	55	34	32	36	50	46	42	36	33	25	18	23	42	37	32	41	16	16	11	13	27	26	8	29	38	33	27	....	32.8
	Minimum	42	34	25	22	25	11	8	7	19	30	19	25	5	−7	−9	18	12	6	13	−1	−8	−13	−14	−15	7	−6	−2	12	16	10	....	9.7
Jamestown §	Maximum	61	53	48	55	45	33	40	51	50	40	35	34	25	16	20	42	38	41	43	30	15	23	12	25	29	9	31	43	37	33	....	35.2
	Minimum	37	36	30	22	23	13	10	9	24	30	22	22	6	1	−7	14	24	13	28	13	4	−7	−1	−10	5	−7	−3	19	24	18	....	13.7
Kenmare	Maximum	36	37	47	47	34	31	41	47	40	35	30	32	25	18	32	48	41	37	41	25	14	16	15	29	30	23	37	42	40	32	....	33.4
	Minimum	32	32	31	34	17	10	17	25	27	25	20	21	8	3	−1	25	27	19	24	9	−2	−3	−4	−1	6	−4	15	27	26	17	....	16.1
Langdon §	Maximum	54	52	47	50	48	32	38	48	41	35	30	32	24	20	15	42	40	35	40	19	11	13	2	19	24	16	35	36	33	29	....	32.0
	Minimum	34	32	27	24	21	8	9	11	12	24	18	18	10	−9	−10	12	10	3	3	−7	0	−18	−11	−12	4	−12	−2	14	13	19	....	8.2
Marmarth	Maximum	62	42	53	42	37	36	45	51	40	38	28	27	27	34	44	47	38	41	43	36	28	13	13	29	29	28	24	44	45	41	....	36.8
	Minimum	37	36	19	35	20	10	14	23	20	27	23	17	4	0	19	28	23	20	36	28	−1	−2	3	−1	7	−5	14	14	19	22	....	17.0
Minot	Maximum	40	38	45	48	37	30	42	50	41	35	30	29	24	17	27	48	38	40	42	22	16	16	14	30	30	22	38	42	42	34	....	33.6
	Minimum	32	32	31	37	19	14	13	25	25	27	21	20	8	0	−5	22	24	9	22	10	5	−12	−2	−2	6	−10	11	23	24	15	....	14.8
Mott	Maximum	47	41	54	47	40	35	41	49	45	43	29	27	26	41	41	48	39	41	44	36	24	21	15	31	30	28	38	48	50	36	....	37.8
	Minimum	35	33	25	30	20	12	10	24	28	27	21	20	5	3	12	27	23	20	30	20	−3	−6	1	−2	9	−7	12	19	24	22	....	16.5
Pembina	Maximum	52	55	42	53	48	35	34	43	38	37	28	30	28	16	16	41	36	25	38	18	14	8	9	22	22	8	28	38	32	25	....	30.6
	Minimum	39	30	28	26	26	9	9	10	18	18	16	17	6	−5	−11	16	19	3	17	−9	−3	−11	−15	−16	6	−10	−4	12	16	10	....	8.9
Sharon	Maximum	62	53	45	56	33	31	40	51	43	37	32	32	24	15	18	42	36	34	43	23	12	15	10	20	27	7	29	39	42	29	....	32.7
	Minimum	37	34	29	26	23	10	5	10	20	27	18	24	7	−8	−4	14	17	5	23	2	−1	−14	−1	−15	4	−11	−4	14	20	15	....	10.9
Steele	Maximum	60	54	48	50	38	30	33	50	54	42	30	31	18	20	25	42	34	40	40	33	14	14	7	26	26	12	31	40	36	36	....	33.8
	Minimum	33	32	29	25	21	8	5	11	25	28	19	18	5	−5	−6	13	13	6	29	12	−11	−12	0	−7	2	−10	−2	13	17	13	....	10.8
Valley City	Maximum	65	55	42	55	50	33	36	56	52	43	42	34	28	17	19	42	40	40	45	37	14	20	12	28	27	9	30	45	38	33	...	36.2
	Minimum	40	39	28	22	25	12	7	7	23	29	22	31	12	−3	−7	15	22	13	32	12	13	−12	4	−10	9	−7	−7	17	27	7	....	14.1
Wahpeton	Maximum	73	64	42	55	54	35	35	48	55	44	43	37	33	19	23	40	45	43	50	44	25	22	19	23	23	13	30	44	40	38	....	38.6
	Minimum	46	40	30	20	24	15	7	9	22	23	32	31	16	−4	−4	18	20	10	32	11	9	−6	4	−6	11	−1	−4	15	22	19	....	15.3
Williston	Maximum	38	37	49	46	28	31	42	48	44	33	27	25	17	24	42	46	35	41	42	23	14	17	16	32	20	26	36	44	37	38	....	33.3
	Minimum	33	32	32	24	18	14	22	32	31	27	22	16	4	9	16	32	27	26	22	12	6	8	−4	9	2	−1	18	23	19	26	....	18.6
Moorhead, Minn.	Maximum	72	53	40	50	41	32	34	49	52	42	36	35	26	15	25	42	39	42	47	21	20	20	12	24	27	7	25	40	40	35	....	34.8
	Minimum	46	35	29	25	24	15	11	14	22	29	28	21	7	−1	−10	19	19	15	17	8	0	−9	0	−8	6	−5	−7	15	25	20	....	13.7

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

Climatological Data for November 1938—Continued from page 42.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	......	......	...	...	...	...	.....	0.41	+0.02	0.26	4.1	4	10	13	7	nw.	H. A. Bury.
Amidon	Slope	......	15	26.4	−4.5	52	3	−7	26	35	0.61	+0.14	0.30	7.8	7	7	12	11	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	32	27.2	−3.8	51	3	−5	22	41	0.51	+0.03	0.21	5.0	5	4	19	7	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	25.9	−2.6	52	3	−7	22	46	2.13	+1.76	1.08	12.2	8	8	6	16	nw.	C. L. Hall.
Bowbells	Burke	1,958	9	...	......	...	...	...	...	.....	1.30	....	......	....	.....	......	......	......	.....	L. C. Grinney.
Bowman	Bowman	2,872	23	35.8	−4.8	52	1†	−3	25	31	0.45	+0.06	0.36	7.7	3	14	9	7	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	29	23.8	−2.9	49	16	−5	26	35	0.92	+0.32	0.48	7.0	6	5	10	15	nw.	J. H. Phelps.
Dickinson	Stark	2,543	45	24.0	−4.3	53	3	−10	22†	41	1.41	+0.94	0.59	10.7	9	1	18	11	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	38	25.1	−2.8	52	3	−7	26	32	1.43	+0.97	0.97	4.5	6	9	11	10	nw.	O. T. Evenson.
Epping	Williams	2,224	27	25.2	−2.7	49	4	−10	23	34	0.69	+0.25	0.20	5.0	4	15	2	13	nw.	T. Beachler.
Fairfield	Billings	......	1	......	......	...	...	...	...	.....	0.57	....	0.25	6.4	5	9	13	8	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	26.6	......	52	3	−1	22	38	1.03	+0.54	0.34	12.5	6	5	14	11	nw.	Verne King.
Hettinger	Adams	2,675	30	28.4	−3.2	53	3	−3	26	36	0.89	+0.47	0.35	6.2	6	15	8	7	nw.	O. A. Erlandson.
Howard ‡‡ (near)	Williams	2,275	30	24.1	−2.2	50	3	−11	23	28	1.14	+0.59	0.40	6.8	6	12	10	8	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	24.8	......	48	16	−4	23†	33	1.43	+0.88	0.86	6.0	12	9	12	9	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	26.9	−4.5	62	1	−5	26	34	0.58	+0.19	0.17	7.5	9	7	9	14	nw.	S. P. Grane.
Mary	McKenzie	......	9	......	......	...	...	...	...	.....	0.37	....	0.17	7.0	7	6	10	14	nw.	Fred Hartman.
Medora	Billings	2,271	22	......	......	...	...	...	...	.....	0.63	+0.17	0.31	8.7	7	7	12	11	w.	Vernon Thompson.
Mott	Hettinger	2,424	30	27.2	−2.0	54	3	−7	26	38	0.89	+0.41	0.33	8.5	5	10	9	11	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	25.9	−3.2	52	3	−10	21†	29	1.14	+0.70	0.47	13.0	4	8	10	12	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	22.2	......	49	3	−15	24	45	1.84	+1.47	1.46	8.5	7	3	19	8	nw.	C. E. Shubert.
Portal	Burke	1,954	32	22.1	−3.3	50	3	−8	26	40	1.36	+0.81	0.82	3.5	6	5	8	17	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	22.4	−2.6	50	1†	−11	25	32	1.44	+0.95	0.83	9.0	4	10	12	8	sw.	Geo. B. Gee.
Richardton	Stark	2,467	21	26.2	−2.1	50	3	−3	22†	27	1.57	+1.09	0.70	11.1	6	2	15	13	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	23.4	−5.2	52	2	−12	26	41	1.61	+1.14	0.81	10.0	4	6	8	16	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	22.2	......	46	3†	−10	26	31	1.51	....	0.84	10.7	8	8	13	9	nw.	Leroy Edwards.
Tioga	Williams	2,279	9	......	......	...	...	...	...	.....	1.09	....	0.40	13.0	6	.....	......	......	......	B. V. Olson.
Trotters	Golden Valley	......	12	......	......	...	...	...	...	.....	0.99	+0.55	0.30	10.0	7	5	3	22	nw.	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	26.8	−1.5	51	3	−4	23†	31	0.84	+0.34	0.27	7.5	5	3	19	8	w.	J. C. Zeller.
Wildrose	Williams	2,258	10	......	......	...	...	...	...	.....	1.02	....	0.47	7.0	6	6	9	15	sw.	L. Holter.
Williston	Williams	1,878	58	26.0	−1.2	49	3	−4	23	27	0.68	+0.10	0.32	6.5	7	6	15	9	w.	U. S. Weather Bureau.
Average for Western Division		......	.....	25.1	−3.3	62	1	−15	24	46	1.04	+0.54	1.46	8.0	6	8	11	11	nw.	....
Average for the State		......	.....	23.8	−2.8	75	1	−21	24	55	0.87	+0.27	1.46	7.9	6	8	10	12	nw.	....

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVII BISMARCK, N. D., DECEMBER 1938 No. 12

GENERAL SUMMARY

December 1938 was warmer and drier than normal. All sections reported above normal temperatures. It was the warmest December since 1931, and sub-zero readings did not occur at most stations until the 26th. The precipitation was light in all sections, with the greatest amounts during the last 10 days. Winds were light and no severe storms were reported. It was a good month for outdoor work. With practically no snow cover, livestock ranged freely on pastures, ranges, and harvested fields, thus saving considerable feed, though some yard feeding was necessary.

TEMPERATURE

The mean temperature for the State was 18.2°, or 5.5° above the 1892-1938 average for December. The mean for the eastern division was 16.0°; for the middle division, 17.7°; and for the western division, 20.9°. The highest mean temperature was 25.1° at Hettinger, and the lowest, 11.4° at Hannah, making a range in mean temperature of 13.7°. The absolute range in temperatere was 96°, from 55° at Hettinger on the 25th, to -41° at Willow City on the 29th. The average daily excess in temperature for the State since January 1, 1938, is 2.6°.

PRECIPITATION

The average precipitation for the State was 0.32 inch, or 0.17 inch less than the 1892-1938 average for December. In the eastern division the average amount was 0.40 inch; in the middle division, 0.30 inch; and in the western division 0.26 inch. The greatest monthly amount reported was 0.91 inch at Towner; the least was 0.03 inch at Linton. The greatest amount recorded in any 24 consecutive hours was 0.60 inch at Pembina on the 25th. The accumulated deficiency in precipitation since January 1, 1938, is 1.58 inches. The average snowfall for the State was 4.1 inches.

THE LIBRARY OF THE

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	10	9	1	..	..	..	..	1	3	1	1	3	3	3	1	6	7	6	7	6	3	..	..	..	..	2	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	1	..	..	1	2	2	..	..	..	..	..
Fogs	20	8	5	11	4	1	1	3	5	..	..	..	..	..	..	6	1	..	2	1	2	1	1	1	4	1	..	..	..	1	..
Lunar halos	1	..	..	..	1	2	1	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2
Solar halos	..	..	..	..	..	..	..	..	..	2	..	..	..	2	1	..	..	..	..	..	2	..	..	..	..	7	5	8	10	..	..
Sleet	..	..	1	1	2	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.03	30.62	29	29.43	25	8.7	30	w.	10	86	68	70	46
Devils Lake	29.99	30.55	29	29.47	9	9.5	34	n.	27	88	79	85	51
Williston	30.01	30.63	29	29.37	25	7.6	27	w.	10	86	73	75	52
Moorhead, Minn	30.03	30.59	29	29.55	25	8.7	24	n.	26	90	82	85	18
Averages & ext's	30.02	30.63	29	29.37	25	8.6	34	n.	27	88	76	79	42

† And other dates.

COMPARATIVE DATA FOR DECEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	7.1	60	−39	0.44	0.49	0.78	0.57	7.7	4	13	8	10
1893	4.7	55	−36	0.71	0.83	1.02	0.85	8.4	6	11	9	11
1894	19.1	70	−32	0.38	0.17	0.32	0.29	1.6	2	18	7	6
1895	13.8	62	−32	0.24	0.29	0.39	0.31	2.6	3	12	9	10
1896	16.4	53	−35	0.50	0.46	0.13	0.36	2.6	3	13	9	9
1897	10.8	69	−35	0.24	0.21	0.21	0.22	2.2	3	12	8	11
1898	12.1	51	−38	0.24	0.24	0.24	0.24	2.1	3	14	9	8
1899	12.8	60	−26	0.31	0.31	0.34	0.32	3.3	3	13	7	11
1900	17.3	58	−29	0.35	0.29	0.29	0.31	3.0	4	13	8	10
1901	12.4	61	−43	0.72	0.74	0.75	0.74	7.2	5	10	7	14
1902	7.8	49	−35	0.50	0.30	0.72	0.51	4.2	4	14	7	10
1903	11.6	57	−33	0.63	0.74	0.93	0.77	7.2	6	11	7	13
1904	14.2	55	−43	0.60	0.62	0.73	0.65	6.2	5	7	8	16
1905	15.3	55	−34	0.21	0.16	0.12	0.16	1.6	4	16	2	13
1906	8.4	48	−40	1.09	0.91	1.27	1.09	10.7	6	11	7	13
1907	20.1	68	−26	0.36	0.23	0.31	0.30	3.1	3	15	7	9
1908	14.4	62	−37	0.53	0.26	0.28	0.36	3.7	3	13	10	8
1909	5.2	54	−42	1.88	1.10	0.86	1.28	12.1	7	9	8	14
1910	12.9	56	−34	0.45	0.42	0.42	0.43	4.6	4	12	8	11
1911	14.9	61	−33	0.45	0.26	0.34	0.35	4.5	4	10	8	13
1912	18.9	72	−28	0.62	0.55	0.13	0.43	4.0	4	14	8	9
1913	22.7	61	−21	0.05	0.12	0.01	0.06	0.3	1	18	6	7
1914	5.4	57	−42	0.58	0.40	0.42	0.47	5.7	4	12	9	10
1915	15.8	57	−27	0.56	0.56	0.44	0.52	5.4	5	11	9	11
1916	2.7	61	−50	1.39	1.34	0.81	1.18	13.9	5	15	8	8
1917	0.7	58	−44	0.51	0.64	0.61	0.59	7.4	6	9	9	13
1918	18.5	65	−41	0.97	0.92	0.76	0.88	9.9	5	9	8	14
1919	7.4	49	−38	0.65	0.48	0.28	0.47	4.8	3	14	9	8
1920	15.2	59	−32	0.48	0.33	0.16	0.32	3.2	3	11	9	11
1921	16.5	59	−33	0.52	0.33	0.38	0.41	3.9	4	14	7	10
1922	8.5	55	−34	0.75	0.76	0.53	0.68	7.4	5	11	8	12
1923	22.2	62	−36	0.38	0.35	0.23	0.32	3.6	3	16	8	7
1924	2.9	58	−46	0.40	0.39	0.54	0.44	5.3	4	12	7	12
1925	16.5	67	−38	0.24	0.30	0.30	0.28	2.6	3	12	8	11
1926	9.2	55	−36	0.60	0.50	0.59	0.56	5.5	3	14	8	9
1927	− 1.8	43	−38	0.96	0.52	0.91	0.80	8.7	5	14	7	10
1928	20.7	57	−30	0.47	0.23	0.27	0.32	3.2	3	14	7	10
1929	12.5	59	−38	0.68	0.88	0.88	0.81	9.9	5	12	8	11
1930	19.9	53	−30	0.21	0.16	0.21	0.19	2.0	3	12	8	11
1931	21.0	58	−21	0.25	0.15	0.29	0.23	2.7	2	13	8	10
1932	12.4	60	−31	0.17	0.14	0.28	0.20	1.7	3	14	10	7
1933	8.6	62	−38	1.09	0.79	0.83	0.90	9.7	6	9	8	14
1934	12.6	53	−44	0.40	0.22	0.29	0.30	3.9	5	9	8	14
1935	12.6	51	−34	0.65	0.52	0.34	0.50	5.6	5	10	7	14
1936	15.0	59	−36	0.50	0.32	0.46	0.43	5.5	4	11	8	12
1937	11.4	51	−33	0.62	0.51	0.49	0.54	6.5	6	10	9	12
1938	18.2	55	−41	0.40	0.30	0.26	0.32	4.1	4	11	10	10
Period	12.7	72	−50	0.55	0.46	0.47	0.49	5.2	4	12	8	11

Climatological Data for December 1938

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	42	......	......	...	...	......	...	......	......	....	......	......	.....	.....	.....	......	.....	I. Idso.
Cavalier	Pembina	894	28	13.0	......	41	3†	−31	29	38	0.64	−0.20	0.50	6.0	2	6	9	16	s.	Burke Bechtel.
Cooperstown	Griggs	1,428	41	11.4	−0.9	40	3	−34	29	33	0.12	−0.44	0.12	2.4	1	14	4	13	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	8	......	......	...	...	......	...	......	0.50	....	0.31	5.0	3	1	20	10	w.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	41	15.2	+5.7	41	3	−31	29	25	0.43	−0.11	0.13	5.5	9	9	4	18	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	37	20.2	+5.6	52	3	−24	29	35	0.29	−0.11	0.12	2.2	3	10	17	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	14	13.2	+4.3	41	6	−35	29	33	0.17	−0.41	0.06	5.0	4	11	2	18	nw.	Mike Davis.
Ellendale	Dickey	1,457	43	19.4	+2.6	50	2	−21	29	36	0.21	−0.25	0.06	2.1	5	9	8	14	nw.	J. E. Demmer.
Fargo	Cass	895	2	15.2	......	38	3	−24	29	34	0.40	+0.13	0.16	5.4	8	3	8	20	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	45	16.8	+1.5	43	3	−26	29	29	0.25	−0.31	0.09	5.0	5	12	4	15	nw.	Helge Dyste.
Fullerton	Dickey	1,439	40	21.2	+6.8	48	2	−17	27	28	0.55	−0.30	0.14	3.7	7	2	19	10	nw.	F. O. Alin.
Grafton	Walsh	827	46	15.4	+6.5	41	2	−27	29	27	0.29	−0.25	0.29	4.0	1	3	12	16	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	47	13.3	+2.7	37	3†	−28	29	32	0.63	+0.03	0.24	6.0	7	3	8	20	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	9	......	......	45	3	−24	29†	......	0.50	....	0.45	1.0	2	12	5	14	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	46	11.4	+4.6	36	2	−33	29	29	0.40	−0.22	0.40	4.0	1	4	12	15	nw.	M. J. Rockwell.
Hillsboro	Traill	901	32	13.9	+2.7	46	3	−26	29†	31	0.56	−0.10	0.25	5.6	4	11	12	8	nw.	Lyle George.
Jamestown	Stutsman	1,457	46	19.2	+5.8	44	2	−28	29	24	0,43	−0.23	0.15	3.9	6	10	10	11	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	42	12.2	+3.9	39	3	−32	29	33	0.62	−0.01	0.27	6.2	5	12	14	5	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	45	15.6	+4.6	45	3	−27	29	23	0.43	−0.14	0.20	3.8	4	6	6	19	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	34	18.9	+4.8	47	3	−26	29	31	0.20	−0.28	0.07	2.0	5	7	9	15	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	16	13.8	+4.3	38	2†	−33	29	29	0.33	−0.50	0.14	5.9	7	8	10	13	w.	C. E. Blasky.
McLeod	Ransom	1,075	27	18.8	+4.4	46	3	−30	29	36	0.31	−0.17	0.12	3.1	4	11	13	7	se.	J. G. Carlson.
Mayville	Traill	975	42	14.6	+1.7	40	3	−26	29	29	0.50	−0.04	......	5.0	......	11	12	8	nw.	H. B. Addicott.
Oakes	Dickey	1,318	9	20.4	......	45	2	−22	29	34	0.19	....	0.06	1.6	4	13	8	10	nw.	F. H. Murray.
Park River	Walsh	998	34	13.4	+2.9	41	3	−30	29	33	0.55	+0.12	0.15	14.8	7	8	4	19	nw.	E. J. Taintor.
Pembina	Pembina	789	64	11.6	+5.3	37	2	−34	29	28	0.62	−0.02	0.60	12.0	2	3	5	23	nw.	E. N. Russell.
Petersburg	Nelson	1,520	8	......	......	...	...	......	...	......	0.36	....	0.21	6.0	4	9	10	12	sw.	T. M. Rykken.
Sharon	Steele	1,516	14	14.6	+4.0	44	3	−32	29	27	0.28	−0.17	0.07	3.4	7	4	11	16	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	32	18.6	+4.9	44	2	−26	29	31	0.29	−0.19	0.12	9.0	7	9	13	9	sw.	I. C. Robertson.
Wahpeton	Richland	962	46	19.0	+3.7	45	3	−26	29	36	0.45	−0.01	0.12	5.9	7	5	14	12	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	57	16.1	+4.6	38	3†	−23	29	30	0.52	−0.20	0.13	4.8	9	3	8	20	n.	U. S. Weather Bureau.
Average for Eastern Division		......	.....	16.0	+4.3	52	3	−35	29	38	0.40	−0.15	0.60	5.0	5	7	10	14	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	42	18.6	+4.4	45	2	−25	28	36	0.53	−0.03	0.16	4.0	6	17	5	9	sw.	Henry Doerr.
Bisbee	Towner	1,601	2	14.0	......	37	2†	−36	29	32	0.41	....	0.14	5.5	6	15	6	10	w.	I. K. Lund.
Bismarck	Burleigh	1,670	64	21.8	+7.1	50	9	−26	29	31	0.16	−0.41	0.08	3.1	5	9	11	11	w.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	46	14.0	+6.6	42	6	−38	29	34	0.26	−0.21	0.10	5.2	3	10	6	15	nw.	N. D. School of Forestry
Carrington	Foster	1,579	40	13.8	+2.1	34	2†	−30	29†	38	0.30	−0.09	0.30	2.0	1	7	1	23	sw.	Soo Line Agent.
Carson	Grant	2,500	26	22.0	+7.3	49	9	−30	29	33	0.18	−0.33	0.10	2.7	5	6	16	9	nw.	J. W. Evens.
Center	Oliver	......	0	18.0	......	43	9	−29	29	39	0.12	....	0.09	1.5	2	12	15	4	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	12	18.6	+5.5	41	9	−25	27†	27	0.36	−0.06	0.11	3.8	4	14	5	12	nw.	R. L. Williams.
Drake	McHenry	1,634	9	17.0	......	43	9	−32	29	33	0.18	....	0.05	2.9	7	5	9	17	nw.	Peter Anton.
Dunseith	Rolette	1,682	42	13.9	+4.8	40	3†	−37	29	39	0.53	+0.11	0.24	7.2	3	11	13	7	n.	Geo. Gehres.
Eckman	Bottineau	1,500	33	16.2	+6.9	48	9	−37	29	31	0.42	−0.06	0.17	6.0	7	9	17	5	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	21.0	+6.6	48	9	−29	29	32	0.19	−0.26	0.07	2.0	3	12	16	3	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	26	17.4	+6.8	42	5†	−30	29	35	0.37	−0.23	0.15	4.6	5	14	9	8	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	38	21.6	+3.2	44	2†	−22	29	27	0.15	−0.27	0.05	3.0	3	15	8	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	17	19.0	+6.6	46	9	−31	29	30	0.76	+0.33	0.50	7.1	4	8	11	12	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	8	16.3	......	40	3	−28	29	24	0.13	....	0.06	3.2	3	1	7	23	nw.	A. H. Haut.
Garrison	McLean	1,901	61	19.4	+5.7	45	9	−29	29	27	0.25	−0.24	0.10	4.1	4	15	9	7	nw.	E. L. Vorachek.
Granville	McHenry	1,504	31	18.4	+6.4	47	9	−36	29	31	0.36	−0.11	0.17	5.5	3	14	9	8	nw.	W. A. Christianson.
Hansboro	Towner	1,597	30	14.4	+6.4	43	3	−37	29	32	0.19	−0.40	0.11	5.0	2	8	11	12	nw.	C. E. Blackorby.
Linton	Emmons	1,711	21	20.4	+6.5	43	6	−28	29	39	0.03	−0.35	0.01	1.2	3	9	15	7	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	20	17.0	+5.0	40	2	−32	29	31	0.29	−0.23	0.14	5.0	4	16	9	6	nw.	F. W. Terry.
Maddock	Benson	1,604	23	15.4	+5.4	44	6	−34	29	31	0.21	−0.13	0.11	2.3	4	10	10	11	nw.	A. T. Felland.
Mandan	Morton	1,750	24	21.4	+7.7	49	9	−27	29	47	0.18	−0.29	0.08	2.4	4	11	7	13	w.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	35	.....	......	...	...	.....	...	......	0.20	−0.36	0.07	2.5	5	......	.....	.....	.....	P. B. Anderson.
Max	McLean	2,093	9	16.8	......	44	9	−32	29	31	0.17	....	0.12	2.8	4	15	3	13	nw.	A. W. Rice.
Minot	Ward	1,557	42	19.0	+7.1	48	9	−32	29	32	0.52	+0.06	0.15	6.3	7	16	3	12	w.	Kenneth Chatfield.
Mohall	Renville	1,646	44	17.2	+6.2	48	9	−32	29	33	0.40	−0.02	0.17	3.0	5	9	14	8	nw.	Iver Johnson.
Napoleon	Logan	1,955	46	19.6	+7.0	44	2	−31	29	36	0.21	−0.24	0.06	3.5	6	22	3	6	w.	C. J. Hoof.
New Salem	Morton	2,163	34	21.0	+5.7	49	9	−32	29	45	0.21	−0.37	0.16	2.6	4	16	7	8	w.	J. Christianson.
Pettibone	Kidder	1,856	29	15.4	+4.9	39	2	−32	29	29	0.05	−0.42	0.05	1.5	1	6	8	17	nw.	Sam Loeppke.
Rolla	Rolette	1,860	1	14.8	......	40	3†	−31	29	30	0.85	....	0.31	8.5	8	7	10	14	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	9	......	......	...	...	.....	...	......	0.80	....	0.40	8.0	4	12	6	13	nw.	W. B. Paterson.
				......	......	...	...	.....	...	......	0.80	....	0.40	8.0	4	12	6	13	nw.	
Ryder	Ward	2,108	9	......	......	...	...	.....	...	......	0.22	....	0.05	3.0	7	19	4	8	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	2	......	......	...	...	.....	...	......	0.35	....	0.10	5.0	4	12	16	3	nw.	J. B. Smith.
Steele	Kidder	1,857	44	16.4	+4.1	40	2†	−34	29	29	0.11	−0.46	0.10	2.0	2	8	10	13	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	9	......	......	...	..	.....	...	......	0.29	....	0.06	4.4	10	14	9	8	w.	G. N. Pilgard.
Timmer	Morton	......	1	......	......	...	...	.....	...	......	0.20	....	0.10	5.0	3	......	......	.....	....	Geo. M. Sinclair.
Towner	McHenry	1,482	36	17.6	+7.5	45	9	−34	29	32	0.91	+0.47	0.25	7.5	7	11	11	9	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	24	19.8	......	48	6†	−31	29	39	0.15	−0.36	0.08	2.0	2	14	7	10	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	30	......	......	...	...	.....	...	......	0.29	−0.12	0.12	3.6	7	12	11	8	nw.	Adam Leno.
Velva	McHenry	1,511	11	18.0	+2.9	49	9	−31	29	32	0.36	−0.04	0.12	4.0	5	4	14	13	nw.	Oscar Anderson.
Washburn	McLean	1,731	37	20.4	+6.4	48	9	−27	29	42	0.13	−0.34	0.08	1.8	3	19	5	7	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	32	14.8	+4.8	47	9	−37	29	36	0.19	−0.11	0.07	4.5	7	16	7	8	se.	D. A. Findlay.
Willow City	Bottineau	1,471	46	13.0	+4.3	44	9	−41	29	39	0.28	−0.31	0.10	3.0	4	12	16	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	9	17.8	+4.8	44	2	−25	28	40	0.17	−0.47	0.04	3.4	6	10	10	11	nw.	H. M. Larson.
Zap	Mercer	1,838	23	......	......	...	...	...	...	......	0.06	−0.29	0.06	1.0	1	16	15	0	......	R. A. Norton.
Average for Middle Division		......	.....	17.7	+5.8	50	9	−41	29	47	0.30	−0.16	0.50	3.9	4	12	9	10	nw.	....

Continued on page 48.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for December 1938

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																
Cooperstown	Sheyenne						T.			T.												T.		T.		.12						T.	0.12
Courtenay	James					.07																			.31						.12		0.50
Devils Lake ***	Devils Lake	T.			T.	.08	T.	.01	.01		T.	T		T.	T.		.01	T.	T.		T.			T.	.12	.09	.02	T.	.04		.05	T.	0.43
Edgeley	James				.12																		T.	.08							.09		0.29
Edmore	Devils Lake						.06					T.													.04	T.	.04		T.		.03		0.17
Ellendale	James				.06		.02	T.	T.	T.													.04		.05		T.				.04		0.21
Fargo ***	Red	T.			T.	.05	.05	.06				T.	T.	T.	T.		T.	T.			T.	T.	.02	.01	.15	T.	T.		.03		.03	T.	0.40
Forman	Sheyenne						.09																.05	T.	T.		.03		.02		.06		0.25
Fullerton	James			.08		.10																	.09		.14		.06		T.	.04	.04		0.55
Grafton	Red						T.							T.									T.	T.			.29		T				0.29
Grand Forks ***	do					.17	.02	T.			T.	T.		T.	T.		T.				T.		T.		.01	.24	.04		.02		.13	T.	0.63
Hankinson ‖‖	do					.45																		.05			T.						0.50
Hannah	Pembina																									.40							0.40
Hillsboro	Red						.21	T.														T.	T.		.25		T.		.07		.03		0.56
Jamestown	James						.03		.01														T.		.10			.06		.08		.15	0.43
Langdon ‖‖	Pembina						.08					.01													.07	.19						.27	0.62
Larimore	Red						.20																		.08	T.	.09		T.			.06	0.43
Lisbon	Sheyenne	T.	T.			T.	.07	.02															.05		.03	T.	T.		T.		T.	.03	0.20
McHenry	James					.03		.01							T.								T.		.14		.03		.05		.02	.05	0.33
McLeod	Sheyenne						.08								T.									T.	.12	T.	.02		T.			.09	0.31
Mayville	Red																																0.50
Oakes	James				.06		.06		T														.04		T.		T.		T.		T.	.03	0.19
Park River	Red					.07																	T	.05	.15		.15	.05			.02	.06	0.55
Pembina	do					.02																	T.			.60			T.				0.62
Petersburg	do						.03	T.							T.										.06	.21			T.		.06		0.36
Sharon	do						.03	.01				T		T.	T.								T.		.07	.02	.06		.07		.02	T.	0.28
Valley City	Sheyenne				.01			T.															T.	.03	.06	.02	.02		.03		.12		0.29
Wahpeton	Red		T.				.12	.05	.01														.05		.12		T		.01			.09	0.45
Moorhead, Minn. ***	do	T.	T.		T.	.08	.04	.13		T.		T.	T.	T.	T.		T.				T.	T.	.04	.01	.12	T	.02	T.	.02		.06	T.	0.52
Middle Division																																	
Ashley	Missouri				.16	T.		.06																.05	.09						.04	.13	0.53
Bisbee	Devils Lake				T		.02		T																.14	.07	.04		.04		T.	.10	0.41
Bismarck ***	Missouri			T.	T.	T.		T.				T.					T						T.	T.	.08	.01	.01		.05	T.	.01		0.16
Bottineau	Mouse																								.06	.10						.10	0.26
Carrington ‖‖	James						T.																		T.	T.			.30				0.30
Carson	Heart			.10								.01												T.	.01		.03		.03				0.18
Center	Missouri											.09						.03															0.12
Dogden Butte	Mouse			T.	T		T					T.					T.								.10	T.	.11		.06		.09	T.	0.36
Drake ‖‖	do				.01		.01					T.	T.				.01								.05		.05		.02			.03	0.18
Dunseith	do						T.	T.			T.						T.							T.	.24	.09	.20				T		0.53
Eckman	do			T.		.02						T.					.05							T.	.17	.08			.05		.03	.02	0.42
Energy	Missouri											T													.06		.06				.07		0.19
Fessenden ‖‖	James			.02		.03																		T		.10	.07					.15	0.37
Fort Yates	Missouri																								.05		T.		.05		.05		0.15
Foxholm (near)	Mouse			T	.18	T.					T.	T.					T.								.04	T	.50		.04		T.		0.76
Gackle	James																						T.		.06		.02		T.		.05		0.13
Garrison ‖‖	Missouri			T.	T.	T.						T.												T.	.06	T.	.10	T.	.04	T.	.05		0.25
Granville	Mouse			T.		.17																			.12		.07						0.36
Hansboro	Devils Lake																								.11							.08	0.19
Linton	Missouri			.01	T.		.01	T.				T.													.01				T		T		0.03
McClusky	do			.03		T.																				.10	.14					.02	0.29
Maddock	Sheyenne						.01										T.							T.	.11	T.	.05		.04		T.		0.21
Mandan ‖‖	Missouri			T.		T		T			T.													.08		.02		.06	T.		.02		0.18
Max ‖‖	do											T.					T.								.12		.02		.01			.02	0.17
Minot	Mouse			T.	.10						T.	T.					.02								.09	.07	.10	T.	.10	T.	.04		0.52
Mohall	do			T.	T.	T.	T.					T.					T.								.17	.06	.07		.06		.04	T.	0.40
Napoleon ‖‖	Missouri				.03		.06																		.05				.01	.03		.03	0.21
New Salem	Heart			.02		T.	T.					T	T.											.01			.02		.16		T.	T.	0.21
Pettibone	James						T.					T.																	T		.05		0.05
Rolla	Devils Lake						T		T		.04			T			.02								.16	.31	.22		.05		.02	.02	0.85
Rugby (near)	Mouse						T.									.10									.40			.10	T.		.20		0.80
Ryder	Missouri																							.05	.03	.05	.04		.02		.02	.01	0.22
Selfridge	do			T.	T	T.						T.												.10		.10			.10	.05			0.35
Steele	do				T.		.01				T.														.10		T.	T.		T.			0.11
Tagus	Mouse			.02	.05	T.			T.		T.	.01	T.				.02							T	.06	.03	.03	.01	.04		.02		0.29
Towner	do			T.		.10					T.			T.			.01								.25	.25	.20		.05		.05		0.91
Turtle Lake	Missouri			T.		T.																			.07						.08		0.15
Tuttle	do			T.	.01	T.	.04	T.				.02											T.		.12		.01		.02		.07		0.29
Velva	Mouse			T.	T.	.02					T.	T.													.10	T.	.12		.08	T.	.04		0.36
Washburn ‖‖	Missouri				T.							T													.08		.03					.02	0.13
Westhope	Mouse					T.		T.			.02	T				.02									.07	.03	.02				.01	.02	0.19
Willow City	do					T.					T.	T.					.05							T.	.08	T.			.10		.05	T.	0.28
Wishek ‖‖	Missouri			.03		.01		T.														.03	T	.04		T.		T.		.02	.04		0.17
Zap	Knife											T.												T.		T.				.06			0.06
Western Division																																	
Alpha	Lit. Missouri			.08	T.	.05	T.																					T.	.10	.05	T	.05	0.33
Amidon	do			.04																									.09	.03	.03		0.19
Beach	do			.03		T.						T.															T.		.14	.04		.06	0.27
Berthold Agency	Missouri			T.		T.						T													T.	T.		.05			.04		0.09
Bowman	Grand		T.	T.		T.	T.																			T.		.02	.05		T.		0 07
Crosby	Mouse			.07													.02							.08		.04	.03		.08		.01		0.33
Dickinson ‖‖	Heart			T.	.02		T.					.01	T												.01		.02		.06	.05	.01	T.	0.18
Dunn Center	Knife			T.	T.							T.	T												.03		T.	T.	.08		T.	T.	0.11
Fairfield	Lit. Missouri			T.								.02												T.			T		.10	T.		T.	0.12
Fryburg	Heart			.05	.03	.02	T																							.12			0.22
Hettinger	Grand			.03	T.	T.																				T.	T.		.10	T	.08		0.21
Howard (near)	Missouri		T.	.23							T.	T				T.	T							.05	.06		.10				.08		0.52
Kenmare	Mouse			.02	.02						T.	.01					.03								.07	.07	.16	T.	.10		.03		0.51
Marmarth	Lit. Missouri			.02		.01	.01																						.04	.03	.02		0.13
Mary	do		.05			T						.06												.10	T		.11			T		T.	0.32
Medora	do			T		T.						T.												T.		.02		T.	.08	.01	.02	.02	0.15
Mott	Cannon Ball			.03																							.01	.07		T.	.04		0.15
New England ‖‖	do			T.		.02																						.14				.02	0.18
Parshall	Missouri			.02								T.													.05	T.		T.	.04		.03		0.14
Portal ‖‖	Mouse			T													.05								.05		.15	.10				.10	0.45
Powers Lake	Missouri				.23											.15									.06	.17							0.61
Richardton	Heart			.05	.02							.02												T	T.		.02		.13	.04	.02		0.30
Sanish ‖‖	Missouri																							T	.08	.08			.05			.05	0.26
Stanley	do				.06	T.																			.05	T.	.03	T.	.03		.06		0.23
Tioga	do					T.						T.															.05				.10		0.15
Trotters	Lit. Missouri																												.18				0.18
Watford City	Missouri											T					.02							T.	.02		.10	.16			T		0.30
Wildrose	do		T.	.12																				T	T.		.10		.08		.06		0.36
Williston ***	do			.03							T.	T.				.02	T.							.01	.09	.09	T	.12	.05		.03	.03	0.47

Except as otherwise indicated observations are generally made in the late afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. *Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December 1938

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	27	45	41	28	38	40	38	32	36	38	25	29	36	37	41	25	36	34	30	26	31	30	30	36	38	12	5	3	−5	12	26	29.0
	Minimum	22	23	18	20	13	15	27	27	20	19	11	5	9	12	11	11	9	7	11	7	6	11	8	10	12	−3	−18	−25	−16	−17	−10	8.2
Beach	Maximum	44	42	39	35	43	39	40	37	51	37	28	32	36	43	40	35	37	34	32	32	40	30	35	42	44	10	12	8	−7	32	36	33.5
	Minimum	24	29	24	22	20	24	29	23	30	19	18	9	19	20	22	19	20	12	12	4	13	16	14	19	8	−7	−12	−15	−25	−25	22	13.1
Bismarck	Maximum	31	45	39	34	43	42	41	36	50	37	26	35	38	45	38	27	36	39	33	30	35	29	32	39	35	9	2	−1	−10	16	19	30.6
	Minimum	28	25	24	21	17	33	32	27	27	26	15	9	23	21	20	15	18	12	11	9	14	18	14	20	8	−7	−16	−16	−26	−15	−3	13.0
Bottineau	Maximum	33	40	41	32	32	42	41	36	41	30	27	36	29	26	28	26	29	27	31	26	28	28	28	29	21	17	−8	−8	−15	−8	3	24.5
	Minimum	20	20	20	10	9	20	21	20	24	19	0	2	8	2	8	0	6	0	8	4	10	12	11	11	0	−9	−31	−28	−38	−32	−15	3.6
Carson	Maximum	28	45	37	32	44	44	42	38	49	38	30	35	40	49	37	34	34	42	34	34	35	34	34	38	42	22	5	−2	−8	11	34	32.6
	Minimum	25	25	22	23	17	31	27	25	24	20	18	5	13	16	18	12	16	10	10	4	14	15	12	12	15	−6	−20	−13	−30	−15	11	11.5
Crosby §	Maximum	38	42	32	34	41	37	43	38	45	36	35	32	35	36	35	25	32	39	33	32	33	30	29	36	23	16	−7	−8	−12	0	12	28.1
	Minimum	20	27	19	15	12	27	27	20	26	21	10	−1	23	19	20	17	18	10	15	5	12	13	12	16	6	−10	−25	−34	−25	−25	−4	9.2
Devils Lake	Maximum	32	39	41	26	36	36	37	27	36	32	21	28	30	26	34	21	27	30	30	25	26	29	25	19	12	8	−7	−8	−18	1	2	22.7
	Minimum	22	25	21	16	12	25	24	21	19	21	12	11	6	1	12	8	15	17	15	9	7	12	10	9	8	−16	−24	−22	−31	−22	−8	7.6
Dickinson §	Maximum	40	42	39	34	43	41	40	38	51	35	23	32	35	45	38	32	36	43	30	33	36	31	39	42	45	3	7	−7	−8	29	35	32.3
	Minimum	20	20	17	22	17	28	27	25	24	21	17	5	6	14	15	16	16	8	8	5	3	12	15	13	17	0	−15	−15	−28	−25	−20	9.3
Dunn Center §	Maximum	41	45	37	33	40	37	36	36	40	32	28	33	36	45	31	30	34	38	31	32	34	25	33	39	45	15	−1	−2	−6	8	24	30.0
	Minimum	23	25	20	22	18	29	29	24	28	21	18	8	21	18	16	13	19	9	12	5	11	16	13	15	13	−3	−21	−13	−35	−26	4	11.4
Fessenden §	Maximum	40	36	30	35	42	39	42	38	35	21	25	34	34	34	21	30	34	34	30	35	32	29	28	21	14	9	−7	−8	−2	8	20	26.2
	Minimum	25	27	11	23	9	28	22	25	19	20	15	10	22	5	20	8	10	8	12	3	2	11	13	14	9	−8	−25	−15	−30	−27	−3	8.5
Fullerton	Maximum	32	48	41	37	33	40	41	37	35	40	33	30	39	37	34	32	35	32	32	26	32	31	32	27	36	22	2	1	3	3	17	29.7
	Minimum	22	26	18	26	13	32	27	28	21	24	15	8	22	12	13	22	10	22	11	12	4	21	13	16	11	−4	−17	−6	−13	−13	−2	12.7
Garrison §	Maximum	31	41	37	34	40	39	38	35	45	34	28	30	35	41	35	33	32	35	32	30	28	27	30	37	36	17	−4	−5	−11	5	15	28.4
	Minimum	28	23	19	21	13	29	27	25	20	21	13	5	20	15	20	10	14	9	19	3	11	15	13	13	17	−9	−22	−12	−29	−19	1	10.4
Grafton	Maximum	33	41	39	35	30	36	39	37	23	35	34	22	33	13	30	28	29	29	30	28	24	26	26	24	15	13	5	−7	−10	−2	7	24.0
	Minimum	14	26	20	23	15	28	12	19	12	20	19	3	12	−2	7	5	2	21	11	15	0	15	5	13	−5	−6	−19	−16	−27	−22	−11	6.7
Grand Forks	Maximum	34	34	37	30	34	35	37	28	23	35	23	30	32	14	29	17	27	26	28	24	21	26	26	19	15	10	−6	−4	−12	1	7	21.9
	Minimum	21	26	18	19	20	15	11	14	9	19	14	3	0	−6	14	6	4	15	8	8	4	17	4	−2	−7	−10	−20	−21	−28	−21	−9	4.7
Jamestown §	Maximum	31	44	42	36	31	38	39	36	36	38	30	28	35	32	40	33	32	35	30	27	30	30	31	25	19	17	−6	−4	−11	2	10	27.0
	Minimum	23	25	20	24	14	30	26	27	22	24	14	11	23	8	17	11	12	20	14	12	8	21	15	17	9	−7	−20	−11	−28	−22	−2	11.5
Kenmare	Maximum	37	40	37	33	41	42	43	38	46	42	25	31	34	40	34	32	30	37	34	32	30	30	31	30	22	9	−8	−9	−11	−1	8	27.7
	Minimum	26	30	26	18	18	30	30	24	25	24	14	9	22	14	23	7	19	14	15	8	12	14	16	15	7	−8	−23	−19	−30	−23	−3	11.4
Langdon §	Maximum	31	38	39	30	30	33	37	29	31	34	27	21	28	16	28	24	27	28	29	23	23	20	32	19	9	7	3	−14	−10	−7	−3	21.4
	Minimum	20	23	14	21	8	16	14	18	14	16	13	−4	8	−10	11	2	4	18	11	5	4	1	4	4	−9	−9	−30	−19	−32	−31	−16	2.9
Marmarth	Maximum	42	44	40	34	45	40	40	40	53	40	29	28	38	45	43	34	39	45	30	35	31	33	36	42	45	10	20	10	−5	38	36	34.8
	Minimum	18	24	21	24	19	19	29	22	30	22	19	6	16	13	17	23	22	16	10	−1	12	13	15	20	10	−1	−10	−10	−15	−13	24	13.4
Minot	Maximum	33	42	37	32	41	40	35	38	48	36	27	32	35	42	38	33	32	37	34	33	30	31	31	30	20	10	5	−8	−11	2	10	28.2
	Minimum	28	29	20	19	10	28	29	27	26	22	10	9	25	10	20	8	15	6	15	4	13	12	14	12	10	−10	−27	−18	−32	−25	−2	9.9
Mott	Maximum	42	44	37	35	46	40	40	38	49	38	31	34	38	45	41	36	37	40	38	33	31	33	36	43	46	30	7	4	−9	18	35	34.1
	Minimum	24	25	21	24	17	28	27	24	26	18	17	6	18	13	19	16	18	10	10	6	11	13	13	14	21	0	−16	−10	−25	−18	16	12.5
Pembina	Maximum	30	37	35	29	28	32	35	25	24	32	26	20	30	7	26	20	25	27	26	24	24	25	23	18	11	10	−8	−10	−14	−3	4	19.9
	Minimum	8	28	16	21	20	23	7	15	9	20	15	2	2	−10	15	−2	−3	18	13	11	0	12	−1	−2	−7	−9	−27	−22	−34	−29	−10	3.2
Sharon	Maximum	29	41	44	31	30	36	39	32	29	35	25	22	30	16	33	28	29	29	30	27	18	25	27	20	15	11	−7	−8	−15	−2	3	22.6
	Minimum	16	24	17	22	8	27	20	22	13	17	14	4	10	−3	15	7	5	18	14	10	5	15	7	5	1	−7	−23	−15	−32	−27	−9	6.5
Steele	Maximum	32	40	40	32	32	38	36	33	37	33	29	27	35	38	35	27	33	32	28	20	20	28	29	32	29	9	−5	−1	−13	0	16	25.8
	Minimum	22	18	17	21	9	29	14	26	17	13	11	3	13	15	15	8	7	3	10	4	5	18	8	10	9	−10	−26	−13	−34	−22	−7	6.9
Valley City	Maximum	39	44	43	38	36	36	40	36	40	37	34	27	34	28	35	30	31	27	27	26	25	27	28	26	26	22	−3	−2	−7	2	7	27.1
	Minimum	24	22	12	28	12	28	24	18	18	22	15	9	23	4	19	12	11	21	14	13	0	17	14	19	−3	−3	−21	−12	−26	−22	0	10.1
Wahpeton	Maximum	34	40	45	40	31	35	37	36	25	42	36	27	40	35	36	35	32	29	32	31	22	26	30	26	25	30	0	9	1	3	10	28.4
	Minimum	23	29	20	20	21	30	21	19	14	23	17	7	19	0	15	13	7	22	14	11	6	20	6	9	−11	−2	−19	−8	−26	−21	−1	9.6
Williston	Maximum	39	41	39	36	45	39	42	36	47	32	23	33	37	36	36	29	35	38	35	33	34	31	34	38	41	8	−3	−3	−10	11	20	30.1
	Minimum	26	29	25	22	25	29	31	25	29	22	10	6	22	18	19	15	20	12	14	9	18	15	16	22	7	−13	−21	−23	−31	−19	4	12.4
Moorhead, Minn.	Maximum	33	37	38	34	32	35	36	31	24	38	27	28	34	17	33	30	30	25	28	23	22	26	28	20	22	16	−2	2	−9	3	6	24.1
	Minimum	23	29	19	20	21	22	20	15	11	22	17	9	4	−1	17	5	4	15	13	14	5	22	10	3	−5	−8	−15	−16	−23	−19	−2	8.1

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

Climatological Data for December 1938—Continued from page 46.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	11	.....	....	....	....	.....	..	....	0.33	−0.17	0.10	4.0	5	14	11	6	w.	H. A. Bury.
Amidon	Slope	......	15	23.2	+6.1	49	9	−25	29	51	0.19	−0.29	0.09	2.2	4	14	12	5	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	32	23.3	+6.3	51	9	−25	29†	57	0.27	−0.23	0.14	2.8	4	7	17	7	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	44	21.0	+5.6	50	9	−33	29	32	0.09	−0.29	0.05	2.0	2	22	1	8	nw.	C. L. Hall.
Bowbells	Burke	1,958	9	.....	....	....	....	.....	....	.....	0.28	....	0.28	3.0	1	7	7	17	w.	L. C. Grinney.
Bowman	Bowman	2,872	23	23.1	+8.0	51	9	−18	28	49	0.07	−0.29	0.05	2.8	2	19	8	4	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	29	18.6	+7.0	45	9	−34	28	33	0.33	−0.18	0.08	5.2	7	11	7	13	w.	J. H. Phelps.
Dickinson	Stark	2,543	45	20.8	+4.4	51	9	−28	29	55	0.18	−0.32	0.06	2.2	7	11	12	8	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	38	20.7	+3.0	45	2†	−35	29	34	0.11	−0.35	0.08	1.1	2	9	16	6	nw.	O. T. Evenson.
Epping	Williams	2,224	27	19.0	+5.4	46	9	−35	29	41	0.18	−0.27	0.15	3.6	2	16	5	10	nw.	T. Beachler.
Fairfield	Billings	......	1	.....	....	....	....	.....	....	....	0.12	....	0.10	3.4	2	11	14	6	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	19	23.2	....	50	9	−24	28	52	0.22	−0.29	0.12	2.0	4	12	10	9	nw.	Verne King.
Hettinger	Adams	2,675	30	25.1	+8.3	55	25	−20	29	44	0.21	−0.19	0.10	2.8	3	12	13	6	nw.	O. A. Erlandson.
Howard ‡‡ (near)	Williams	2,275	30	17.5	+5.9	44	9	−36	29	30	0.52	−0.11	0.23	4.1	5	18	10	3	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	6	19.6	....	46	9	−30	29	26	0.51	+0.05	0.16	6.4	9	10	17	4	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	28	24.1	+7.3	53	9	−15	29	51	0.13	−0.28	0.04	1.4	6	19	4	8	nw.	S. P. Grane.
Mary	McKenzie	......	9	......	....	....	....	.....	....	......	0.32	....	0.11	5.7	4	11	12	8	sw.	Fred Hartman.
Medora	Billings	2,271	22	.....	....	....	....	.....	....	......	0.15	−0.30	0.08	1.9	5	11	16	4	w.	Vernon Thompson.
Mott	Hettinger	2,424	30	23.3	+9.5	49	9	−25	29	36	0.15	−0.45	0.07	2.0	4	15	12	4	nw.	W. M. Hendricks.
New England	Hettinger	2,400	43	22.8	+6.3	53	25	−23	28	57	0.18	−0.23	0.14	2.4	3	11	13	7	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	22	18.0	......	45	9	−35	29	40	0.14	−0.26	0.05	2.0	4	6	23	2	nw.	C. E. Shubert.
Portal	Burke	1,954	32	16.8	+4.6	48	8	−36	29	36	0.45	−0.02	0.15	4.5	5	14	7	10	w.	R. G. Wegener.
Powers Lake	Burke	2,205	32	18.0	+3.9	45	9	−33	29	40	0.61	+0.05	0.23	8.4	4	18	9	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	21	22.6	+8.6	48	9	−24	29	30	0.30	−0.09	0.13	4.3	7	7	13	11	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	12	20.0	+8.6	47	9	−33	29	33	0.26	−0.35	0.08	4.0	4	10	14	7	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	0	17.0	....	43	9	−34	29	30	0.23	....	0.06	4.2	5	16	8	7	nw.	Leroy Edwards.
Tioga	Williams	2,279	9	......	....	....	...	.....	....	......	0.15	....	0.10	1.5	2	14	8	9	nw.	B. V. Olson.
Trotters	Golden Valley	......	12	......	....	....	...	.....	....	.....	0.18	−0.22	0.18	3.0	1	10	8	13	nw.	A. J. Nellermoe.
Watford City	McKenzie	2,084	24	21.9	+8.9	47	9	−33	29	30	0.30	−0.24	0.16	3.5	4	15	12	4	w.	J. C. Zeller.
Wildrose	Williams	2,258	10	......	....	....	....	.....	....	......	0.36	....	0.12	4.0	4	8	7	16	sw.	L Holter.
Williston	Williams	1,878	58	21.2	+7.4	47	9	−31	29	34	0.47	−0.11	0.17	4.4	9	12	12	7	w.	U. S. Weather Bureau.
Average for Western Division		......	.....	20.9	+6.4	55	25	−36	29	57	0.26	−0.21	0.28	3.4	4	13	11	7	nw.	....
Average for the State		......	.....	18.2	+5.5	55	25	−41	29	57	0.32	−0.17	0.60	4.1	4	11	10	10	nw.	....

[WBO, Minneapolis, 1-25-39—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

VOL. XLVII BISMARCK, N. D., ANNUAL 1938 No. 13

GENERAL SUMMARY

The mean temperature for the year was above normal at every station in the State. February, May, and November were the only months with subnormal averages. February was the coldest month of the year, although the lowest temperature occurred during January or December at almost all stations. The frost-free season was somewhat longer than average due to the warm weather during September and October. Some stations in all sections had no frost until late October.

The precipitation was somewhat below normal in the eastern and central divisions, but above normal in the western division. This is the first year since 1910 and the fourth since 1892 that the western section recorded more precipitation than was received in the eastern section. Only in four months during the year was the precipitation in excess of the normal. This occurred in February, May, July, and November. Dust storms were mostly light and less frequent than in the preceding year. Crops were only fair in most sections due more to damage by grasshoppers and rust than to lack of moisture. Livestock and ranges were mostly good throughout the year.

The average temperature for the State was 41.9°, or 2.5° above the 1892-1938 average, and 2.8° higher than the average for 1937. The highest annual temperature reported was 45.5° at Hettinger; the lowest was 37.6° at Hannah. The absolute range in temperature was 150°, from 109° at Edgeley on August 13th to -41° at Willow City on December 20th. The average annual precipitation for the State was 15.33 inches, or 1.59 inches below the 1892-1938 average, and 1.70 inches below the average for 1937. The greatest annual precipitation reported was 21.01 inches at Lisbon; the least was 9.51 inches at Hannah. The greatest monthly amount reported was 6.73 inches at Maddock in July. The average snowfall for the State was 30.6 inches.

The average number of days with 0.01 inch or more of precipitation was 73.

MAR 31 1939
UNIVERSITY OF ILLINOIS

There were 149 clear days, 116 partly cloudy days, and 100 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS

JANUARY.—Temperatures averaged slightly above normal in the eastern section of the State and considerably above normal in the western section. Precipitation was well distributed throughout the month, with amounts below average at most eastern stations and above average at almost all stations west of the Missouri River. An unusually large number of auroras and dense fogs were recorded throughout the month. Weather was favorable for outdoor work and livestock ranged freely on open fields.

FEBRUARY.—The outstanding feature of the weather during February was the heavy snowcover over the western portion of the State where subsoil moisture was greatly needed. There was very little wind during the month so the snow was not badly drifted. The temperature averaged below normal but the last few days were warm and much of the snow melted, with the water soaking into the ground. Much foggy weather occurred.

MARCH.—Pleasant weather, with light winds, prevailed until near the close when it became stormy. Only a few days with sub-zero temperatures were reported and these occurred during the first week. The precipitation was light and occurred mostly during the last four days of the month. The weather was excellent for livestock and outdoor work; considerable plowing being accomplished. Floods prevailed along the Missouri River from the 14th to the 20th, causing some livestock and property loss, but the benefit of the moisture and silt wiped out most of the loss.

APRIL.—The temperature averaged above normal and the precipitation below, although nearly half the stations in the eastern division reported moisture above normal. Due to lack of moisture during the first decade, the precipitation for the month was considerably below average. It was a good month for outdoor work and freezing temperatures occurred on only a few days after the 10th. Plowing and seeding made good progress and ranges were in good condition by the close of the month.

MAY.—This was a cool month, but no unusually low temperatures were reported. Frost occurred at most stations from the 6th to the 9th. Precipitation was well distributed throughout the month and sunshine averaged below normal. Slow general rains from the 17th to the 20th saturated the topsoil and replenished subsoil moisture. Small grains stooled well during the cool weather and pastures and ranges were good to excellent at the close of the month.

JUNE.—The fore part was rather dry and top soil needed moisture generally. Rapid progress was made during the first decade in planting corn, flax, and potatoes. Showery weather after the 8th greatly improved the crop outlook and at the close of the month ideal soil conditions prevailed. Grasshoppers did considerable damage, especially in southern counties. Mormon crickets were numerous in that district, and black stem rust made its appearance in some sections. Grasses were excellent, and ranges and pastures afforded abundant food for livestock.

JULY.—Temperature and precipitation averaged somewhat above normal. The precipitation was well distributed throughout the month, but with heavy amounts at some stations from the 3rd to the 5th and again on the 26th. The precipitation was light in some southeastern and extreme west-central counties, but many northern and central stations received copious amounts. Harvesting of small grains was well advanced by the close of the month with mostly fair to very good yields. Grasshoppers caused considerable damage, but many of them migrated northwestward before the close of the month. Pastures and corn were mostly very good.

AUGUST.—The temperature averaged above normal. and the precipitation averaged somewhat below normal with the heaviest amounts in the eastern part of the State. The rainfall was fairly well distributed throughout the month, although the central and western sections had only light amounts after the 15th. Crops and livestock deteriorated somewhat at most places due to dry weather.

SEPTEMBER.—This was the warmest September since 1906 and the third warmest since state-wide records began. Killing frost occurred at many stations on the 19th, but readings were above 90° at almost all stations on the 22d. Some stations in all sections had no frost during the entire month. There were only four drier Septembers since state-wide records began. The weather was excellent for outdoor work, but by the close of the month pastures were short and the soil was too dry for fall plowing.

[Continued on page 53]

Climatological Data for the Year 1938

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number of days				Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall	With .01 in or more precip.	Clear	Pt. cloudy	Cloudy	
Eastern Division																				
Amenia	Cass	954	43	......	98	Aug. 2†	−30	Feb. 17	43	......	3.19	May	0.02	Jan.	......	......	....	......	......	......
Cooperstown	Griggs	1,428	42	39.8	96	Aug. 3	−34	Dec. 29	42	16.08	3.36	May	0.12	Dec.	34.1	87	231	68	66	nw.
Courtenay	Stutsman	1,523	......	......	......	......	......	......	10	15.03	4.22	July	0.30	Oct.	36.1	62	89	193	83	nw.
Devils Lake	Ramsey	1,478	42	40.2	95	June 21†	−31	Jan. 31†	42	15.55	4.78	July	0.02	Sept.	20.7	95	110	111	144	nw.
Edgeley	LaMoure	1,568	38	43.7	109	Aug. 13	−24	Jan. 26†	38	11.82	2.11	May	0.28	Oct.	32.0	75	121	191	53	nw.
Edmore	Ramsey	1,524	14	39.5	97	July 30	−35	Dec. 29	15	12.29	2.92	May	T.	Sept.	17.1	71	153	76	136	nw.
Ellendale	Dickey	1,451	36	43.6	107	Aug. 13	−24	Feb. 19	44	14.69	3.10	June	0.11	Oct.	24.6	76	160	90	115	nw.
Forman	Sargent	1,249	2	42.3	105	Aug. 13	−26	Jan. 27†	46	18.04	3.94	July	0.06	Oct.	28.0	79	209	73	83	nw.
Fullerton	Dickey	1,439	42	43.9	107	Aug. 13	−23	Jan. 27	41	17.05	3.19	Sept.	0.17	Oct.	32.4	78	137	126	102	nw.
Grafton	Walsh	827	47	41.8	99	Aug. 12	−27	Jan. 31†	47	13.78	2.65	June	0.27	Jan.	33.5	60	99	143	123	nw.
Grand Forks	Grand Forks	830	48	40.4	95	Aug. 13	−29	Jan. 31	48	18.86	5.03	May	0.31	Jan.	40.3	94	85	145	135	nw.
Hankinson	Richland	1,068	10	43.1	103	Aug. 2†	−24	Dec. 29†	10	19.13	3.69	Apr.	0.12	Oct.	33.6	63	227	69	69	nw.
Hannah	Cavalier	1,568	30	37.6	98	July 27	−40	Jan. 31	47	9.51	1.97	July	0.02	Sept.	30.3	65	91	174	100	nw.
Hillsboro	Traill	901	33	41.9	99	July 31	−26	Dec. 29†	33	17.27	5.42	May	0.32	Jan.	27.8	76	147	119	99	nw.
Jamestown	Stutsman	1,457	47	42.6	98	July 31†	−28	Dec. 29	47	15.52	4.17	July	0.15	Sept.	35.9	80	158	127	80	nw.
Langdon	Cavalier	1,615	43	39.2	96	Aug. 12	−35	Jan. 31	43	16.30	5.43	July	0.01	Sept.	24.0	89	139	139	87	nw.
Larimore	Grand Forks	1,134	46	41.6	95	July 30	−28	Jan. 31	46	16.07	4.23	May	0.08	Jan.	21.8	59	161	58	146	nw.
Lisbon	Ransom	1,091	35	43.2	104	Aug. 13	−26	Jan. 31†	35	21.01	5.22	Aug.	0.17	Oct.	23.0	87	137	107	121	nw.
McHenry	Eddy	1,509	17	39.2	93	Aug. 8†	−33	Dec. 29†	17	14.78	5.90	July	0.09	Sept.	29.1	87	124	147	94	nw.
McLeod	Ransom	1,075	27	43.3	107	Aug. 13	−30	Dec. 29	28	17.74	3.10	July	0.07	Oct.	21.6	71	214	70	81	se.
Mayville	Traill	975	43	42.8	97	July 31†	−26	Dec. 29	43	12.58	4.33	July	0.01	Jan.	21.6	56	157	110	98	n.
Oakes	Dickey	1,318	10	43.5	108	Aug. 13	−26	Jan. 27	10	12.84	2.06	June	0.03	Oct.	23.5	77	174	83	108	nw.
Park River	Walsh	998	35	39.5	98	Aug. 12	−30	Dec. 29	35	14.78	2.58	June	0.08	Sept.	37.8	62	158	68	139	nw.
Pembina	Pembina	789	65	39.4	96	Aug. 13	−34	Jan. 31†	65	13.29	3.20	June	0.24	Sept.	36.0	69	171	70	124	nw.
Petersburg	Nelson	1,520	......	......	......	......	......	......	9	14.33	3.41	July	0.10	Jan.	22.1	69	143	130	92	nw.
Sharon	Steele	1,516	12	40.4	96	July 31	−32	Jan. 31†	15	15.46	4.00	May	0.20	Jan.	25.7	93	120	129	116	nw.
Valley City	Barnes	1,245	33	42.8	95	Aug. 2	−26	Dec. 29	33	13.38	3.71	July	0.07	Oct.	34.2	79	179	95	91	nw.
Wahpeton	Richland	962	47	44.3	103	Aug. 13	−26	Jan. 31†	47	20.80	4.28	Apr.	0.20	Oct.	25.1	105	132	110	123	nw.
Moorhead, Minn	Clay	935	58	42.4	99	Aug. 13	−23	Dec. 29	58	16.21	3.60	May	0.15	Oct.	32.7	99	102	100	163	s.
Middle Division																				
Ashley	McIntosh	2,001	43	42.3	105	Aug. 13	−30	Jan. 27†	43	15.18	5.07	June	0.27	Apr.	25.7	73	191	70	104	nw.
Bismarck	Burleigh	1,674	65	44.0	101	Aug. 12	−26	Dec. 29	65	13.42	3.17	June	0.16	Dec.	32.8	96	121	131	113	nw.
Bottineau	Bottineau	1,638	47	40.2	96	Aug. 1	−38	Dec. 29	47	15.83	4.39	July	0.04	Sept.	26.2	84	162	76	127	nw.
Carrington	Foster	1,579	33	41.5	97	June 21†	−30	Dec. 29†	41	14.13	4.93	July	0.12	Jan.	27.3	55	138	60	167	nw.
Carson	Grant	2,500	27	44.6	106	Aug. 12	−30	Dec. 29	27	15.24	4.06	June	0.13	Sept.	37.7	77	122	147	96	nw.
Dogden Butte	McLean	1,880	13	41.6	92	Sept. 22	−25	Jan. 31†	13	17.43	5.51	July	0.10	Sept.	40.2	75	151	92	122	nw.
Drake	McHenry	1,634	9	41.0	96	Aug. 18	−32	Dec. 29	10	11.76	4.78	July	0.18	Dec.	21.7	88	105	146	114	nw.
Dunseith	Rolette	1,682	43	39.8	95	Sept. 22	−37	Dec. 29	43	10.44	2.28	Aug.	T.	Sept.	19.2	60	154	133	78	n.
Eckman	Bottineau	1,500	34	40.3	99	Sept. 22	−37	Jan. 31	34	12.72	3.01	July	0.06	Sept.	31.5	78	123	167	75	nw.
Energy	McLean	1,750	14	42.8	97	Sept. 22	−32	Feb. 17	27	20.54	5.45	June	0.19	Dec.	31.5	56	138	175	52	nw.
Fessenden	Wells	1,610	27	40.9	98	June 21†	−30	Dec. 29	27	14.52	4.66	July	0.12	Sept.	27.5	83	141	123	101	nw.
Fort Yates	Sioux	1,670	39	44.0	106	Aug. 12	−31	Feb. 18	39	10.96	2.07	July	0.12	Oct.	26.0	47	195	85	85	nw.
Foxholm	Ward	1,657	14	41.4	96	July 23†	−31	Dec. 29	18	13.71	3.09	July	0.11	Sept.	29.6	82	113	121	131	nw.
Gackle	Logan	1,951	9	42.2	100	Aug. 13	−28	Dec. 29	9	16.48	5.87	July	0.10	Sept.	37.4	74	105	136	124	nw.
Garrison	McLean	1,901	44	41.9	95	Sept. 22	−29	Dec. 29	44	17.00	5.59	July	0.25	Dec.	34.2	78	182	82	101	nw.
Granville	McHenry	1,504	32	41.2	98	Sept. 22	−36	Dec. 29	32	15.03	3.64	July	0.04	Sept.	38.5	64	167	90	108	nw.
Hansboro	Towner	1,597	31	39.2	99	Sept. 22	−37	Dec. 29	31	10.81	3.24	July	0.00	Sept.	29.7	54	149	119	97	nw.
Linton	Emmons	1,711	21	43.1	106	Aug. 12	−32	Feb. 17	22	11.64	3.10	June	0.03	Dec.	20.4	73	135	158	72	se.
McClusky	Sheridan	1,943	14	41.8	104	July 31	−32	Dec. 29	21	15.62	3.80	July	0.23	Jan.	24.7	58	167	110	88	nw.
Maddock	Benson	1,604	24	40.5	96	Sept. 22	−34	Dec. 29	24	15.74	6.73	July	T.	Sept.	18.2	66	116	127	122	nw.
Mandan	Morton	1,750	25	43.4	100	Aug. 12	−27	Dec. 29	25	16.02	3.11	June	0.18	Dec.	32.4	84	137	96	132	nw.
Manfred	Wells	1,605	......	......	......	......	......	......	36	15.16	5.38	July	0.16	Sept.	24.5	80	......	......	......	......
Max	McLean	2,093	10	40.0	95	July 31	−32	Dec. 29	10	18.27	6.33	July	0.17	Dec.	22.3	65	154	75	136	nw.
Minot	Ward	1,557	43	42.6	98	Sept. 22	−32	Dec. 29	43	15.22	2.88	July	0.15	Sept.	27.8	93	141	67	157	w.
Napoleon	Logan	1,955	47	42.2	102	Aug. 12	−31	Dec. 29	47	17.40	5.30	July	0.12	Sept.	30.7	93	203	40	122	nw.
New Salem	Morton	2,163	35	42.2	100	Aug. 12	−32	Dec. 29	35	13.90	4.79	June	0.21	Oct. †	26.6	75	196	86	83	nw.
Pettibone	Kidder.	1,856	30	40.9	95	June 21	−32	Dec. 29	30	13.78	5.29	July	0.05	Dec.	26.9	50	146	87	132	nw.
Rugby	Pierce	1,562	......	......	......	......	......	......	10	14.90	4.88	July	0.06	Sept.	20.1	71	121	144	100	nw.
Ryder	Ward	2,108	......	......	......	......	......	......	10	14.26	3.55	June	0.09	Sept.	22.4	79	201	61	103	nw.
Selfridge	Sioux	2,183	......	......	......	......	......	......	2	14.49	5.39	June	0.10	Oct.	37.6	64	144	133	88	nw.
Steele	Kidder	1,857	45	40.9	121	Aug. 12	−34	Dec. 29	45	13.65	4.91	July	0.11	Dec.	24.0	60	166	92	107	nw.
Tagus	Mountrail	2,179	......	......	......	......	......	......	10	13.67	3.92	July	0.15	Sept.	25.4	99	202	72	91	nw.
Towner	McHenry	1,482	37	41.7	98	Sept. 22	−34	Dec. 29	37	16.58	4.18	July	0.03	Sept.	32.5	70	147	131	87	nw.
Turtle Lake	McLean	1,899	25	42.7	97	Aug. 18	−31	Dec. 29	25	15.01	5.44	July	0.15	Dec.	28.2	67	220	50	95	nw.
Tuttle	Kidder	1,936	......	......	......	......	......	......	31	17.00	6.25	July	0.29	Dec.	30.5	95	156	121	88	nw.
Velva	McHenry	1,511	12	42.3	96	Sept. 22	−31	Dec. 29	12	14.51	3.95	July	0.13	Sept.	28.5	66	99	149	117	nw.
Washburn	McLean	1,731	37	42.9	99	June 21	−27	Jan. 30	38	18.55	6.29	July	0.13	Dec.	23.8	66	200	57	108	n.
Westhope	Bottineau	1,508	33	40.5	98	June 21	−37	Jan. 31†	33	15.79	3.18	Aug.	0.19	Sept.†	41.8	73	172	97	96	nw.
Willow City	Bottineau	1,471	47	38.8	100	Aug. 13	−41	Dec. 29	47	13.58	3.35	June	0.03	Sept.	26.5	63	180	117	68	nw.
Wishek	McIntosh	2,010	10	41.4	103	Aug. 13	−29	Jan. 27	10	13.61	3.94	June	0.17	Dec.	27.6	90	137	124	104	nw.
Zap	Mercer	1,838	......	......	......	......	......	......	24	13.25	4.17	June	0.06	Dec.	23.4	43	220	84	61	......
Western Division																				
Alpha	Golden Valley	......	......	......	......	......	......	......	12	13.13	3.22	June	0.18	Mar.	24.2	80	186	107	72	nw.
Amidon	Slope	......	15	44.6	103	Aug. 12	−26	Jan. 30	15	13.59	5.58	June	0.19	Dec.	23.7	84	165	110	90	w.
Beach	Golden Valley	2,579	33	44.2	99	Aug. 12	−28	Feb. 17	33	13.93	2.57	June	0.27	Dec.	30.5	80	78	210	77	nw.
Berthold Agency	McLean	2,082	46	42.3	99	Aug. 1	−35	Feb. 17	46	15.62	3.89	June	0.09	Dec.	33.2	59	199	77	89	nw.
Crosby	Divide	1,954	32	40.8	96	Aug. 12†	−34	Dec. 28	32	17.28	4.01	July	0.26	Sept.	44.2	63	138	102	125	s.
Dickinson	Stark	2,543	47	41.6	99	Aug. 12	−30	Feb. 17	47	16.65	4.70	June	0.10	Sept.	40.9	99	130	149	86	nw.
Dunn Center	Dunn	2,191	40	41.2	95	July 23†	−35	Dec. 29	40	17.96	4.46	July	0.11	Dec.	18.0	71	163	123	79	nw.
Epping	Williams	2,224	29	42.0	98	July 31	−35	Dec. 29	29	15.75	3.45	July	0.18	Dec.	34.1	56	199	90	76	nw.
Fryburg	Billings	2,790	3	43.7	99	Aug. 12	−25	Feb. 17	21	18.14	6.52	June	0.22	Dec.	39.7	84	146	131	88	nw.
Hettinger	Adams	2,675	32	45.5	104	Aug. 12	−34	Feb. 1	32	12.18	2.88	May	0.11	Mar.	24.0	61	160	123	82	nw.
Howard	Williams	2,275	32	39.9	97	Aug. 29	−36	Dec. 29	32	21.54	5.12	July	T.	Apr.	55.9	62	188	93	84	nw.
Kenmare	Ward	1,799	7	42.1	94	July 12†	−30	Dec. 29	8	14.44	3.54	July	0.09	Sept.	31.0	98	135	139	91	nw.
Marmarth	Slope	2,714	25	44.7	100	Aug. 12	−34	Feb. 17	30	14.63	4.41	May	0.13	Dec.	25.9	90	141	81	133	nw.
Mary	McKenzie	......	......	......	......	......	......	......	10	13.67	2.83	July	0.32	Dec.	42.5	71	179	93	93	nw.
Medora	Billings	2,271	......	......	......	......	......	......	22	13.46	5.32	June	0.15	Dec.	29.7	82	151	145	69	nw.
Mott	Hettinger	2,424	32	44.3	103	Aug. 12	−30	Feb. 17	32	16.66	6.14	June	0.15	Dec.	33.8	80	102	189	74	nw.
New England	Hettinger	2,400	45	44.7	105	Aug. 1†	−33	Feb. 16	45	17.73	4.94	July	0.18	Apr.†	31.9	63	143	127	95	nw.
Parshall	Mountrail	1,929	6	39.8	97	Aug. 1	−35	Dec. 29	24	17.74	4.07	July	0.14	Dec.	24.0	78	99	211	55	nw.
Portal	Burke	1,954	26	40.3	97	July 30†	−36	Dec. 29	34	14.35	3.23	Aug.	0.20	Sept.	27.3	69	179	66	120	w.
Powers Lake	Burke	2,205	13	42.4	96	Aug. 12	−34	Jan. 31	34	20.33	3.39	Aug.	0.31	Sept.	50.4	55	187	120	58	w.
Richardton	Stark	2,467	23	43.6	97	Aug. 1†	−24	Jan. 30	23	20.98	6.69	July	0.08	Sept.	49.6	82	117	145	103	nw.
Sanish	Mountrail	1,835	14	41.7	99	Aug. 1	−33	Dec. 29	14	13.84	3.81	July	0.26	Dec.	35.0	66	131	131	103	nw.
Stanley	Mountrail	2,258	1	40.1	95	Aug. 12	−34	Dec. 29	1	16.46	2.85	May	0.21	Jan.	31.9	80	165	129	71	nw.
Tioga	Williams	2,279	......	......	......	......	......	......	10	15.44	3.53	June	0.15	Dec.	31.5	60	......	......	......	nw.
Trotters	Golden Valley	......	......	......	......	......	......	......	13	16.13	3.35	Aug.	0.18	Dec.	49.5	66	127	94	144	nw.
Watford City	McKenzie	2,084	26	44.0	98	Aug. 12	−33	Dec. 29	26	17.14	4.11	July	0.30	Dec.	47.5	69	145	161	59	w.
Wildrose	Williams	2,258	......	......	......	......	......	......	10	14.22	2.84	May	0.27	Sept.	38.9	65	129	98	138	sw.
Williston	Williams	1,878	60	43.2	95	Aug. 12	−31	Dec. 29	60	15.71	3.13	June	0.47	Dec.	51.3	93	167	117	81	w.

†Indicates on other dates (or in other months) also.

T. Indicates trace.

Monthly and Annual Precipitation for the Year 1938, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.
Eastern Division																										
Amenia	0.02	-0.44	0.30	-0.20	0.35	-0.14	1.54	-0.13	3.19	+0.32	0.95	-2.76	2.45	-0.34	0.37	-2.22	0.15	-1.97	0.15	-1.32	......	......	......	......	......	......
Cavalier	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	0.48	-0.31	0.64	-0.20	......	......
Cooperstown	0.54	+0.05	1.33	+0.93	0.53	-0.10	0.84	-0.55	3.36	+0.76	1.61	-1.72	3.17	+0.71	2.79	+0.16	0.67	-1.15	0.37	-0.75	0.75	+0.07	0.12	-0.44	16.08	-2.03
Courtenay	0.40	......	1.25	......	0.66	......	0.86	......	2.54	......	2.20	......	4.22	......	0.62	......	0.76	......	0.30	......	0.72	......	0.50	......	15.03	......
Devils Lake	0.27	-0.20	0.47	-0.03	0.51	-0.27	2.79	+1.27	2.21	+0.18	1.36	-2.20	4.78	+2.21	1.74	-0.74	0.02	-1.61	0.38	-0.87	0.59	-0.13	0.43	-0.11	15.55	-2.50
Edgeley	0.62	+0.22	0.58	+0.25	0.83	+0.12	1.07	-0.70	2.11	-0.52	1.79	-1.87	1.46	-1.31	1.06	-1.41	1.20	-0.59	0.28	-0.81	0.53	+0.07	0.29	-0.11	11.82	-6.66
Edmore	0.35	-0.29	0.47	+0.08	0.57	+0.11	2.02	+0.91	2.92	+1.02	1.41	-1.45	2.48	-0.27	1.41	-0.89	T.	-1.80	0.29	-0.76	0.20	-0.50	0.17	-0.41	12.29	-4.25
Ellendale	0.56	+0.07	0.56	+0.02	0.79	-0.12	1.25	-0.54	1.91	-0.86	3.10	-0.18	1.94	-0.80	1.61	-1.11	2.29	+0.53	0.11	-1.00	0.36	-0.26	0.21	-0.25	14.69	-4.50
Forman	0.40	-0.06	0.73	+0.19	0.73	-0.01	2.69	+0.82	2.89	-0.26	3.55	+0.06	3.94	+0.97	0.56	-2.22	1.54	-0.63	0.06	-1.39	0.70	+0.08	0.25	-0.31	18.04	-2.76
Fullerton	0.79	0.00	0.78	-0.15	1.36	+0.16	1.00	-1.14	2.60	-0.58	2.04	-1.73	1.67	-1.45	2.13	-0.40	3.19	+1.09	0.17	-1.26	0.77	-0.09	0.55	-0.30	17.05	-5.85
Grafton	0.27	-0.22	0.81	+0.27	0.57	-0.08	1.56	+0.35	2.58	+0.41	2.65	-0.75	1.89	-0.66	1.74	-0.84	0.40	-1.94	0.31	-0.91	0.71	-0.03	0.29	-0.25	13.78	-4.65
Grand Forks	0.31	-0.20	0.88	+0.32	0.84	+0.10	1.41	-0.21	5.03	+2.44	2.07	-1.28	3.73	+0.98	1.22	-1.42	1.14	-0.90	0.52	-0.88	1.08	+0.26	0.63	+0.03	18.86	-0.76
Hankinson	0.77	......	0.65	......	0.41	......	3.69	......	3.40	......	1.83	......	2.60	......	0.28	......	4.24	......	0.12	......	0.64	......	0.50	......	19.13	......
Hannah	0.40	-0.32	0.97	+0.38	0.47	-0.22	1.07	+0.03	1.68	-0.44	0.54	-2.85	1.97	-0.38	1.12	-1.00	0.02	-2.18	0.48	-0.66	0.39	-0.36	0.40	-0.22	9.51	-8.22
Hillsboro	0.32	-0.19	0.78	+0.20	0.72	-0.03	1.37	-0.47	5.42	+2.33	0.91	-2.46	2.84	+0.16	1.75	-0.95	1.14	-1.01	0.52	-0.95	0.94	+0.12	0.56	-0.10	17.27	-3.35
Jamestown	0.45	-0.10	1.30	+0.71	1.01	+0.14	1.29	-0.29	2.38	-0.62	2.50	-1.11	4.17	+1.39	0.60	-2.09	0.15	-1.69	0.29	-0.99	0.95	+0.27	0.43	-0.23	15.52	-4.61
Langdon	0.55	-0.02	0.73	+0.11	0.55	-0.25	1.48	+0.33	2.04	+0.02	1.20	-2.20	5.43	+3.06	2.70	+0.24	0.01	-2.31	0.53	-0.61	0.46	-0.36	0.62	-0.01	16.30	-2.00
Larimore	0.08	-0.58	0.71	+0.13	0.63	-0.14	1.28	-0.32	4.23	+1.34	0.87	-2.99	3.15	-0.07	3.07	+0.29	0.44	-1.82	0.34	-1.22	0.84	-0.07	0.43	-0.14	16.07	-5.59
Lisbon	0.44	-0.13	0.56	-0.06	1.01	+0.37	2.15	+0.34	2.86	-0.06	4.07	+0.23	1.90	-1.29	5.22	+2.54	1.56	-0.58	0.17	-1.16	0.87	+0.21	0.20	-0.28	21.01	+0.13
McHenry	0.25	-0.39	0.33	-0.38	0.59	+0.01	0.71	-1.21	2.41	-0.42	2.42	-0.97	5.90	+2.82	0.75	-2.16	0.09	-1.81	0.41	-0.58	0.59	-0.03	0.33	-0.50	14.78	-5.62
McLeod	0.36	-0.21	0.57	-0.04	0.32	-0.39	2.42	+0.49	3.05	-0.22	1.59	-2.42	3.10	+0.13	2.78	+0.36	1.94	-0.27	0.07	-1.41	1.23	+0.57	0.31	-0.17	17.74	-3.58
Mayville	0.01	-0.39	1.02	+0.60	0.57	-0.12	0.92	-0.65	2.65	-0.26	0.77	-2.58	4.33	+1.57	0.66	-1.97	0.56	-1.63	0.04	-1.30	0.55	-0.14	0.50	-0.04	12.58	-6.91
Oakes	0.38	......	0.75	......	1.04	......	1.85	......	1.79	......	2.06	......	1.88	......	1.12	......	1.35	......	0.03	......	0.40	......	0.19	......	12.84	......
Park River	0.18	-0.21	0.40	0.00	0.52	-0.10	2.02	+0.74	2.56	+0.50	2.58	-0.81	2.48	-0.02	2.26	-0.16	0.08	-2.16	0.28	-1.00	0.87	+0.18	0.55	+0.12	14.78	-2.92
Pembina	0.42	-0.22	0.90	+0.27	0.62	-0.19	1.60	+0.40	1.09	-1.27	3.20	-0.13	1.80	-0.55	1.37	-0.82	0.24	-1.98	0.67	-0.64	0.76	-0.05	0.62	-0.02	13.29	-5.20
Petersburg	0.10	......	0.77	......	0.48	......	1.10	......	3.03	......	0.93	......	3.41	......	2.99	......	0.16	......	0.33	......	0.67	......	0.36	......	14.33	......
Sharon	0.20	-0.14	0.69	+0.36	0.68	+0.04	1.10	-0.40	4.00	+1.13	0.91	-2.82	3.87	+1.78	1.87	-0.23	0.56	-1.29	0.37	-1.69	0.93	+0.06	0.28	-0.17	15.46	-3.37
Valley City	0.21	-0.29	0.41	-0.06	0.62	-0.05	1.13	-0.41	2.86	+0.06	2.35	-1.11	3.71	+0.90	1.09	-1.12	0.12	-1.76	0.07	-1.11	0.52	-0.17	0.29	-0.19	13.38	-5.31
Wahpeton	0.38	-0.04	0.63	+0.14	0.58	-0.07	4.28	+2.35	4.02	+1.36	1.46	-2.25	2.82	-0.40	2.85	+0.17	2.56	+0.18	0.20	-1.37	0.57	-0.19	0.45	-0.01	20.80	-0.13
Moorhead, Minn.	0.48	-0.19	0.51	-0.18	0.46	-0.55	2.07	-0.11	3.60	+0.71	1.04	-3.01	1.96	-1.47	2.59	-0.30	1.97	-0.25	0.15	-1.54	0.86	-0.04	0.52	-0.20	16.21	-7.13
Middle Division																										
Ashley	0.63	+0.16	0.30	-0.19	0.96	+0.17	0.27	-1.39	2.32	-0.22	5.07	+1.83	1.71	-1.12	1.70	-0.85	0.91	-0.69	0.36	-0.80	0.42	-0.20	0.53	-0.03	15.18	-3.33
Bisbee	0.24	......	0.37	......	0.58	......	1.54	......	2.33	......	1.42	......	2.47	......	0.63	......	0.12	......	0.45	......	0.56	......	0.41	......	11.12	......
Bismarck	0.40	-0.05	0.76	+0.32	0.58	-0.31	0.54	-0.98	2.45	+0.13	3.17	-0.18	2.36	+0.12	0.84	-0.98	1.11	-0.12	0.24	-0.70	0.81	+0.24	0.16	-0.41	13.42	-2.92
Bottineau	0.55	+0.14	0.79	+0.44	1.04	+0.38	0.88	+0.11	2.02	-0.05	2.21	-1.11	4.39	+2.02	2.57	+0.16	0.04	-1.59	0.52	-0.56	0.56	+0.07	0.26	-0.21	15.83	-0.20
Carrington	0.12	-0.20	1.00	+0.63	0.74	+0.07	0.77	-0.48	2.82	+0.25	1.12	-2.40	4.93	+2.35	0.63	-1.53	0.15	-1.36	0.45	-0.53	1.10	+0.52	0.30	-0.09	14.13	-2.77
Carson	1.47	+1.13	0.98	+0.54	0.50	-0.25	0.41	-0.83	2.98	+0.53	4.06	+0.56	2.63	+0.60	0.42	-1.38	0.13	-1.47	0.61	-0.36	0.87	+0.30	0.18	-0.33	15.24	-0.96
Dogden Butte	0.44	+0.21	0.65	+0.30	0.50	-0.08	1.30	+0.06	1.54	-1.43	3.13	-0.12	5.51	+2.37	2.17	+0.25	0.10	-1.06	0.45	-0.68	1.28	+0.77	0.36	-0.06	17.43	+0.53
Drake	0.28	......	0.33	......	0.29	......	1.07	......	1.14	......	1.58	......	4.78	......	0.92	......	0.30	......	0.33	......	0.56	......	0.18	......	11.76	......
Dunseith	0.08	-0.36	0.31	-0.12	0.88	+0.25	0.36	-0.46	1.98	+0.14	1.11	-2.01	2.13	-0.42	2.28	-0.18	T.	-1.74	0.32	-0.63	0.46	-0.09	0.53	+0.11	10.44	-5.51
Eckman	0.46	+0.10	0.27	-0.09	0.65	+0.12	0.90	+0.04	1.95	+0.03	0.70	-2.30	3.01	+0.78	1.72	-0.25	0.06	-1.40	0.73	-0.20	1.85	+1.38	0.42	-0.06	12.72	-1.85
Energy	0.54	+0.23	0.50	+0.05	0.31	-0.46	1.26	+0.30	1.48	-0.68	5.45	+2.05	5.35	+3.00	3.38	+1.45	0.45	-1.02	0.20	-0.74	1.43	+0.99	0.19	-0.26	20.54	+4.91
Fessenden	0.41	-0.07	0.74	+0.24	0.61	-0.14	1.20	-0.05	2.08	-0.23	1.89	-1.80	4.66	+2.33	0.89	-1.42	0.12	-1.52	0.66	-0.43	0.89	+0.20	0.37	-0.23	14.52	-3.12
Fort Yates	0.64	+0.23	0.56	+0.07	0.59	-0.26	0.72	-0.56	1.57	-0.73	1.98	-1.48	2.07	-0.12	0.51	-1.66	1.40	-0.12	0.12	-1.00	0.65	+0.15	0.15	-0.27	10.96	-5.75
Foxholm (near)	0.55	+0.22	0.64	+0.07	0.45	-0.22	1.03	-0.32	1.78	-0.19	1.28	-1.81	3.09	+0.86	1.48	-0.26	0.11	-1.39	0.69	-0.41	1.85	+1.18	0.76	+0.33	13.71	-1.94
Gackle	0.32	......	0.85	......	0.59	......	1.08	......	2.47	......	2.59	......	5.87	......	1.54	......	0.10	......	0.25	......	0.69	......	0.13	......	16.48	......
Garrison	0.45	+0.11	0.59	+0.06	0.61	-0.24	0.77	-0.32	1.61	-0.72	3.95	+0.41	5.59	+3.13	0.93	-1.08	0.26	-1.29	0.43	-0.51	1.56	+1.11	0.25	-0.24	17.00	+0.42
Granville	0.24	-0.12	0.91	+0.47	0.35	-0.15	1.46	+0.65	1.94	0.00	3.28	+0.06	3.64	+1.47	1.07	-0.83	0.04	-1.57	0.64	-0.29	1.10	+0.54	0.36	-0.11	15.03	+0.12
Hansboro	0.32	-0.34	0.66	+0.11	0.88	-0.06	0.96	-0.30	2.14	+0.05	0.81	-2.57	3.24	+0.78	0.88	-1.42	0.00	-1.98	0.59	-0.52	0.14	-0.45	0.19	-0.40	10.81	-7.10
Linton	0.29	-0.09	0.29	-0.19	0.41	-0.38	0.86	-0.39	2.91	+0.50	3.10	-0.06	2.20	+0.07	0.25	-2.12	0.79	-0.81	0.17	-0.94	0.34	-0.16	0.03	-0.35	11.64	-4.92
McClusky	0.23	-0.18	0.56	+0.02	0.31	-0.49	0.68	-0.52	1.76	-0.72	3.23	-0.14	3.80	+1.27	1.94	0.00	0.90	-0.53	1.05	+0.02	0.87	+0.30	0.29	-0.23	15.62	-1.20
Maddock	0.29	-0.01	0.68	+0.30	0.55	+0.02	1.75	+0.62	2.29	+0.18	2.14	-1.23	6.73	+4.14	0.46	-2.01	T	-1.81	0.23	-0.86	0.41	-0.05	0.21	-0.13	15.74	-0.84
Mandan	0.54	+0.19	1.06	+0.70	0.64	-0.21	0.97	-0.20	2.42	-0.02	3.11	-0.18	2.90	+0.52	0.72	-1.00	1.25	-0.24	0.21	-0.78	1.04	+0.53	0.18	-0.29	16.02	-0.98
Manfred	0.37	-0.12	0.51	+0.05	0.69	-0.09	1.22	-0.02	1.80	-0.46	2.60	-0.97	5.38	+3.14	1.13	-1.21	0.16	-1.39	0.51	-0.62	0.59	-0.04	0.20	-0.36	15.16	-2.09
Max	0.40	......	0.30	......	0.65	......	1.03	......	2.27	......	4.35	......	6.33	......	0.98	......	0.22	......	0.24	......	1.33	......	0.17	......	18.27	......
Minot	0.49	+0.12	0.51	+0.06	0.45	-0.18	1.09	-0.11	2.42	+0.28	2.49	-0.71	2.88	+0.98	1.37	-0.70	0.15	-1.51	1.18	+0.17	1.67	+1.00	0.52	+0.06	15.22	-0.54
Napoleon	0.49	+0.16	0.54	+0.14	0.85	+0.02	0.88	-0.66	2.81	+0.38	4.52	+1.23	5.30	+2.80	0.53	-1.87	0.12	-1.36	0.25	-0.85	0.90	+0.33	0.21	-0.24	17.40	+0.08
New Salem	0.44	-0.01	0.51	+0.06	0.46	-0.39	0.38	-0.66	2.02	-0.10	4.79	+1.32	2.70	+0.52	0.78	-1.04	0.55	-0.81	0.21	-0.75	0.85	+0.36	0.21	-0.37	13.90	-1.87
Pettibone	0.36	-0.05	1.28	+0.89	0.21	-0.41	1.06	-0.06	1.93	-0.47	1.55	-1.70	5.29	+2.45	0.96	-1.32	0.40	-0.92	0.30	-0.63	0.39	-0.19	0.05	-0.42	13.78	-2.83
Rugby	0.21	......	0.23	......	0.55	......	1.47	......	1.85	......	2.76	......	4.88	......	0.77	......	0.06	......	0.50	......	0.82	......	0.80	......	14.90	......
Ryder	0.51	......	0.40	......	0.35	......	0.69	......	1.90	......	3.55	......	3.01	......	1.52	......	0.09	......	0.63	......	1.39	......	0.22	......	14.26	......
Selfridge	1.07	......	0.78	......	0.40	......	1.02	......	2.25	......	5.39	......	1.69	......	0.35	......	0.40	......	0.10	......	0.69	......	0.35	......	14.49	......
Steele	0.18	-0.28	0.32	-0.12	0.50	-0.31	0.72	-0.44	2.36	-0.31	2.71	-0.80	4.91	+1.92	1.12	-1.27	0.17	-1.35	0.12	-1.05	0.43	-0.10	0.11	-0.46	13.65	-4.57
Tagus	0.22	......	0.35	......	0.32	......	1.30	......	1.57	......	1.95	......	3.92	......	1.09	......	0.15	......	1.08	......	1.43	......	0.29	......	13.67	......
Towner	0.45	+0.01	0.95	+0.51	0.47	-0.26	1.75	+0.88	2.04	-0.10	3.13	-0.02	4.18	+1.77	1.41	-0.62	0.03	-1.73	0.63	-0.36	0.63	+0.11	0.91	+0.47	16.58	+0.66
Turtle Lake	0.37	0.00	0.34	-0.16	0.34	-0.54	0.72	-0.31	1.37	-0.86	3.35	-0.29	5.44	+2.89	1.32	-0.80	0.18	-1.20	0.19	-0.72	1.24	+0.82	0.15	-0.36	15.01	-1.53
Tuttle	0.55	+0.10	0.57	+0.19	0.71	-0.08	1.25	+0.28	2.30	-0.21	2.40	-0.94	6.25	+3.73	0.72	-1.20	0.63	-0.83	0.48	-0.28	0.85	+0.43	0.29	-0.12	17.00	+1.07
Velva	0.38	-0.03	0.59	+0.22	0.26	-0.27	1.31	+0.40	2.32	-0.31	2.33	-0.11	3.95	+1.35	1.20	-0.70	0.13	-0.91	0.42	-0.63	1.26	+0.80	0.36	-0.04	14.51	-0.23
Washburn	0.28	-0.05	0.45	+0.04	0.44	-0.30	0.36	-0.61	1.47	-0.82	4.77	+1.38	6.29	+3.81	2.77	+1.10	0.22	-1.12	0.29	-0.76	1.08	+0.62	0.13	-0.34	18.55	+2.95
Westhope	0.24	-0.08	1.52	+1.31	0.48	-0.05	0.93	+0.13	2.72	+0.89	1.18	-1.85	2.13	-0.04	3.18	+1.18	0.19	-1.24	1.00	+0.14	2.03	+1.51	0.19	-0.11	15.79	+1.79
Willow City	0.22	-0.36	1.00	+0.45	0.68	-0.06	1.07	+0.20	2.00	+0.16	3.35	+0.20	2.70	+0.56	0.70	-1.42	0.03	-1.70	0.46	-0.42	1.09	+0.53	0.28	-0.31	13.58	-2.17
Wishek	0.63	+0.13	0.80	+0.45	1.26	+0.55	1.04	-0.31	1.86	-0.98	3.94	+0.94	2.15	-0.38	0.46	-1.45	0.43	-0.76	0.27	-0.51	0.60	+0.25	0.17	-0.47	13.61	-2.54
Zap	0.44	+0.18	0.84	+0.48	0.22	-0.39	0.55	-0.35	1.33	-1.02	4.17	+0.23	3.64	+1.36	0.47	-1.44	0.30	-1.32	0.39	-0.54	0.84	+0.46	0.06	-0.29	13.25	-2.64
Western Division																										
Alpha	0.67	+0.21	0.56	+0.09	0.18	-0.68	0.27	-0.90	3.06	+0.63	3.22	-0.18	2.26	+0.20	0.42	-1.29	1.34	+0.07	0.41	-0.57	0.41	+0.02	0.33	-0.17	13.13	-2.57
Amidon	0.33	-0.09	0.57	+0.09	0.28	-0.45	0.26	-1.00	3.20	+0.68	5.58	+2.49	1.43	-1.04	0.22	-1.00	0.55	-0.95	0.37	-0.77	0.61	+0.14	0.19	-0.29	13.59	-2.19
Beach	0.54	+0.07	0.75	+0.34	0.69	-0.07	2.06	+0.91	2.19	-0.13	2.57	-1.13	0.98	-0.83	1.00	-0.69	1.76	+0.47	0.61	-0.33	0.51	+0.03	0.27	-0.23	13.93	-1.59
Berthold Agency	0.31	+0.06	0.61	+0.21	0.22	-0.34	0.72	-0.29	1.53	-0.71	3.89	+0.02	3.17	+0.81	1.69	-0.23	0.56	-1.03	0.70	-0.19	2.13	+1.76	0.09	-0.29	15.62	-0.22
Bowman	......	......	......	......	......	......	0.32	-0.80	3.97	+1.68	4.99	+2.04	2.05	-0.08	0.90	-0.90	0.65	-0.63	0.29	-0.69	0.45	+0.06	0.07	-0.29	......	......
Crosby	0.60	+0.19	0.75	+0.39	1.64	+0.97	0.44	-0.54	2.69	+0.75	2.20	-1.16	4.01	+1.90	1.37	-0.62	0.26	-1.13	2.07	+1.23	0.92	+0.32	0.33	-0.18	17.28	+2.12
Dickinson	0.99	+0.57	0.60	+0.17	0.40	-0.34	0.62	-0.46	2.97	+0.64	4.70	+1.33	3.12	+0.95	0.82	-1.17	0.10	-1.22	0.74	-0.24	1.41	+0.94	0.18	-0.32	16.65	+0.85
Dunn Center	0.27	-0.12	0.68	+0.18	0.41	-0.42	0.82	-0.44	2.72	+0.33	3.69	-0.18	4.46	+2.23	2.35	+0.64	0.42	-1.02	0.60	-0.31	1.43	+0.97	0.11	-0.35	17.96	+1.51
Epping	0.44	0.00	0.76	+0.35	0.42	-0.17	0.80	-0.23	2.85	+0.67	2.50	-1.07	3.45	+1.47	1.91	+0.21	0.28	-1.11	1.47	+0.68	0.69	+0.25	0.18	-0.27	15.75	+0.78
Fryburg	1.05	+0.60	0.68	+0.21	0.66	-0.12	0.55	-0.62	3.23	+0.84	6.52	+3.22	2.39	+0.20	0.65	-1.31	0.61	-0.76	0.55	-0.50	1.03	+0.54	0.22	-0.29	18.14	+2.01
Hettinger	0.80	+0.50	0.30	-0.12	0.11	-0.59	0.13	-0.84	2.88	+0.50	2.52	-0.68	2.34	-0.02	0.20	-1.43	1.55	+0.15	0.25	-0.52	0.89	+0.47	0.21	-0.19	12.18	-2.77
Howard (near)	1.02	+0.51	1.20	+0.64	1.69	+0.79	T.	-1.12	4.57	+2.30	3.00	-0.06	5.12	+3.29	1.28	-0.36	0.62	-0.76	1.38	+0.59	1.14	+0.59	0.52	-0.11	21.54	+6.30
Kenmare	0.34	-0.01	0.58	+0.21	0.49	-0.14	0.63	-0.32	1.88	-0.08	1.51	-1.55	3.54	+1.25	1.68	-0.26	0.09	-1.52	1.76	+0.70	1.43	+0.88	0.51	+0.05	14.44	-0.79
Marmarth	0.35	-0.05	0.37	-0.07	0.33	-0.39	0.41	-0.61	4.41	+2.09	2.95	-0.11	2.54	+0.66	0.57	-1.17	1.71	+0.42	0.28	-0.57	0.58	+0.19	0.13	-0.28	14.63	+0.11
Mary	1.17	......	0.84	......	0.72	......	0.42	......	1.81	......	2.78	......	2.83	......	1.34	......	0.37	......	0.70	......	0.37	......	0.32	......	13.67	......
Medora	0.47	-0.05	0.70	+0.22	0.34	-0.56	0.56	-0.47	2.37	-0.19	5.32	+2.16	1.37	-0.79	0.30	-1.41	0.74	-0.41	0.51	-0.22	0.63	+0.17	0.15	-0.30	13.46	-1.85
Mott	1.16	+0.52	0.52	-0.10	0.23	-0.70	0.16	-1.05	2.32	-0.08	6.14	+2.92	3.06	+0.92	0.59	-1.34	1.19	-0.22	0.25	-0.69	0.89	+0.41	0.15	-0.45	16.66	+0.14
New England	0.81	+0.31	1.07	+0.58	0.41	-0.37	0.18	-0.83	3.61	+1.63	3.91	+0.95	4.94	+2.87	0.33	-1.37	0.30	-1.08	0.85	+0.01	1.14	+0.70	0.18	-0.23	17.73	+3.17
Parshall (near)	0.33	+0.09	0.38	-0.04	0.41	-0.10	0.82	-0.13	2.56	+0.39	3.99	+0.43	4.07	+2.07	1.47	-0.49	0.71	-0.83	1.02	+0.21	1.84	+1.47	0.14	-0.26	17.74	+2.81
Portal	0.35	-0.07	0.93	+0.53	0.80	+0.20	0.53	-0.44	1.71	-0.35	1.47	-1.82	1.77	-0.34	3.23	+1.34	0.20	-1.39	1.55	+0.66	1.36	+0.81	0.45	-0.02	14.35	-0.89
Powers Lake	0.77	+0.26	0.32	-0.14	0.72	+0.03	1.01	-0.20	3.00	+0.82	3.34	-0.26	3.54	+0.95	3.39	+1.62	0.31	-1.20	1.88	+0.66	1.44	+0.95	0.61	+0.05	20.33	+3.54
Richardton	1.19	+0.81	1.03	+0.63	0.34	-0.38	0.36	-0.78	2.66	+0.08	5.13	+1.72	6.69	+4.44	1.09	-0.86	0.08	-1.28	0.54	-0.34	1.57	+1.09	0.30	-0.09	20.98	+5.04
Sanish	0.64	-0.10	0.64	+0.21	0.35	-0.23	0.56	-0.51	1.90	+0.63	1.80	-1.06	3.81	+2.11	0.77	-0.54	0.48	-0.32	1.02	+0.40	1.61	+1.14	0.26	-0.35	13.84	+1.38
Stanley	0.21	......	0.64	......	0.37	......	1.10	......	2.85	......	2.55	......	2.83	......	1.78	......	0.46	......	1.93	......	1.51	......	0.23	......	16.46	......
Tioga	0.56	......	0.80	......	0.55	......	0.89	......	2.41	......	3.53	......	3.05	......	1.57	......	0.17	......	0.67	......	1.09	......	0.15	......	15.44	......
Trotters	1.03	+0.63	0.87	+0.50	0.85	+0.09	0.50	-0.53	1.84	-0.48	2.41	-1.07	1.86	+0.30	3.35	+1.84	1.33	+0.08	0.92	+0.09	0.99	+0.55	0.18	-0.22	16.13	-1.78
Watford City	0.97	+0.50	1.03	+0.61	0.83	+0.15	0.63	-0.53	2.05	+0.08	2.61	-0.59	4.11	+2.28	1.91	+0.20	0.56	-0.76	1.30	+0.43	0.84	+0.34	0.30	-0.24	17.14	+2.47
Wildrose	0.60	......	0.79	......	0.76	......	0.47	......	2.84	......	1.20	......	2.03	......	2.17	......	0.27	......	1.71	......	1.02	......	0.36	......	14.22	......
Williston	0.83	+0.29	0.93	+0.52	1.12	+0.43	0.90	-0.30	1.19	-0.87	3.13	-0.30	3.01	+1.12	1.70	+0.23	0.49	-0.60	1.26	+0.40	0.68	+0.10	0.47	-0.11	15.71	+0.91

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace

Monthly and Annual Mean Temperatures for the Year 1938, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Eastern Division																										
Amenia	7.8	+2.9	4.8	−4.0	32.9	+8.3	40.6	−1.4	50.7	−3.3	64.8	+1.4	74.2	+5.5	......	......	63.7	+6.4	50.6	+6.0	......	......	......	......	......	......
Cavalier	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	21.2	......	13.0	......	......	......
Cooperstown	6.4	−0.2	8.3	−1.1	35.4	+12.0	45.0	+4.3	50.0	−2.3	60.8	−1.6	66.5	−1.7	67.9	+1.7	58.0	+1.7	47.8	+4.4	20.6	−7.0	11.4	−0.9	39.8	+0.7
Devils Lake	4.6	+2.8	5.3	+0.2	33.0	+13.2	41.4	+2.6	50.6	−2.0	62.9	+1.0	68.9	+1.5	69.1	+4.3	60.5	+4.6	49.4	+7.0	21.2	−3.3	15.2	+5.7	40.2	+3.2
Edgeley	8.7	−0.1	9.4	−3.3	34.0	+6.7	45.6	+2.9	52.0	−1.7	65.4	+2.5	72.2	+3.4	73.8	+6.9	62.6	+5.0	53.7	+8.4	26.8	−3.0	20.2	+5.6	43.7	+2.8
Edmore	4.0	+2.7	4.6	−2.6	32.6	+11.6	40.2	−0.4	50.4	−2.0	61.7	−1.3	66.9	+0.5	f68.7	+5.0	62.6	+7.1	48.8	+6.6	20.8	−4.0	13.2	+4.3	39.5	+2.3
Ellendale	9.2	−1.5	10.8	+0.1	34.2	+8.6	45.4	+1.8	53.4	−2.3	66.4	+0.4	71.6	+0.9	73.0	+4.2	62.3	+3.9	52.4	+6.8	25.6	−0.5	19.4	+2.6	43.6	+2.0
Fargo	6.6	......	9.3	......	34.8	......	43.3	......	52.2	......	64.4	......	70.8	......	72.1	......	60.8	......	51.6	......	23.6	......	15.2	......	42.1	......
Forman	7.7	−1.8	9.2	−3.9	33.6	+6.0	44.8	+0.6	53.0	−2.4	65.0	+0.2	70.3	+0.2	72.4	+4.2	60.4	+1.7	50.9	+4.8	23.9	−6.1	16.8	+1.5	42.3	+0.4
Fullerton	9.3	+0.4	10.4	−1.6	34.4	+7.6	45.5	+2.7	52.8	−1.2	66.2	+2.8	72.6	+3.6	74.2	+7.1	61.8	+4.6	52.1	+7.3	25.9	−3.3	21.2	+6.8	43.9	+3.1
Grafton	4.4	+2.2	7.0	+0.3	34.8	+13.6	40.8	+0.2	53.6	+0.3	64.0	+1.2	70.4	+2.7	72.4	+7.2	63.2	+6.9	52.7	+10.6	23.3	−1.4	15.4	+6.5	41.8	+4.2
Grand Forks	3.7	+0.2	6.8	−0.8	34.0	+11.6	41.2	−0.5	51.6	−2.1	63.2	+0.2	69.6	+2.1	70.4	+5.0	60.2	+3.8	50.0	+6.4	21.2	−4.8	13.3	+2.7	40.4	+2.0
Hankinson	7.8	......	11.0	......	34.0	......	43.8	......	52.6	......	64.0	......	71.8	......	73.6	......	62.4	......	52.9	......	24.1	......	19.0	......	43.1	......
Hannah	1.4	+2.5	2.8	+0.3	29.9	+11.1	38.2	+0.1	49.7	−0.9	60.4	+0.5	67.1	+2.4	66.6	+3.7	59.0	+5.0	47.8	+7.2	17.6	−2.7	11.4	+4.6	37.6	+2.8
Hillsboro	6.8	+2.2	8.9	−1.4	36.0	+10.4	43.4	+0.6	53.4	−0.5	65.1	+0.9	70.8	+1.2	72.4	+4.9	60.2	+1.6	50.0	+4.8	22.3	−5.5	13.9	+2.7	41.9	+1.8
Jamestown	7.8	+0.8	8.0	−1.6	34.2	+10.2	44.6	+2.5	51.9	−1.6	65.0	+1.8	71.2	+2.7	71.1	+4.7	61.7	+5.2	51.6	+7.1	24.4	−2.9	19.2	+5.8	42.6	+2.9
Langdon	2.1	+3.0	4.8	0.0	32.4	+12.8	39.4	+1.6	50.8	−0.1	61.8	+1.9	67.4	+2.8	67.8	+5.3	61.4	+9.1	49.8	+8.9	20.1	−3.9	12.2	+3.9	39.2	+3.8
Larimore	5.0	+1.4	7.4	+0.1	35.3	+13.0	42.0	+1.6	52.2	−0.4	63.7	+1.3	69.6	+2.6	71.2	+6.2	62.0	+6.7	51.8	+7.9	24.0	−1.8	15.6	+4.6	41.6	+3.6
Lisbon	7.6	+0.3	10.1	−1.1	35.4	+8.3	43.2	+0.8	54.0	+0.1	65.6	+2.1	71.4	+2.1	72.8	+5.8	60.6	+3.1	52.8	+9.0	26.6	−2.3	18.9	+4.8	43.2	+2.7
McHenry	5.2	+3.7	4.2	−1.6	32.0	+8.8	41.2	0.0	50.2	−2.1	61.6	−0.6	67.0	−0.7	68.0	+2.9	59.2	+4.1	48.7	+5.8	19.8	−7.6	13.8	+4.3	39.2	+1.4
McLeod	7.4	−1.0	11.4	−1.9	35.6	+7.9	43.6	−0.6	53.7	−0.8	65.1	+0.6	72.3	+2.1	72.6	+4.7	60.4	+1.4	52.3	+6.1	26.4	−3.9	18.8	+4.4	43.3	+1.6
Mayville	6.4	+0.6	9.5	0.0	36.8	+12.3	45.0	+2.0	51.9	−2.8	61.4	−2.6	71.4	+2.4	73.8	+6.8	64.6	+7.2	54.4	+8.5	24.4	−3.8	14.6	+1.7	42.8	+2.6
Oakes	9.0	......	9.8	......	34.0	......	45.2	......	53.2	......	66.1	......	71.0	......	73.4	......	61.2	......	52.4	......	26.1	......	20.4	......	43.5	......
Park River	3.2	+0.5	5.7	−2.0	32.8	+9.7	40.7	−0.6	51.0	−2.0	62.0	−0.9	66.9	−1.0	68.9	+2.7	59.2	+2.6	49.4	+5.6	21.2	−6.6	13.4	+2.9	39.5	+0.9
Pembina	0.9	+3.3	5.2	+2.2	31.9	+13.7	39.4	+0.8	52.6	−0.2	63.0	+0.3	68.8	+1.3	70.2	+5.9	59.2	+5.1	49.8	+8.4	19.8	−3.5	11.6	+5.3	39.4	+3.5
Sharon	4.6	+0.3	6.2	−5.2	33.2	+8.6	41.6	+1.7	50.2	−3.7	62.4	−1.2	69.1	−1.8	70.0	+2.7	61.0	+4.4	50.0	+7.1	21.8	−2.7	14.6	+4.0	40.4	+1.2
Valley City	7.5	+2.0	9.5	−2.0	35.9	+9.9	45.2	+2.6	53.4	−0.1	64.6	+1.5	69.6	+0.9	71.1	+4.3	60.7	+2.5	51.8	+7.2	25.2	−2.8	18.6	+4.9	42.8	+2.6
Wahpeton	8.2	−0.2	12.4	+0.4	35.9	+8.4	45.7	+1.3	54.4	−1.2	67.6	+2.5	71.3	+1.5	73.8	+5.9	61.7	+2.5	54.4	+7.8	27.0	−1.8	19.0	+3.7	44.3	+2.6
Moorhead, Minn.	6.3	+2.5	9.8	+1.7	34.8	+12.1	43.6	+3.0	52.5	−2.6	64.8	+0.4	71.2	+3.1	72.5	+6.4	61.1	+2.9	52.1	+7.6	24.2	−2.9	16.1	+4.6	42.4	+3.2
Middle Division																										
Ashley	9.6	+1.0	8.9	−2.2	33.0	+8.7	45.4	+2.8	52.4	−1.1	64.5	+2.1	69.8	+1.1	71.4	+4.9	61.2	+3.9	49.8	+5.7	22.8	−5.2	18.6	+4.4	42.3	+2.2
Bisbee	4.6	......	1.6	......	32.0	......	39.6	......	50.1	......	61.4	......	68.0	......	68.0	......	60.4	......	48.7	......	20.3	......	14.0	......	39.1	......
Bismarck	12.5	+4.7	7.8	−2.5	34.4	+10.2	46.3	+4.2	53.6	−0.9	66.8	+3.1	72.0	+2.2	71.4	+4.1	63.6	+5.5	52.6	+7.7	25.8	−2.7	21.8	+7.1	44.0	+3.5
Bottineau	6.4	+5.8	5.3	+1.1	32.0	+11.9	39.4	+0.3	51.7	+0.4	62.4	+1.1	68.4	+1.8	70.0	+5.9	61.4	+6.5	50.3	+9.3	21.6	−2.0	14.0	+6.6	40.2	+4.0
Carrington	10.4	+3.7	6.2	−2.5	35.2	+11.8	43.0	+3.4	51.6	−0.9	63.8	+0.8	70.0	+1.3	70.4	+3.6	61.0	+4.4	49.6	+5.8	22.8	−5.0	13.8	+2.1	41.5	+2.4
Carson	15.0	+6.0	9.3	−6.1	33.7	+7.4	45.9	+3.2	53.8	+0.7	67.4	+5.0	71.2	+2.4	72.9	+5.0	64.3	+7.9	53.4	+10.1	26.0	−4.0	22.0	+7.3	44.6	+3.8
Center	......	......	......	......	......	......	42.8	......	50.8	......	65.5	......	68.9	......	67.5	......	61.2	......	49.3	......	23.4	......	18.0	......	......	......
Dogden Butte	9.6	+2.1	7.4	−7.1	32.9	+6.5	42.8	+1.4	52.0	−2.6	63.6	+0.9	67.6	−1.5	68.0	+1.0	62.4	+6.1	51.1	+7.1	23.6	−2.8	18.6	+5.5	41.6	+1.4
Drake	8.2	......	5.0	......	33.2	......	41.6	......	51.6	......	63.2	......	69.4	......	68.8	......	61.4	......	49.8	......	23.0	......	17.0	......	41.0	......
Dunseith	6.2	+3.7	7.0	+0.6	32.0	+11.8	40.8	+0.9	50.8	−1.3	62.6	+1.7	67.9	+2.0	66.8	+2.9	61.0	+6.6	48.9	+7.5	19.8	−4.6	13.9	+4.8	39.8	+3.0
Eckman	6.0	+2.9	4.0	−3.6	33.0	+10.1	41.4	+0.8	51.6	+0.2	62.5	+0.9	69.0	+2.2	67.8	+3.6	61.3	+6.1	49.8	+8.0	21.4	−4.4	16.2	+6.9	40.3	+2.8
Energy	11.9	+2.3	6.0	−9.9	33.6	+4.6	45.0	+1.0	52.7	−3.4	65.6	+1.1	69.6	−2.4	68.2	−0.2	62.2	+4.8	52.2	+8.0	25.6	−2.9	21.0	+6.6	42.8	+0.8
Fessenden	6.2	+1.7	3.6	−6.5	32.4	+9.0	42.4	+1.7	51.4	−0.6	63.2	+1.5	68.7	+0.7	68.7	+2.8	60.6	+4.9	51.2	+8.2	24.6	−2.5	17.4	+6.8	40.9	+2.3
Fort Yates	10.1	+0.9	9.2	−2.6	33.0	+6.7	46.1	+1.2	52.6	−3.5	67.3	+1.1	71.4	−0.3	72.6	+3.3	63.0	+3.2	52.4	+6.0	27.7	−2.1	22.0	+3.6	44.0	+1.5
Foxholm (near)	9.4	+3.1	5.9	−7.5	32.8	+7.6	41.6	+0.7	50.9	−3.1	63.0	+0.9	69.0	−0.4	68.0	+1.8	61.8	+6.8	51.3	+9.5	23.8	−1.5	19.0	+6.6	41.4	+2.1
Gackle	8.2	......	8.0	......	32.0	......	46.2	......	53.2	......	65.1	......	70.2	......	71.6	......	61.5	......	51.8	......	22.4	......	16.3	......	42.2	......
Garrison	10.8	+3.2	4.8	−6.1	32.8	+9.0	43.5	+1.2	52.3	−0.4	64.0	+1.8	68.6	+0.4	68.0	+1.9	62.2	+7.3	51.4	+8.7	24.4	−1.9	19.4	+5.7	41.9	+2.6
Granville	7.9	+3.3	5.4	−4.7	34.3	+10.2	41.6	+0.8	51.3	−0.3	63.2	+1.0	69.2	+1.7	69.4	+4.5	60.9	+6.1	50.8	+7.5	22.3	−4.4	18.4	+6.4	41.2	+2.6
Hansboro	3.6	+3.7	4.1	−1.7	31.6	+11.0	39.8	+0.9	50.7	0.0	61.6	+1.2	68.4	+3.2	68.2	+5.8	60.0	+6.5	48.3	+7.6	20.3	−3.2	14.4	+6.4	39.2	+3.4
Linton	8.6	−0.9	7.4	−7.1	32.7	+5.0	46.8	+4.1	53.8	−0.4	66.4	+2.1	70.8	−0.5	72.0	+2.8	62.1	+3.6	52.2	+7.5	24.5	−4.5	20.4	+6.5	43.1	+1.5
McClusky	8.3	+2.3	5.0	−8.2	30.8	+4.7	43.0	+1.9	52.2	−1.4	64.8	+2.6	72.5	+2.6	70.2	+3.4	62.6	+6.4	51.6	+9.2	23.8	−1.7	17.0	+5.0	41.8	+2.2
Maddock	5.8	+1.0	3.8	−7.3	32.9	+8.3	41.7	+0.7	51.9	−0.8	63.2	+2.1	67.2	−0.4	69.0	+3.3	61.6	+5.9	51.2	+8.3	22.0	−4.6	15.4	+5.4	40.5	+1.9
Mandan	11.6	+3.3	7.2	−5.7	33.7	+7.0	45.6	+2.9	53.0	−0.9	66.5	+3.2	70.8	+0.2	70.7	+2.6	62.9	+5.5	51.8	+7.8	25.6	−3.6	21.4	+7.7	43.4	+2.5
Max	9.0	......	3.4	......	31.2	......	41.1	......	50.6	......	63.0	......	68.7	......	67.2	......	58.8	......	48.0	......	21.6	......	16.8	......	40.0	......
Minot	11.0	+4.8	7.8	−1.9	34.8	+12.0	42.6	+1.8	52.4	+0.2	64.5	+2.2	70.5	+2.6	69.4	+4.4	63.6	+7.7	51.3	+8.0	24.2	−3.3	19.0	+7.1	42.6	+3.8
Mohall	9.8	+5.2	4.8	−2.3	33.4	+12.5	......	......	......	......	......	......	69.4	+3.1	68.0	+4.1	61.2	+7.2	48.9	+7.2	23.6	−1.2	17.2	+6.2	......	......
Napoleon	9.8	+3.4	7.2	−1.1	31.0	+8.3	44.8	+3.4	51.4	−1.0	64.2	+1.8	68.6	0.0	71.2	+4.8	62.6	+5.9	51.8	+8.1	23.8	−2.9	19.6	+7.0	42.2	+3.2
New Salem	11.6	+2.5	6.5	−6.6	31.3	+5.4	42.8	+0.4	51.3	−1.1	64.4	+1.5	69.2	−0.7	69.6	+2.4	62.0	+4.5	51.8	+7.0	25.4	−4.4	21.0	+5.7	42.2	+1.3
Pettibone	6.8	+3.8	4.2	−4.6	30.0	+5.7	43.5	+2.6	51.0	−0.8	64.1	+2.6	69.5	+1.5	72.4	+4.1	61.3	+6.1	50.2	+8.4	22.0	−4.4	15.4	+4.9	40.9	+2.5
Rolla	4.6	......	5.6	......	31.9	......	40.2	......	51.2	......	62.0	......	68.6	......	67.6	......	60.9	......	48.8	......	20.6	......	14.8	......	39.7	......
Steele	7.8	+0.5	5.6	−3.8	30.0	+5.9	43.6	+0.4	50.6	−2.8	63.7	+1.2	69.6	+0.2	70.1	+3.4	61.3	+4.4	49.5	+5.7	22.3	−4.0	16.4	+4.1	40.9	+1.3
Towner	7.0	+3.2	5.4	−2.3	33.8	+11.7	43.8	+1.9	52.5	−0.7	63.8	+1.0	70.8	+2.8	69.6	+4.2	62.4	+6.2	50.9	+7.5	22.4	−2.8	17.6	+7.5	41.7	+3.4
Turtle Lake	10.0	+2.2	5.0	−6.8	32.4	+7.6	43.8	+2.3	52.7	−0.1	65.5	+3.7	69.9	+1.6	70.2	+3.8	65.4	+9.1	52.2	+8.9	26.0	−2.2	19.8	+8.2	42.7	+3.1
Velva	9.9	+4.0	7.4	−6.5	34.6	+7.8	43.6	+1.5	52.8	−3.1	64.4	−0.1	68.8	−2.6	68.8	+0.9	62.2	+5.1	51.5	+7.6	24.1	−3.5	19.5	+4.4	42.3	+1.3
Washburn	10.4	+3.0	5.8	−3.7	32.9	+8.5	45.4	+1.6	53.4	−0.4	66.3	+2.2	70.8	+1.3	69.4	+2.0	62.8	+4.3	51.9	+7.4	25.6	−4.7	20.4	+6.4	42.9	+2.3
Westhope	6.2	+4.9	4.6	−2.4	33.6	+11.6	40.1	+0.2	54.2	+2.4	62.9	+0.9	69.2	+2.4	68.5	+3.8	61.4	+6.5	48.2	+6.1	22.2	−3.4	14.8	+4.8	40.5	+3.2
Willow City	4.8	+3.9	2.6	−2.3	30.6	+10.9	40.6	+1.0	50.8	−0.7	61.6	+0.6	68.0	+2.3	67.3	+3.7	60.6	+6.4	47.6	+6.2	18.6	−4.0	13.0	+4.3	38.8	+2.6
Wishek	d 7.6	+0.6	e6.9	−2.1	d31.4	+5.1	45.3	+3.4	52.8	+2.1	64.0	+1.7	68.8	+0.2	69.3	+3.5	59.2	+3.6	49.8	+5.9	23.5	−6.3	17.8	+4.8	41.4	+1.9
Western Division																										
Amidon	20.4	+6.3	12.2	−5.2	33.6	+5.7	44.0	+2.8	52.4	−0.4	65.2	+4.2	69.8	−0.3	71.6	+3.7	64.2	+7.1	52.4	+8.8	26.4	−4.5	23.2	+6.1	44.6	+2.8
Beach	20.2	+9.1	11.5	−4.7	33.4	+6.2	43.5	+1.5	53.0	+1.6	65.4	+3.7	71.1	+2.6	67.6	+1.2	63.4	+7.0	51.2	+7.6	27.2	−3.8	23.3	+6.3	44.2	+3.2
Berthold Agency	10.2	+1.6	5.7	−6.5	30.4	+4.4	42.6	−0.9	52.2	−1.9	64.0	+1.2	68.4	−0.8	67.2	−0.5	65.8	+8.9	54.4	+9.8	25.9	−2.6	21.0	+5.6	42.3	+1.5
Bowman	......	......	......	......	......	......	m46.3	+3.7	50.6	−1.6	65.1	+2.6	70.1	+0.7	70.9	+3.2	63.2	+6.4	50.8	+6.8	25.8	−4.8	23.1	+8.0	......	......
Crosby	10.2	+6.6	5.8	−3.6	32.2	+8.7	40.8	+0.6	51.1	−0.1	63.0	+1.9	67.8	+1.0	65.9	+1.3	61.6	+7.5	49.0	+7.2	23.8	−2.9	18.6	+7.0	40.8	+2.9
Dickinson	14.9	+4.4	6.2	−6.9	30.3	+5.0	41.8	−0.3	51.3	−0.9	63.8	+2.1	68.2	0.0	67.4	+1.1	61.0	+5.0	49.6	+6.0	24.0	−4.3	20.8	+4.4	41.6	+1.3
Dunn Center	12.8	−1.0	7.0	−7.6	30.6	+5.1	40.8	−1.0	50.0	−2.7	63.2	+1.2	68.3	+0.3	65.8	−0.4	59.3	+3.1	50.8	+6.4	25.1	−2.8	20.7	+3.0	41.2	+0.3
Epping	12.0	+4.0	6.4	−4.4	31.2	+7.2	41.4	−0.8	52.9	+0.1	65.0	+2.5	70.0	+2.0	68.4	+2.5	63.0	+7.6	50.0	+6.6	25.2	−2.7	19.0	+5.4	42.0	+2.5
Fryburg	18.4	......	10.2	......	31.8	......	43.6	......	51.8	......	64.6	......	69.5	......	69.6	......	64.0	......	51.8	......	26.6	......	23.2	......	43.7	......
Hettinger	21.2	+8.2	12.0	−4.5	33.8	+5.2	44.8	+2.0	52.6	−1.0	66.7	+3.8	72.2	+2.1	72.2	+3.4	63.4	+5.8	53.6	+8.0	28.4	−3.2	25.1	+8.3	45.5	+3.2
Howard (near)	9.8	+5.4	3.4	−5.6	29.2	+7.3	41.2	+2.1	50.5	+0.7	62.2	+2.0	66.6	+0.6	65.8	+0.9	61.0	+6.7	47.6	+6.0	24.1	−2.2	17.5	+5.9	39.9	+2.5
Kenmare	11.4	......	8.0	......	34.4	......	40.8	......	51.3	......	63.8	......	69.6	......	68.2	......	62.0	......	51.4	......	24.8	......	19.6	......	42.1	......
Marmarth	20.2	+7.4	12.0	−5.7	34.8	+7.1	44.1	+1.1	53.4	+2.2	66.4	+4.4	71.3	+1.9	69.9	+2.6	61.8	+5.3	51.8	+6.3	26.9	−4.5	24.1	+7.3	44.7	+2.9
Mott	17.9	+9.1	9.8	−3.7	34.2	+7.3	44.9	+3.1	52.6	−0.9	66.3	+1.9	70.9	+0.6	70.4	+3.3	62.2	+5.6	52.0	+8.7	27.2	−2.0	23.3	+9.5	44.3	+3.5
New England	17.8	+4.4	11.4	−2.7	33.2	+8.0	44.4	+2.1	52.8	+0.8	67.4	+4.8	73.8	+5.0	71.8	+4.9	64.2	+7.8	51.1	+7.7	25.9	−3.2	22.8	+6.3	44.7	+3.8
Parshall	9.2	......	4.4	......	30.8	......	38.9	......	50.0	......	63.2	......	66.8	......	65.6	......	59.0	......	49.6	......	22.2	......	18.0	......	39.8	......
Portal	9.0	+6.5	6.0	+0.6	32.3	+14.6	40.8	−0.6	51.0	+0.5	63.6	+4.4	68.4	+2.2	66.1	+1.9	61.4	+7.0	46.4	+5.0	22.1	−3.3	16.8	+4.6	40.3	+3.6
Powers Lake	13.8	+6.1	9.2	−3.5	37.0	+12.0	40.0	−0.3	50.8	−2.4	64.2	+2.9	69.6	−1.2	68.6	+3.4	62.6	+7.6	52.6	+9.0	22.4	−2.6	18.0	+3.9	42.4	+2.9
Richardton	16.0	+5.8	9.5	−5.7	32.1	+5.0	43.6	+2.5	51.6	−1.0	64.8	+2.2	69.6	−0.5	69.7	+1.6	64.2	+7.4	53.2	+9.8	26.2	−2.1	22.6	+8.6	43.6	+2.8
Sanish	9.0	+4.7	5.9	−3.5	30.4	+5.9	42.8	+1.0	52.6	−2.4	64.8	+1.1	69.2	−1.4	68.9	+1.4	62.9	+6.3	51.0	+7.7	23.4	−5.2	20.0	+8.6	41.7	+2.0
Stanley	9.0	......	5.3	......	30.7	......	40.7	......	50.0	......	62.7	......	67.3	......	66.8	......	60.8	......	48.8	......	22.2	......	17.0	......	40.1	......
Watford City	13.6	+4.6	9.2	−4.7	32.8	+7.5	44.7	+3.6	54.2	+1.5	67.0	+5.3	71.3	+2.0	69.6	+2.3	64.4	+8.1	52.0	+9.1	26.8	−1.5	21.9	+8.9	44.0	+3.9
Williston	14.1	+7.7	7.8	−0.3	32.7	+9.8	43.4	+1.4	53.2	−0.8	65.4	+2.7	70.8	+1.9	68.3	+2.2	63.8	+7.2	51.2	+7.8	26.0	−1.2	21.2	+7.4	43.2	+3.9

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. a, 1 day missing, b, 2 days missing, etc.

[Continued from page 49]

October.—The month was warm and dry. It was the warmest October since state-wide records began in 1892. Killing frost did not occur at some stations until the 19th. Precipitation was considerably below the average in the eastern and central divisions, but was slightly above the seasonal average in the western division. The snowfall was light, except in extreme northwestern counties where from 6 to 12 inches fell. An unusually large number of smoky days occurred during the month. Pastures and ranges were dry and livestock shipments were heavy.

November.—The temperature averaged below normal at all stations and sub-zero readings were recorded on many dates between the 20th and 27th. The precipitation was slightly above normal in all but the eastern section where most stations reported sub-normal amounts. The first heavy snowfall of the season occurred at many stations on the 10th–12th. Except for a few stormy days, the weather was excellent for outdoor work and for livestock.

December.—All sections of the State reported above normal temperatures. It was the warmest December since 1931 and sub-zero readings did not occur at most stations until the 26th. The precipitation was light in all sections. With practically no snow cover, livestock ranged freely on pastures, ranges, and harvested fields, thus, saving considerable feed, though some yard feeding was necessary.

COMPARATIVE ANNUAL DATA FOR THE STATE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892...	37.8	108	−52	20.24	21.00	13.79	18.34	34.9	70	157	95	114
1893...	35.8	112	−54	18.02	16.33	13.19	15.85	46.1	65	154	104	107
1894...	40.3	107	−47	17.45	14.55	14.84	15.61	24.6	56	174	100	91
1895...	37.7	104	−50	18.41	16.97	16.69	17.36	20.9	63	155	117	93
1896...	37.3	107	−42	26.30	21.67	19.97	22.65	48.3	80	143	111	112
1897...	37.8	109	−48	18.75	16.04	13.26	16.02	33.9	63	162	105	98
1898...	39.2	106	−38	18.97	15.55	13.92	16.15	22.7	57	159	108	98
1899..	36.9	109	−48	17.40	19.48	15.98	17.62	26.6	60	161	105	99
1900...	40.9	114	−48	21.61	18.70	16.88	19.06	23.2	62	178	97	90
1901...	40.4	110	−43	24.35	17.54	16.33	19.41	20.2	63	175	92	98
1902...	39.4	106	−39	21.66	18.50	17.89	19.35	29.9	62	160	79	126
1903...	38.3	108	−49	20.18	18.27	19.28	19.24	28.8	65	166	81	118
1904...	37.6	103	−52	21.59	18.26	13.59	17.81	38.1	68	150	73	143
1905...	39.3	107	−46	23.23	19.17	14.34	18.91	29.6	66	152	79	134
1906...	39.4	109	−40	21.14	17.68	21.28	20.03	35.4	78	164	93	108
1907...	36.9	104	−49	17.17	13.06	12.69	14.31	33.7	63	175	101	89
1908...	40.7	104	−41	18.84	17.77	19.05	18.55	43.7	75	164	97	105
1909...	38.2	109	−48	21.79	15.89	16.61	18.10	33.5	71	143	110	112
1910...	41.1	114	−50	11.88	12.17	13.56	12.54	21.0	52	180	92	93
1911...	38.0	108	−43	21.73	18.60	14.94	18.42	36.5	76	160	100	105
1912...	38.2	124	−52	22.72	19.73	18.71	20.39	19.3	74	161	102	103
1913...	40.0	106	−54	17.85	13.39	12.70	14.65	19.4	64	166	104	95
1914...	40.1	109	−47	19.81	19.57	17.53	18.97	30.0	70	155	110	100
1915...	39.7	104	−48	21.06	19.06	17.72	19.28	21.2	72	148	101	116
1916...	36.2	105	−56	24.11	18.88	16.63	19.87	54.2	70	170	97	99
1917...	36.3	114	−48	12.61	10.44	9.20	10.75	40.5	60	154	111	100
1918...	40.0	102	−44	18.01	16.00	14.01	16.01	29.7	63	159	104	102
1919...	38.6	108	−44	20.55	14.71	11.51	15.59	47.2	60	165	107	93
1920...	39.5	108	−44	17.67	14.26	13.92	15.28	27.9	64	166	108	92
1921...	42.0	110	−33	23.05	18.96	16.30	19.44	29.4	74	158	111	96
1922...	39.7	115	−46	21.97	19.09	18.62	19.89	42.8	75	155	100	110
1923...	40.7	103	−40	19.12	16.65	17.60	17.79	30.1	64	160	110	95
1924...	38.2	105	−46	20.23	16.39	14.74	17.12	26.1	66	158	101	107
1925...	40.6	111	−39	21.91	14.74	13.29	16.65	19.7	64	158	107	100
1926...	40.7	108	−36	18.05	14.40	13.65	15.37	23.7	68	151	105	109
1927...	38.0	101	−44	22.72	21.25	20.56	21.51	36.2	79	150	102	113
1928...	41.1	107	−41	20.03	18.12	15.48	17.88	17.3	59	177	101	88
1929...	38.0	109	−44	15.09	13.27	14.57	14.31	41.8	65	171	98	96
1930...	41.4	107	−43	17.13	14.19	13.36	14.89	25.0	66	166	101	98
1931...	44.9	111	−31	18.48	14.10	12.41	15.00	18.0	56	180	92	93
1932...	40.0	108	−34	18.43	16.39	16.71	17.18	34.9	69	156	108	102
1933...	41.1	110	−45	14.01	12.74	13.59	13.45	42.2	65	161	104	100
1934...	43.4	112	−44	13.33	8.61	6.60	9.51	15.2	54	160	109	96
1935...	39.4	110	−44	21.24	17.97	14.91	18.04	33.3	77	137	113	115
1936...	38.8	121	−60	10.09	8.21	8.18	8.83	35.2	59	171	110	85
1937...	39.1	111	−44	20.10	17.37	13.63	17.03	36.0	69	150	111	104
1938...	41.9	109	−41	15.27	14.60	16.13	15.33	30.6	73	149	116	100
Period	39.4	124	−60	19.26	16.39	15.11	16.92	31.0	66	161	101	103

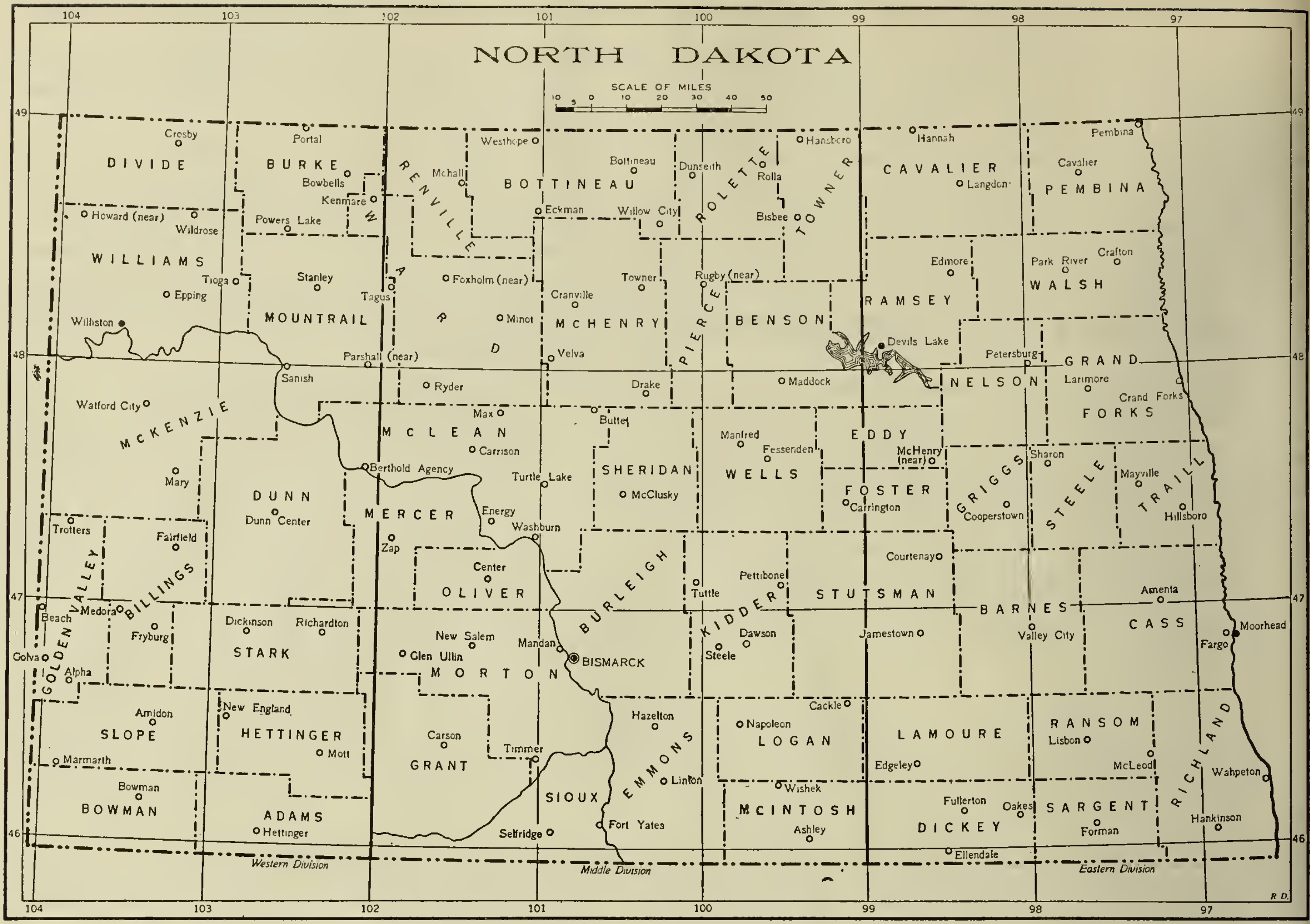
CLIMATOLOGICAL SUMMARY, 1938

Month	Temperature in degrees Fahrenheit				Precipitation, in inches			Number of days				Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Precip., .01 inch or more	Clear	Pt. cloudy	Cloudy	
January	9.5	+3.4	50	−40	0.48	−0.01	6.1	6	10	9	12	nw.
February	7.2	−2.4	60	−35	0.68	+0.22	8.6	5	11	7	10	nw.
March	33.1	+9.3	72	−14	0.59	−0.18	2.5	4	13	10	8	nw.
April	42.8	+1.4	90	1	1.09	−0.33	0.1	5	11	10	9	nw.
May	52.0	−1.4	88	18	2.55	+0.24	0.2	11	8	12	11	nw.
June	64.2	+1.1	99	27	2.73	−0.66	0	9	11	11	8	se.
July	69.7	+0.9	104	39	3.34	+0.90	0	9	15	13	3	nw.
August	69.8	+3.4	109	33	1.50	−0.50	0	6	18	10	3	nw.
September	61.9	+5.1	99	21	0.63	−0.90	0	4	17	7	6	nw.
October	50.9	+7.1	95	4	0.55	−0.46	1.1	4	16	7	8	nw.
November	23.8	−2.8	75	−21	0.87	+0.27	7.9	6	8	10	12	nw.
December	18.2	+5.5	55	−41	0.32	−0.17	4.1	4	11	10	10	nw.
Annual	41.9	+2.5	109	−41	15.33	−1.59	30.6	73	149	116	100	nw.

Killing Frosts

Stations	Last in Spring	First in Autumn
Eastern Div.		
Amenia	May 7	Oct. 19
Cooperstown	" 8	Sept. 18
Devils Lake	" 23	" 18
Edgeley	" 23	" 19
Edmore	" 23	" 19
Ellendale	" 8	Oct. 23
Fargo	" 7	" 8
Forman	" 7	Sept. 19
Fullerton	" 8	" 19
Grafton	" 24	" 19
Grand Forks	" 6	" 19
Hankinson	" 8	" 19
Hannah	June 8	" 18
Hillsboro	May 7	" 19
Jamestown	" 12	" 19
Langdon	" 24	" 18
Larimore	" 7	Oct. 8
Lisbon	" 12	Sept. 19
McHenry	" 23	" 18
McLeod	" 12	" 19
Mayville	June 8	" 19
Oakes	May 8	" 19
Park River	" 24	" 19
Pembina	" 24	" 18
Sharon	" 7	" 19
Valley City	" 12	" 19
Wahpeton	" 7	" 18
Moorhead, Minn.	" 6	Oct. 19
Middle Div.		
Ashley	May 9	Sept. 18
Bisbee	" 12	" 19
Bismarck	" 9	Oct. 19
Bottineau	" 23	Sept. 19
Carrington	" 8	" 18
Carson	" 9	" 18
Center	" 11	" 18
Dogden Butte	" 23	Oct. 8
Drake	" 8	" 19
Dunseith	" 23	Sept. 18
Eckman	" 9	" 18
Energy	" 9	" 18
Fessenden	" 8	" 18
Fort Yates	" 9	" 19
Foxholm	" 9	" 30
Gackle	" 7	" 19
Garrison	May 8	Sept. 18
Granville	" 9	" 18
Hansboro	" 23	" 18
Linton	June 8	" 18
McClusky	May 23	" 17
Maddock	" 23	" 18
Mandan	" 9	" 19
Max	" 23	" 18
Minot	" 9	" 18
Mohall	....	" 15
Napoleon	May 23	" 18
New Salem	" 23	" 19
Pettibone	" 8	" 19
Rolla	" 7	Oct. 8
Steele	" 9	Sept. 19
Towner	" 8	" 18
Turtle Lake	" 9	Oct. 19
Velva	" 9	Sept. 19
Washburn	" 9	Oct. 19
Willow City	" 23	" 18
Wishek	" 9	" 17
Western Div.		
Amidon	May 9	Oct. 18
Beach	" 7	" 18
Berthold Agency	" 24	" 22
Bowman	" 8	" 14
Crosby	" 9	" 14
Dickinson	" 9	Sept. 18
Dunn Center	" 10	" 18
Epping	" 8	Oct. 14
Fryburg	" 9	Sept. 18
Hettinger	" 7	Oct. 18
Howard	" 7	Sept. 17
Kenmare	" 9	Oct. 18
Marmarth	" 8	" 19
Mott	" 21	Sept. 18
New England	" 9	" 17
Parshall	June 10	" 15
Portal	May 9	" 30
Powers Lake	" 8	" 30
Richardton	" 7	Oct. 19
Sanish	" 9	Sept. 18
Stanley	" 9	" 18
Watford City	" 9	Oct. 14
Williston	" 9	" 18

CHART SHOWING METEOROLOGICAL STATIONS



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). [WBO, Minneapolis, 3-21-39—500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVIII BISMARCK, N. D., JANUARY 1939 No. 1

GENERAL SUMMARY

The temperature averaged considerably above the seasonal normal, with the greatest plus departures in the western section of the State. The coldest weather occurred during the middle of the month, while unusually pleasant weather prevailed during the first decade and again during the third decade. The precipitation was below normal in the middle section and near the normal in the eastern and western sections, with the greatest amounts in the southeastern and northwestern districts. Moderate to heavy rain fell in the southeastern section of the State on the 9th, but otherwise the precipitation was mostly light and well distributed throughout the month. Due to the mild weather, livestock ranged freely, thus saving considerable feed. The ice harvest was completed at most places by the end of the month. Some sideroads were snowblocked at times, but the main highways were kept open.

TEMPERATURE

The mean temperature for the State was 15.0°, or 8.7° above the 1892-1939 average for January. The mean temperature for the eastern division was 11.2°; for the middle division 14.3°; and for the western division, 19.5°. The highest mean temperature was 26.6° at Hettinger, and the lowest, 4.0° at Hannah, making a range in mean temperature of 22.6°. The absolute range was 87°, from 55° at New England on the 8th, to -32° at Willow City on the 15th and Pembina on the 16th. The average daily excess in temperature for the State since January 1, 1939, is 8.7°.

PRECIPITATION

The average precipitation for the State was 0.47 inch, or 0.01 inch less than the 18921-939 average for January. In the eastern division the average amount was 0.56 inch; in the middle division, 0.32 inch; and in the western division, 0.54 inch. The greatest monthly amount reported was 1.36 inches at Fullerton; the least reported was 0.06 inch at Mayville. The greatest amount recorded in any 24-consecutive hours was 0.98 inch at Forman on the 9th. The accumulated deficiency in precipitation for the State since January 1, 1939, is 0.01 inch. The average snowfall was 6.0 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	1	..	..	2	3	1	3	..	..	..	..	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	3	3	21	13	29	11	8	1	5	3	12	17	6	2	8	6	10	7	11	20	..	..	..	..	..	2	2	7	3	24	10
Lunar halos	1	..	2	5	3	1	3	4	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	4
Solar halos	..	..	..	1	..	1	1	..	..	..	..	1	2	..	1	..	1	1	1	1	3	..	..	5	..	..	..	1	..	..	2
Sleet	..	4	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.95	30.50	21	29.50	27	7.8	30	nw.	21	84	72	75	47
Devils Lake	29.97	30.41	21	29.48	27	8.4	27	nw.	21	92	86	90	47
Williston	29.92	30.51	21	29.50	2	7.0	29	nw.	25	89	79	81	44
Moorhead, Minn	29.99	30.49	22	29.47	27	7.9	26	nw.	21	93	88	92	23
Averages & ext's	29.96	30.51	21	29.47	27	7.8	30	nw.	21	90	81	84	40

† And other dates.

COMPARATIVE DATA FOR JANUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	3.3	58	−52	0.31	0.41	0.25	0.32	2.8	4	15	8	8
1893	0.8	52	−48	0.93	0.94	1.11	0.99	8.4	7	11	11	9
1894	0.6	60	−47	0.38	0.40	0.38	0.39	3.6	4	13	9	9
1895	−2.9	42	−46	0.53	0.69	0.47	0.56	5.5	5	16	8	7
1896	5.3	58	−42	0.75	0.77	0.80	0.77	6.6	6	9	9	13
1897	3.6	49	−38	0.91	0.64	0.76	0.77	7.5	5	11	9	11
1898	14.6	69	−32	0.14	0.12	0.07	0.11	1.1	2	15	8	8
1899	5.2	55	−41	0.29	0.20	0.26	0.25	2.4	3	13	9	9
1900	15.4	70	−30	0.27	0.27	0.12	0.22	2.0	3	15	9	7
1901	7.7	68	−39	0.29	0.29	0.26	0.28	3.0	4	14	8	9
1902	12.7	51	−40	0.17	0.03	0.23	0.14	1.4	2	17	7	7
1903	9.4	56	−37	0.72	0.58	0.68	0.66	6.7	5	13	8	10
1904	3.6	50	−52	0.41	0.36	0.42	0.40	4.0	5	15	6	10
1905	0.9	48	−40	0.26	0.30	0.41	0.32	2.9	3	15	8	8
1906	12.2	60	−38	0.75	0.72	0.61	0.69	6.9	4	14	6	11
1907	−6.2	45	−45	1.77	1.13	1.05	1.32	14.5	8	12	8	11
1908	17.0	70	−41	0.21	0.16	0.34	0.24	1.9	2	17	8	6
1909	3.5	53	−48	0.60	0.32	0.37	0.43	4.3	4	14	8	9
1910	9.4	49	−35	0.30	0.21	0.59	0.37	4.1	3	16	8	7
1911	−1.0	56	−43	0.86	0.96	0.69	0.84	8.5	6	11	8	12
1912	−4.6	63	−52	0.34	0.34	0.36	0.35	3.6	4	16	6	9
1913	3.2	60	−54	0.51	0.40	0.43	0.45	4.6	5	12	9	10
1914	14.8	62	−38	0.56	0.48	0.40	0.48	4.9	4	12	8	11
1915	5.8	51	−48	0.39	0.24	0.25	0.29	3.4	3	12	9	10
1916	−6.4	49	−56	1.58	1.24	1.26	1.36	15.1	6	13	8	10
1917	1.7	47	−46	0.82	0.69	0.65	0.72	8.6	5	13	8	10
1918	0.5	48	−44	0.41	0.43	0.58	0.47	5.0	5	12	8	11
1919	18.7	66	−44	0.24	0.21	0.10	0.18	1.7	2	17	8	6
1920	2.7	49	−44	1.26	0.96	0.68	0.97	10.0	5	10	9	12
1921	15.9	52	−31	0.29	0.20	0.22	0.24	2.5	2	13	9	9
1922	7.0	55	−46	0.68	0.36	0.42	0.49	5.2	5	12	9	10
1923	10.1	56	−35	0.59	0.43	0.54	0.52	6.0	5	9	9	13
1924	2.6	61	−42	0.30	0.20	0.18	0.23	2.5	3	14	9	8
1925	8.6	52	−35	0.33	0.18	0.22	0.24	2.5	3	11	10	10
1926	16.3	55	−30	0.31	0.34	0.49	0.38	4.1	4	13	8	10
1927	10.1	60	−44	0.50	0.36	0.41	0.42	4.3	4	14	8	9
1928	13.0	50	−41	0.21	0.19	0.19	0.20	2.3	3	14	9	8
1929	−4.8	42	−42	0.76	0.48	0.63	0.62	9.2	6	13	8	10
1930	−1.9	41	−43	0.26	0.22	0.40	0.29	2.7	4	12	9	10
1931	21.4	68	−31	0.15	0.15	0.14	0.15	1.4	2	15	8	8
1932	9.5	50	−34	0.47	0.62	0.59	0.56	6.3	4	12	7	12
1933	11.8	53	−30	0.92	0.70	0.79	0.80	10.0	7	12	7	12
1934	15.8	54	−36	0.29	0.14	0.17	0.20	2.0	3	11	9	11
1935	3.3	60	−44	0.55	0.29	0.39	0.41	4.9	6	8	10	13
1936	−5.8	43	−44	0.51	0.48	0.69	0.56	6.9	7	11	8	12
1937	−8.3	38	−44	1.04	0.55	0.42	0.67	9.0	6	13	8	10
1938	9.5	50	−40	0.36	0.42	0.67	0.48	6.1	6	10	9	12
1939	15.0	55	−32	0.56	0.32	0.54	0.47	6.0	6	8	10	13
Period	6.3	'70	−56	0.54	0.44	0.47	0.48	5.2	4	13	8	10

Climatological Data for January 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	43																	I. Idso.
Cavalier	Pembina	894	29	6.6							0.42	−0.25								Burke Bechtel.
Cooperstown	Griggs	1,428	42	6.0	−0.6	30	9	−26	16	47	0.33	−0.16	0.14	4.7	4	15	4	12	s.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9								0.24		0.13	2.4	2	0	15	16	s.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	9.4	+7.6	36	8	−22	16	40	0.45	−0.02	0.15	8.4	12	5	7	19	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	15.8	+7.0	45	8	−18	16	40	0.15	−0.25	0.07	3.5	3	7	10	14	se.	O. A. Thompson.
Edmore	Ramsey	1,524	15	6.3	+5.0						0.28	−0.23								Mike Davis.
Ellendale	Dickey	1,457	44	16.4	+5.7	42	1	−15	16†	35	0.77	+0.28	0.53	6.3	5	6	6	19	nw.	J. E. Demmer.
Fargo	Cass	895	3	10.4	+6.6	33	8†	−24	16	37	0.34	+0.04	0.17	5.3	10	4	4	23	s.	W. B. Acrological Sta.
Forman	Sargent	1,249	46	13.4	+3.9	34	8	−21	16	37	1.05	+0.59	0.98	4.0	2				sw.	Helge Dyste.
Fullerton	Dickey	1,439	41	17.0	+8.1	40	1	−16	16	29	1.36	+0.57	0.83	6.6	8	3	15	13	nw.	F. O. Alin.
Grafton	Walsh	827	47	10.0	+7.8	32	9	−22	16	33	0.62	+0.13	0.22	9.1	5	3	12	16	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	48	7.6	+4.1	29	9†	−28	16	42	0.62	+0.11	0.24	6.6	7	3	8	20	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	14.2	+6.5	40	6†	−18	23	36	1.25	+0.77	0.50	11.0	6	8	13	10	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	47	4.0	+5.1	26	8†	−30	16	45	0.53	−0.19	0.15	5.5	6	7	13	11	s.	M. J. Rockwell.
Hillsboro	Traill	901	39	9.9	+5.3	32	20	−24	16	42	0.42	−0.09	0.12	5.0	6	10	12	9	s.	Lyle George.
Jamestown	Stutsman	1,457	47	14.2	+7.2	37	8	−19	16†	37	0.57	+0.02	0.18	5.7	8	11	11	9	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	7.4	+8.3	32	9	−27	22	38	0.63	+0.06	0.12	6.3	12	9	12	10	n.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	9.8	+6.2	34	8	−23	16	37	0.23	−0.43	0.12	4.2	4	8	4	19	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	35	14.4	+7.1	37	27	−18	16	30	1.02	+0.45	0.64	5.5	7	6	3	22	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	11.6	+10.1	33	8	−29	16	44	0.27	−0.37	0.10	4.6	6	5	12	14	se.	C. E. Blasky.
McLeod	Ransom	1,075	28	14.8	+6.4	39	8†	−23	16	43	1.02	+0.45	0.77	10.2	6	13	4	14	nw.	J. G. Carlson.
Mayville	Traill	975	43	10.8	+5.0	38	10	−25	16	31	0.06	−0.34	0.02	1.0	4	6	13	12	sw.	H. B. Addicott.
Oakes	Dickey	1,318	10	15.0	+7.9	40	1†	−17	16	31	0.69	+0.19	0.59	5.6	4	18	5	8	nw.	F. H. Murray.
Park River	Walsh	998	35	8.1	+5.4	32	8	−27	16	46	0.20	−0.19	0.10	4.5	5	12	3	16	nw.	E. J. Taintor.
Pembina	Pembina	789	65	5.1	+7.5	29	27	−32	16	36	0.78	+0.14	0.15	10.0	9	6	9	16	nw.	E. N. Russell.
Petersburg	Nelson	1,520	9								0.18		0.06	2.5	5	8	8	15	nw.	T. M. Rykken.
Sharon	Steele	1,516	15	9.1	+4.8	37	8	−23	22	38	0.28	−0.06	0.10	3.9	10	5	10	16	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	12.9	+7.4	34	8†	−22	16	35	0.23	−0.27	0.06	7.5	9	5	15	11	nw.	I. C. Robertson.
Wahpeton	Richland	962	47	13.7	+5.3	36	8	−23	16	31	0.83	+0.41	0.63	7.5	5	7	8	16	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	11.3	+7.5	34	9	−23	16	37	0.58	−0.09	0.25	5.7	11	4	4	23	s.	U. S. Weather Bureau.
Average for Eastern Division				11.2	+6.7	45	8	−32	16	47	0.56	+0.02	0.98	6.0	6	7	9	15	nw.	
Middle Division																				
Ashley	McIntosh	2,001	43	15.2	+6.6	47	8	−19	18	41	0.41	−0.06	0.18	5.0	5	11	2	18	se.	Henry Doerr.
Bisbee	Towner	1,601	3	9.4		33	9	−25	22	39	0.41		0.10	7.8	8	11	5	15	n.	I. K. Lund.
Bismarck	Burleigh	1,670	65	19.0	+11.2	46	8	−10	16	37	0.32	−0.13	0.21	2.9	6	8	10	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	9.2	+8.6	43	8	−24	16	39	0.35	−0.06	0.13	5.0	4	7	3	21	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	10.0	+3.3	36	8	−22	16	40	0.40	+0.08	0.20	3.5	3	6	1	24	se.	Soo Line Agent.
Carson	Grant	2,500	27	23.2	+14.2	54	8	− 9	22	44	0.15	−0.19	0.05	4.2	6	7	15	9	nw.	J. W. Evens.
Center	Oliver		1	16.2		41	8	−16	22	44	0.20		0.12	2.5	3	10	18	3	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	15.0	+7.5	37	8	−24	15	34	0.26	+0.03	0.09	5.8	4	9	5	17	nw.	R. L. Williams.
Drake	McHenry	1,634	10	11.9		38	9	−22	16	35	0.33		0.08	5.2	10	4	4	23	se.	Peter Anton.
Dunseith	Rolette	1,682	43	9.6	+7.1						0.64	+0.20								Geo. Gehres.
Eckman	Bottineau	1,500	34	9.4	+6.3	35	8	−31	15	44	0.45	+0.09	0.08	6.0	8	8	11	12	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	17.7	+8.1	45	8	−15	17	48	0.30	−0.01	0.10	3.5	5	9	15	7	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	27	11.2	+6.7	38	20	−26	16	35	0.30	−0.18	0.10	4.0	6	14	4	13	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	39	21.8	+12.6	46	20	−12	18	43	0.18	−0.23	0.09	4.0	3	14	9	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	13.1	+6.8	38	8	−23	15	33	0.33	0.00	0.08	4.5	9	9	6	16	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	15.2		46	8	−17	16	31	0.08		0.03	1.8	4	8	6	17	nw.	A. H. Haut.
Garrison	McLean	1,901	62	15.5	+7.9	41	8	−16	15	42	0.29	−0.05	0.05	6.9	9	9	6	16	nw.	E. L. Vorachek.
Granville	McHenry	1,504	32	12.2	+7.6	42	8	−28	15	44	0.34	−0.02	0.10	10.5	5	13	7	11	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	7.6	+7.7	32	9	−30	16	33	0.24	−0.42	0.11	10.0	4	12	7	12	nw.	C. E. Blackorby.
Linton	Emmons	1,711	22	19.2	+9.7	49	8	−21	22	50	0.16	−0.22	0.06	4.0	5	8	16	7	e.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	21	14.4	+8.4	39	8	−21	15	39	0.20	−0.21	0.10	3.0	3	8	4	19	nw.	F. W. Terry.
Maddock	Benson	1,604	24	9.6	+4.8	35	21	−28	15	41	0.21	−0.09	0.06	2.3	6	8	13	10	nw.	A. T. Felland.
Mandan	Morton	1,750	25	18.0	+9.7	47	8	−11	16†	41	0.67	+0.32	0.50	7.2	6	7	8	16	w.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36								0.53	+0.04	0.10	6.5	8					P. B. Anderson.
Max	McLean	2,093	10	12.8		37	8	−19	15†	42	0.18		0.08	2.2	4	6	2	23	nw.	A. W. Rice.
Minot	Ward	1,557	43	14.0	+7.8	42	8	−23	15	43	0.39	+0.02	0.08	9.0	10	7	2	22	w.	Kenneth Chatfield.
Mohall	Renville	1,646	46	10.0	+5.4	39	8†	−30	15	42	0.44	+0.13	0.11	3.5	8	9	9	13	se.	Iver Johnson.
Napoleon	Logan	1,955	47	18.2	+11.8	50	8	−17	22	40	0.07	−0.26	0.03	2.0	3	10	8	13	s.	C. J. Hoof.
New Salem	Morton	2,163	35	20.0	+10.9	43	20†	−13	16	43	0.40	−0.05	0.20	5.0	7	8	13	10	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	13.0	+10.0	30	20†	−18	16†	37	0.15	−0.26	0.15	2.0	1	6	10	15	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	9.8		37	8	−24	22	35	0.49		0.15	4.0	9	12	8	11	n.	A. A. Jacobsen.
Rugby	Pierce	1,562	10								0.82	+0.51	0.25	8.2	8	8	14	9	se.	W. B. Paterson.
Ryder	Ward	2,108	10								0.36	+0.07	0.22	4.0	7	12	5	14	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3								0.85		0.25	9.0	4	10	10	11	nw.	J. B. Smith.
Steele	Kidder	1,857	45	14.8	+7.5	43	8	−20	22	40	0.07	−0.39	0.05	1.2	3	7	7	17	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10								0.34	+0.13	0.07	5.4	13	12	7	12	sw.	G. N. Pilgard.
Timmer	Morton		2								0.21		0.11	5.0	3					Geo. M. Sinclair.
Towner	McHenry	1,482	37	12.0	+8.2	36	8	−24	16	45	0.35	−0.09	0.20	3.5	3	8	9	14	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	16.0	+8.2	42	21	−19	15	44	0.07	−0.30	0.02	1.4	4	12	1	18	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	31								0.36	−0.09	0.12	3.1	9	13	7	11		Adam Leno.
Velva	McHenry	1,511	12	14.0	+8.1	41	8	−27	15	40	0.30	−0.11	0.14	5.0	6	9	8	14	w.	Oscar Anderson.
Washburn	McLean	1,731	38	19.2	+11.8	45	8	−11	15	33	0.08	−0.25	0.06	1.0	2	17	6	8	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	9.3	+8.0						0.57	+0.25								D. A. Findlay.
Willow City	Bottineau	1,471	47	7.8	+6.9	33	8	−32	15	49	0.63	+0.05	0.35	6.8	5	9	10	12	ne.	O. M. Sanderson.
Wishek	McIntosh	2,010	18	16.0	+9.0	47	8	−21	17	48	0.32	−0.18	0.12	6.9	5	8	11	12	nw.	H. M. Larson.
Zap	Mercer	1,838	24								0.17	−0.09	0.10	2.0	3	8	19	4		R. A. Norton.
Average for Middle Division				14.3	+8.4	54	8	−32	15	50	0.32	−0.12	0.50	4.7	6	9	8	14	nw.	

Continued on page 4.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for January 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																
Cooperstown[2]	Sheyenne	.05		T	T.		T.					T.	T.		.14			.02	T.	T.							.12						0.33
Courtenay[2]	James												.13		T.											.11					T.		0.24
Devils Lake[1]	Devils Lake	.05	.02	T.	T.	T.	.05	T.	T.	T.	.01		T.	.02	.03		.02	.03		T.	T.	.04		.02	T.	.15				.01	T.		0.45
Edgeley	James										.07				.03			.05															0.15
Edmore	Devils Lake																																0.28
Ellendale	James				.07					.53	T.	T.	.07		.04		T.	.06				T.				T						T	0.77
Fargo[1]	Red	.01	T.	T.	T.	T	T.	.01		.17	.02			T	.01		.01	.04			.01			.03	T.	.03			T.		T.	T.	0.34
Forman	Sheyenne				T.	T.	T.			.98	T		T.	T.			T.	.07	T		T.		T.		T.	T.	T.	T.					1.05
Fullerton	James				.08					.83	T.	.03	.12	.03	.12		T.	.13		.02	T.	T.				T							1.36
Grafton	Red	.22	.08				.04						T.		T			T.				.14			.14	T.							0.62
Grand Forks[1]	do	.24	.10	T.	T.		.08	T.		T	T.		T.	T.	.01		T.	.01		T.		T.		.03	T.	.15					T.		0.62
Hankinson[2]	do					T.	.15			.50	.40							.10								.04						.06	1.25
Hannah	Pembina	.15	.06			.03		.10														.11						.08					0.53
Hillsboro	Red	.10				.12		.04			T.		T.			.02							.05			.09							0.42
Jamestown	James					.05	.04				.03					.18		.08		.05		.04				.10							0.57
Langdon[2]	Pembina	.04		.10			.03							.05	.03			.02				.12	.06	.05	.03	.07					.03		0.63
Larimore	Red	.06	T.				.02			T.			T.	T.	T.			.03				T.				.12							0.23
Lisbon	Sheyenne			T.	.02	T.	.02	T		.64	T.	T.	T.		.06		T	.20		T.		T.			T	.04	*.04			T.		T.	1.02
McHenry	James	.05		T.			.04				T.		T.		.05			.02				.01			T.	.10	T.						0.27
McLeod	Sheyenne			T	T.			T.		.77	T.	.01				.09		.06					.07				.02					T.	1.02
Mayville	Red				.01	T.				T.			T.										.02			.02	.01						0.06
Oakes	James				.05					.59			T.		.04			.01		T.						T.							0.69
Park River	Red		.10				T.								T.		.02				.03	T.		.02	.03								0.20
Pembina	do	.08	.15				.07	.09						.08	.07	.09									.07	.08							0.78
Petersburg	do	.06					T.						T.		.04			.01				T.			.01	.06							0.18
Sharon	do	.05	.01	T	.02		.02	.01			T.		T.		.02			.03				.01			.01	.10				T.	T.		0.28
Valley City	Sheyenne				.06	.01		.03		T		T.	.01		.01		.02					.01				.06	.02						0.23
Wahpeton	Red							.02		.63		.02	T.		T.	T.		.06	T.			T.			T.	.10	T.						0.83
Moorhead, Minn[1]	do	.02	.03		T	T.	T.	.01		.25	T.	T.		T.	.02		.01	.04	T.		.01	.01		.03	T.	.15	T.		T.		T.	T.	0.58
Middle Division																																	
Ashley[2]	Missouri									T.		.08		.18			.11						.01		.03								0.41
Bisbee	Devils Lake	.08	T.	T.			.07								.05			.04				.04		T.	.02	.10				T.	.01		0.41
Bismarck[1]	Missouri										.02	.01	.02	T.	.04		.02	T.		T.		T.		T	T.	T			T.	T.	T.	.21	0.32
Bottineau	Mouse		.08				.02											.12												.13			0.35
Carrington[2]	James	T.													.10			.20					T.			.10	T.					T.	0.40
Carson	Heart											.01	.05		.04			.01												.01		.03	0.15
Center	Missouri								.04							.04																.12	0.20
Dogden Butte	Mouse	T.	T.				T.	.08			T.				.09		T.	T.				T			.02	.07				T.		T	0.26
Drake[2]	do	.05	.01					.03						.01	.03	T.		.05				T.	T.		.01	.04	.08				.02	T	0.33
Dunseith	do																																0.64
Eckman	do	.03	.03				T.					T.	.04		.04		.08					.08			T.	.08				.07			0.45
Energy	Missouri	.04									T.				T.		T.	.08		.10										.04		.04	0.30
Fessenden[2]	James			.04			.04									.05		.05					.02			.10							0.30
Fort Yates	Missouri										.05		.09		T.			.04															0.18
Foxholm (near)	Mouse	.07	.03	T.			.03				T.		T		.05		.08	.01		T.					.01	.04				.01		T.	0.33
Gackle	James											.01			T.		T.	.02		T.		T.			.02	.03	T.					T.	0.08
Garrison	Missouri	.03					.02	T.			.05				.02		T.	.02		.04		T.			T.	.02				.04		.05	0.29
Granville	Mouse		T.	T.			.10					T.	T.		.08		T.	.05				T			T.	.09	T			.02			0.34
Hansboro	Devils Lake						.07											.05								.11				.01			0.24
Linton	Missouri										.02	.06	.06		.01			T.							T.							.01	0.16
McClusky	do						T.								T.		.07					.03								.10			0.20
Maddock	Sheyenne	.03		T.				.01			T.				.04		T.	.01				.06				.06				T.			0.21
Mandan[2]	Missouri									.01	.05		.02	.03			.06			T		T.		T.	T				T.	T.	T.	.50	0.67
Max[2]	do	.04						T.				T						.04							T	.02					.08		0.18
Minot	Mouse	.05	.03	T			.04	T.			T.	T.	T.		.07		.05	.02		.01		T.			.01	.08			T.	T.	T.	.03	0.39
Mohall	do	.03	.03	T.			.01						T.		.02		.10	.04						T.	T.	.10				.11		T.	0.44
Napoleon[2]	Missouri											.03				.02		.02								T.							0.07
New Salem	Heart	T.									.02	.06	.05	.03	.01		T.					T							T.	.03		.20	0.40
Pettibone	James														T.		T.					T.			.15							T.	0.15
Rolla	Devils Lake	.04	.01	T.			.04	.02			T.				.04			.07				.09			T.	.15				.03	T.		0.49
Rugby (near)	Mouse	.10			.05		.20	.10			T.			T.	.05		.05	.25				.02											0.82
Ryder[2]	Missouri	.01					.02				T.						.04			.04				.02	T						.01	.22	0.36
Selfridge	do										.10	T.	.25	T.	.25		T.					T			T	T					T	.25	0.85
Steele	do										T.	.01			T.		T.	.05				T.			.01	T.						T.	0.07
Tagus	Mouse	.03	.03				.03	T.			.01		T.		.05		.05	.01		.02		.01			.01	.07			T	.01	T.	.01	0.34
Towner	do	T.	T	T.		T.	.05						T		T.		T.	.10							T.	T.				.20	T.	T.	0.35
Turtle Lake	Missouri							.01			.02	T.			.02															T.	T.	.02	0.07
Tuttle	do			T.				.02			.01	T.			.05	T.		.06				.01			.05	.03	.01		T			.12	0.36
Velva	Mouse	.04	T	T.			.03	T.				T.	T.		.05		.01	T.				T.			T.	.14				T.		.03	0.30
Washburn[2]	Missouri						T.				T	.02			T.		T	T.		T.		T.								T		.06	0.08
Westhope	Mouse																																0.57
Willow City	do		T.				.07						T.				.10					.04				.35				.07			0.63
Wishek[2]	Missouri					T.					.02	T.	.10	T.			.06							T.	.02						T.	.12	0.32
Zap	Knife										T.		T.		.04							T.								.03		.10	0.17
Western Division																																	
Alpha	Lit. Missouri										.01			.03	.10		T.				T.	.04		.02		T				T.		.14	0.34
Amidon	do	.02									.02	T.	.11	.09	.05		.06															.25	0.60
Beach	do	T.									T.	.01	.02	.09	.11		T.					T.		T.		T				T.		.20	0.43
Berthold Agency	Missouri	T.									.06		T.		.08		T.	.04								T				.08		.13	0.39
Bowman[2]	Grand										T.	.07	T.	.02	T		T		T.										T.	.02	.06	.30	0.47
Crosby	Mouse	.01													.10		.06																0.17
Dickinson[2]	Heart	T.									T	.07	.11	.02	.09	T.	T.	.02		T.	.01	T.	T.		.01	.02			T.		.03	T.	0.38
Dunn Center	Knife						T	T.			T.	.02	T.	T.	.14		T.	T.		T.										.02		.18	0.36
Fairfield	Lit. Missouri											.12	.07	.02											T.				T.		.52		0.73
Fryburg	Heart										.12	.12		.13			.04							T	T.					.04		.28	0.73
Hettinger	Grand										T.		.08		T.		T.									T				T.		.20	0.28
Howard (near)	Missouri										.06	.05		.12	T.		.31			T.										.15		.50	1.19
Kenmare	Mouse	.02	.03	T.			.02				T.				.02		.02	T.				.03			.01	.03				.01		.01	0.20
Marmarth	Lit. Missouri											T	.07	.06	.02		T.							T.			.01				.01	.30	0.47
Mary	do						T.				T.	.08	.02		.07		T.							T.		.01				T.		.58	0.76
Medora	do										.01	.01	.08	.02	.02		T.					T.		T.		.03			T.			.33	0.50
Mott	Cannon Ball										T.	.02	.10		.07		.01													.02		.02	0.24
New England[2]	do										T	.28		.12			.01												.06			.78	1.25
Parshall	Missouri	.04				.01					.05		T.		.04		.01			.03						T.				.06		.02	0.26
Portal[2]	Mouse														.02			.13												.27		.40	0.82
Powers Lake	Missouri					.02	.08				.02			.17			.23					.14										.41	1.07
Richardton	Heart						T.				.01	.05	.04		.11		.01	T.		T					T.					.04		.17	0.43
Sanish[2]	Missouri	.07									T.	.14		T.	T.					.14										.21			0.56
Stanley	do	.04	T.				T				T				.04		.05	T.												.03		.07	0.23
Tioga	do										T.	T.									.10				.10	T.				.20		.05	0.45
Trotters	Lit. Missouri	.01					T.				.03		.07	.07			T							T.		.07				.07		.32	0.64
Watford City	Missouri										.05				.08		.04									.05				.08		.52	0.82
Wildrose	do	.14									.04	T.		.03			.07	T		.06						T				.14		.12	0.60
Williston[1]	do	T.					T.				.08	T.		.05	.03	T	.05	T.		T.		T.		T.	T.	.02			.03	.08	T.	.43	0.77

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch.

Daily Temperatures for January 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	41	30	28	35	33	27	34	47	31	25	21	21	26	19	6	6	9	20	33	37	18	22	34	24	34	31	37	24	25	25	16	26.4
	Minimum	0	11	9	11	12	12	15	17	22	12	5	0	0	−3	−9	−16	−10	−19	3	9	2	−14	−2	16	6	13	11	5	−2	5	5	4.1
Beach	Maximum	40	46	41	39	35	30	39	47	37	29	35	34	31	32	17	26	28	35	41	40	31	32	35	32	34	32	40	31	40	34	19	34.3
	Minimum	25	34	27	25	14	18	16	31	23	23	14	21	15	7	0	6	−7	8	17	21	−2	−7	17	16	20	12	17	10	16	12	2	14.5
Bismarck	Maximum	40	33	30	39	30	30	36	46	33	24	27	23	30	28	6	8	8	29	40	44	30	28	36	28	35	34	44	18	26	27	20	29.4
	Minimum	19	17	7	24	11	16	17	18	16	13	6	6	16	4	−8	−10	−7	−5	9	13	−4	−9	7	17	17	18	17	5	2	14	4	8.7
Bottineau	Maximum	21	19	19	30	23	23	23	43	26	20	20	22	18	15	11	5	3	18	26	25	15	18	16	17	21	29	28	25	22	26	10	20.5
	Minimum	2	−5	−3	10	3	11	11	16	7	3	−8	10	−4	−12	−20	−24	−16	−5	−2	6	0	−21	−11	2	0	6	3	2	−3	−4	−15	−2.0
Carson	Maximum	45	48	41	45	35	30	42	54	41	30	39	30	36	28	5	8	19	36	43	46	33	35	38	31	34	36	46	31	21	34	22	34.3
	Minimum	20	25	23	29	13	14	14	22	25	16	13	15	10	0	−8	−8	−8	0	12	22	0	−9	15	20	20	16	18	9	7	15	11	12.0
Crosby §	Maximum	22	22	30	35	25	23	28	37	35	25	33	34	30	26	1	0	16	25	35	38	23	19	35	30	28	27	30	19	32	29	8	25.8
	Minimum	0	1	0	18	14	9	9	19	21	10	11	8	11	4	−16	−10	−22	2	12	8	−6	−18	10	15	15	9	9	1	7	8	−7	4.9
Devils Lake	Maximum	17	9	18	30	18	22	22	36	31	24	11	21	27	20	−6	−1	4	17	27	28	23	19	27	15	24	21	28	6	21	22	3	18.8
	Minimum	−4	1	4	16	8	12	13	18	20	−6	−15	10	20	−6	−21	−22	−12	−15	2	19	−17	−19	13	−4	−4	10	5	−3	−5	−2	−15	0.0
Dickinson §	Maximum	43	49	46	40	40	30	40	50	38	28	35	32	32	14	10	16	20	33	41	41	9	33	36	35	32	33	42	20	36	21	7	31.7
	Minimum	20	23	20	20	14	14	17	16	17	23	13	10	9	13	−13	−8	−13	−11	10	20	9	−10	−4	17	18	11	11	8	8	7	6	9.5
Dunn Center §	Maximum	43	48	28	40	41	26	41	51	33	25	32	34	33	29	7	8	20	34	41	37	28	32	37	32	33	35	43	28	36	25	16	32.1
	Minimum	17	17	5	20	10	20	13	17	23	19	8	12	6	6	2	−3	−19	1	17	20	−2	−10	11	17	18	11	12	5	9	7	−1	9.3
Fessenden §	Maximum	20	9	17	34	16	22	23	37	35	27	13	18	31	13	9	−4	5	16	29	38	17	15	31	14	26	28	32	13	22	25	11	20.7
	Minimum	−7	−5	6	16	1	6	4	15	18	13	−10	7	12	9	−18	−26	−10	−19	0	17	1	−19	13	12	4	12	13	−2	−9	11	−11	1.8
Fullerton	Maximum	40	25	24	31	29	22	34	39	35	28	19	18	30	21	12	1	6	9	24	29	27	14	36	32	33	32	37	35	23	32	25	25.9
	Minimum	16	14	12	19	8	11	15	14	28	15	8	12	5	12	−10	−16	−11	−4	−2	20	2	12	7	10	4	18	12	9	−5	12	1	8.0
Garrison §	Maximum	30	23	21	35	23	28	31	41	32	24	26	25	30	23	4	7	8	26	38	39	14	27	34	25	31	31	36	13	25	22	14	24.9
	Minimum	14	14	0	19	4	14	15	16	21	12	7	−2	17	4	−16	−11	−15	−6	11	9	−3	−15	11	19	14	12	13	3	−1	12	−4	6.1
Grafton	Maximum	19	11	11	29	29	23	22	28	32	31	10	11	27	23	11	−4	7	5	21	29	28	15	25	20	14	24	27	25	15	24	18	19.7
	Minimum	−9	1	4	10	9	12	14	10	12	9	−19	−15	0	10	−13	−22	−8	−17	2	12	−5	−5	1	−2	−13	11	1	−3	−10	13	−13	0.2
Grand Forks	Maximum	15	11	20	28	27	20	23	24	29	23	2	12	27	22	−3	1	4	6	17	29	23	10	28	13	18	24	28	20	16	26	8	17.8
	Minimum	−6	6	5	20	14	14	13	9	15	−10	−17	−6	12	−3	−24	−28	−15	−16	−1	12	−19	−23	4	−10	−11	7	1	−6	−11	3	−13	−2.7
Jamestown §	Maximum	31	18	19	33	27	22	26	37	31	25	17	16	30	23	11	−1	7	15	31	31	34	22	32	32	29	27	35	25	19	26	24	24.3
	Minimum	7	11	10	12	9	7	10	12	20	12	−4	10	9	11	−14	−19	−4	−19	0	25	−3	−15	5	5	2	14	6	3	−8	12	−3	4.0
Kenmare	Maximum	22	19	15	38	29	19	28	41	34	26	28	27	29	23	6	0	7	25	35	33	28	25	33	31	29	28	34	24	26	22	10	24.8
	Minimum	−6	2	2	15	9	11	15	20	19	15	3	3	23	6	−11	−17	−22	−3	13	7	−3	−14	17	12	25	14	17	−4	0	10	−9	5.5
Langdon §	Maximum	18	5	10	27	22	22	20	30	32	29	7	12	25	20	7	0	7	12	24	24	21	11	23	20	19	20	24	14	14	22	12	17.8
	Minimum	−13	−4	0	7	8	7	13	9	13	2	−19	−7	10	6	−25	−24	−4	−16	−4	12	−11	−27	4	−4	−13	8	2	−8	−12	10	−16	−3.1
Marmarth	Maximum	45	45	42	40	31	33	41	47	38	35	47	34	35	34	20	29	30	39	41	43	33	37	35	36	36	35	43	29	40	30	22	36.3
	Minimum	17	25	20	29	5	15	12	12	22	27	28	24	10	5	4	9	−3	16	19	23	4	−5	11	15	22	12	12	11	16	15	6	14.1
Minot	Maximum	18	16	20	35	20	24	28	42	32	26	27	28	31	24	8	8	7	28	36	36	24	25	34	30	30	30	25	20	26	25	9	25.2
	Minimum	−6	5	2	15	−3	14	13	18	23	11	−2	1	21	3	−23	−20	−17	−13	6	8	−4	−18	−16	11	9	11	18	−4	−4	7	−10	2.8
Mott	Maximum	44	45	43	39	36	32	40	48	40	32	33	27	34	33	10	13	22	34	41	43	36	35	36	32	33	34	43	28	31	31	19	33.8
	Minimum	20	25	19	27	15	18	15	17	18	20	14	19	11	3	−10	−5	−10	11	11	22	2	5	12	20	20	12	15	9	9	6	8	11.9
Pembina	Maximum	11	6	12	28	26	23	21	23	28	25	−2	11	22	19	6	−8	3	3	17	28	20	7	16	15	11	22	29	21	15	21	−3	15.4
	Minimum	−16	−1	2	12	10	8	13	8	12	−8	−17	−17	6	5	−24	−32	−13	−18	3	15	−8	−29	2	−12	−19	10	−3	−10	−16	−6	−17	5.2
Sharon	Maximum	19	12	14	26	20	21	20	37	30	26	8	11	25	21	7	−5	3	8	22	26	27	15	28	18	23	24	30	14	14	22	14	18.7
	Minimum	−9	5	4	14	6	15	8	15	15	0	−16	5	8	7	−17	−21	−11	−17	−7	15	−9	−23	8	−2	−8	7	1	0	−9	14	−13	−0.5
Steele	Maximum	32	24	26	37	29	29	31	43	31	23	24	26	28	22	9	6	2	24	34	33	28	20	30	24	28	26	32	30	26	28	19	25.9
	Minimum	12	12	2	22	4	12	8	15	19	9	8	2	7	9	−13	−19	−13	−16	1	14	−3	−20	7	14	9	10	9	0	−6	7	−3	3.8
Valley City	Maximum	27	18	27	27	19	22	23	34	34	31	14	14	33	26	11	−3	9	12	29	30	26	14	34	22	22	31	23	34	14	29	25	22.9
	Minimum	−2	10	15	15	9	14	15	10	14	10	−11	6	6	11	−16	−22	−6	−15	−6	20	−1	−18	9	6	−1	10	5	5	−8	11	−4	2.9
Wahpeton	Maximum	21	22	25	29	29	27	30	36	35	30	15	15	26	26	14	3	18	9	21	30	30	12	33	31	16	26	33	32	20	24	24	23.9
	Minimum	0	14	9	19	16	12	11	14	26	7	−8	−6	8	13	−11	−23	2	−16	−4	17	1	−18	7	4	−5	12	4	3	−11	4	8	3.5
Williston	Maximum	35	39	28	38	26	26	35	43	36	26	29	31	34	32	9	8	16	28	39	41	25	30	36	27	32	33	37	17	38	22	6	29.1
	Minimum	20	8	0	16	8	16	12	19	19	18	12	18	13	6	2	−5	−17	3	15	20	−10	−10	15	17	17	13	6	2	14	5	−2	8.7
Moorhead, Minn.	Maximum	22	19	21	29	27	24	28	32	34	28	11	11	25	25	5	5	13	9	19	28	25	8	32	18	24	24	30	15	17	23	19	21.0
	Minimum	−2	11	12	21	12	16	16	13	27	0	−7	−5	5	5	−17	−23	−8	−13	−5	18	−12	−17	7	−5	−6	7	4	−5	−6	12	−7	1.6

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ^{a} 1 day missing, ^{b} 2 days, etc.

Climatological Data for January 1939—Continued from page 2.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	12	.....	......	....	....	.....	....	.....	0.34	−0.12	0.14	3.0	6	8	18	5	w.	H. A. Bury.
Amidon	Slope	......	16	23.8	+9.7	48	2	−10	22	45	0.60	+0.18	0.25	6.7	7	9	9	13	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	24.4	+13.3	47	8	−7	17†	39	0.43	−0.04	0.20	4.5	5	5	14	12	sw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	18.6	+10.0	45	8†	−16	17	38	0.39	+0.14	0.13	9.0	5	10	5	16	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	.....	......	....	....	.....	....	......	0.59	+0.17	0.44	11.0	3	6	7	18	......	L. C. Grinney.
Bowman	Bowman	2,872	24	23.1	+10.1	49	8	−8	21	36	0.47	+0.01	0.30	7.8	5	15	7	9	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	15.4	+11.8	38	20	−22	17	38	0.17	−0.24	0.10	2.1	3	8	6	17	s.	J. H. Phelps.
Dickinson	Stark	2,543	46	20.8	+10.3	50	8	−13	15†	44	0.38	−0.04	0.11	5.0	9	8	10	13	w.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	20.7	+6.9	51	8	−19	17	42	0.36	−0.03	0.18	4.3	4	6	13	12	nw.	O. T. Evenson.
Epping	Williams	2,224	28	17.0	+9.0	43	9	−20	17	46	0.14	−0.30	0.14	3.0	1	17	8	6	sw.	T. Beachler.
Fairfield	Billings	......	2	.....	......	....	....	.....	....	.....	0.73	....	0.52	9.7	4	11	11	9	sw.	W. M. Geesaman.
Fryburg	Billings	2,790	20	24.6	....	48	8	−7	22	36	0.73	+0.28	0.28	9.2	6	8	13	10	sw.	Verne King.
Hettinger	Adams	2,675	31	26.6	+13.6	50	8	−4	15	39	0.28	−0.02	0.20	4.0	2	4	16	11	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	16.0	+11.6	40	8	−20	17	45	1.19	+0.68	0.50	11.6	6	14	9	8	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	15.2	....	41	8	−22	17	39	0.20	−0.15	0.03	3.0	10	17	7	7	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	29	25.2	+12.4	47	8†	−5	22	42	0.47	+0.07	0.30	5.6	6	8	9	14	nw.	S. P. Grane.
Mary	McKenzie	......	10	.....	......	....	....	.....	....	......	0.76	+0.36	0.58	14.6	5	9	10	12	sw.	Fred Hartman.
Medora	Billings	2,271	23	.....	......	....	....	.....	..	......	0.50	−0.02	0.33	8.2	7	11	12	8	w.	Vernon Thompson.
Mott	Hettinger	2,424	31	22.8	+14.0	48	8	−10	15†	34	0.24	−0.40	0.10	4.0	6	11	8	12	nw.	W. M. Hendricks.
New England	Hettinger	2,400	44	21.8	+8.4	55	8	−13	16	38	1.25	+0.75	0.78	15.0	5	10	8	13	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	13.4	....	41	8	−25	17	48	0.26	+0.02	0.06	5.0	8	5	21	5	se.	C. E. Shubert.
Portal	Burke	1,954	33	11.4	+8.9	39	8†	−22	17	46	0.82	+0.40	0.40	8.5	4	10	7	14	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	33	15.7	+8.0	40	8	−14	15	33	1.07	+0.56	0.41	15.2	7	13	12	6	w.	Geo. B. Gee.
Richardton	Stark	2,467	22	23.0	+12.8	50	8	−6	22	36	0.43	+0.05	0.17	5.6	7	6	14	11	w.	Assumption Abbey.
Sanish	Mountrail	1,835	13	14.6	+10.3	40	8	−21	17	36	0.56	−0.18	0.21	8.0	4	6	9	16	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	13.4	....	37	8	−20	17	39	0.23	....	0.07	5.9	5	12	11	8	nw.	Leroy Edwards.
Tioga	Williams	2,279	10	.....	......	....	....	.....	....	......	0.45	+0.06	0.20	5.5	4	......	......	......	......	B. V. Olson.
Trotters	Golden Valley	......	13	.....	......	....	....	.....	....	.....	0.64	+0.24	0.32	8.0	7	8	10	13	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	22.1	+13.1	46	8	−15	17	39	0.82	+0.35	0.52	11.5	6	6	13	12	sw.	J. C. Zeller.
Wildrose	Williams	2,258	11	.....	......	....	....	.....	....	......	0.60	....	0.14	8.0	7	5	11	15	sw.	L. Holter.
Williston	Williams	1,878	59	18.9	+12.5	43	8	−17	17	40	0.77	+0.23	0.43	8.5	8	9	10	12	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	19.5	+10.2	55	8	−25	17	48	0.54	+0.07	0.78	7.3	5	9	11	11	nw.	....
Average for the State		......	.....	15.0	+8.7	55	8	−32	15†	50	0.47	−0.01	0.98	6.0	6	8	10	13	nw.	....

[WBO, Minneapolis, 3-4-39—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVIII   Bismarck, N. D., February 1939   No. 2

GENERAL SUMMARY

February was an unusually cold month. It was the third coldest February since statewide records began in 1892. More than half of the stations in the central and eastern sections recorded mean temperatures below zero. Precipitation averaged somewhat above normal in all sections, with the greatest amounts in the eastern section. A few stations in the eastern and central districts reported more than 20 inches of snowfall during the month. The precipitation was well distributed both geographically and throughout the month, but with the greatest amounts on the 1st and 7th at most places. Winds were not unusually high, but with the cold weather and above average snow cover many highways were blocked for short periods and many sideroads were impassable for longer periods. Livestock remained in fair to good condition but considerable yard feeding was necessary.

TEMPERATURE

The mean temperature for the State was -0.8°, or 10.2° below the 1892-1939 average for February. The mean temperature for the eastern division was -2.1°; for the middle division, -1.8°; and for the western division, 2.2°. The highest mean temperature was 9.9° at Hettinger, and the lowest, -9.4° at Cooperstown, making a range in mean temperature of 19.3°. The absolute range was 97°, from 51° at Carson on the 18th, to -46° at Willow City on the 15th. The average daily deficiency in temperature for the State since January 1, 1939, is 0.8°.

PRECIPITATION

The average precipitation for the State was 0.63 inch, or 0.16 inch more than the 1892-1939 average for February. In the eastern division the average amount was 0.85 inch; in the middle division, 0.60 inch; and in the western division, 0.45 inch. The greatest monthly amount reported was 1.64 inches at Grafton; the least reported was 0.05 inch at Bowman. The greatest amount recorded in any 24 consecutive hours was 1.10 inches at Jamestown on the 13th. The accumulated excess in precipitation for the State since January 1, 1939, is 0.15 inch. The average snowfall was 9.7 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	.	..	..	..	2	6	1	..	..	2	4	..	..	1	4	3	1	..	..	..	..	..	4	17	11	1	..	3	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	..	..	1	6	1	..	..	2	..	..	1	..	..	3	..	..	2	1	..	1	..	3	..	2	11	..	2	..	..	..
Lunar halos	..	1	2	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	1	5	1	..	1	3	2	3	1	5	1	..	4	5	3	..	..	1	3	5	4	1	2	..	..	..	..	1	..	..	..
Sleet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.13	30.70	21	29.59	18	8.9	30	nw.	1	84	71	73	71
Devils Lake	30.12	30.66	3	29.62	1	10.9	33	ne.	19	89	88	81	69
Williston	30.12	30.71	21	29.57	18	7.3	22	ne.	19	87	75	72	64
Moorhead, Minn	30.10	30.64	22	29.35	1	9.7	24	n.	19	95	87	91	53
Averages & ext's	30.12	30.71	21	29.35	1	9.2	33	ne.	19	89	80	79	64

† And other dates.

COMPARATIVE DATA FOR FEBRUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	10.0	62	−45	0.59	0.77	0.37	0.58	4.9	4	14	7	8
1893	−0.3	52	−41	1.01	0.51	0.22	0.58	5.7	4	12	7	9
1894	8.0	55	−54	0.28	0.23	0.16	0.22	2.3	2	14	9	5
1895	5.9	65	−40	0.33	0.41	0.33	0.36	3.6	4	13	7	8
1896	14.3	64	−50	0.56	0.29	0.38	0.41	4.3	3	12	9	8
1897	6.1	52	−29	1.14	1.05	1.30	1.16	11.5	7	12	7	9
1898	13.3	65	−40	0.46	0.46	0.46	0.46	4.5	3	13	8	7
1899	0.4	60	−34	0.22	0.16	0.22	0.20	1.9	3	14	8	6
1900	1.3	46	−48	0.20	0.55	0.66	0.47	4.5	4	12	9	7
1901	7.1	60	−48	0.32	0.30	0.31	0.31	2.9	3	15	7	6
1902	12.1	51	−31	0.73	1.10	1.12	0.98	6.7	6	10	6	12
1903	3.1	46	−33	0.48	0.25	0.41	0.38	3.7	3	19	4	5
1904	−2.1	52	−49	0.81	0.56	0.69	0.69	7.6	5	13	6	10
1905	8.2	64	−42	0.25	0.31	0.37	0.31	2.9	2	19	4	5
1906	9.8	57	−46	0.20	0.07	0.28	0.18	1.4	2	13	8	7
1907	10.7	58	−38	0.36	0.21	0.42	0.33	2.8	3	15	7	6
1908	13.8	62	−49	1.56	0.68	0.87	1.04	10.1	5	12	7	10
1909	9.6	56	−34	0.28	0.36	0.37	0.34	3.7	4	11	7	10
1910	3.4	56	−34	0.57	0.40	0.81	0.59	5.6	4	14	7	7
1911	7.3	55	−50	0.84	0.74	0.52	0.70	8.0	3	15	8	5
1912	11.8	48	−38	0.19	0.18	0.09	0.15	1.7	2	10	9	10
1913	8.5	64	−33	0.08	0.09	0.09	0.09	1.0	2	12	9	7
1914	1.0	57	−44	0.34	0.28	0.40	0.34	3.8	3	12	8	8
1915	17.4	50	−47	1.32	0.27	0.26	0.62	6.1	3	9	5	14
1916	6.4	55	−20	0.41	0.45	0.58	0.48	4.8	4	14	8	7
1917	−0.7	61	−39	0.84	0.58	0.55	0.66	7.1	5	10	8	10
1918	10.8	60	−48	0.20	0.16	0.29	0.22	2.3	3	13	9	6
1919	7.7	58	−41	0.68	0.73	0.44	0.62	6.5	5	10	8	10
1920	12.5	53	−40	0.38	0.25	0.28	0.30	3.2	3	11	9	9
1921	19.9	64	−36	0.52	0.39	0.25	0.39	3.8	3	11	10	7
1922	0.7	45	−33	1.41	1.17	1.00	1.19	12.8	5	13	6	9
1923	4.1	48	−39	0.78	0.64	0.51	0.64	7.2	4	13	7	8
1924	20.3	67	−40	0.39	0.43	0.35	0.39	4.2	3	14	6	9
1925	16.5	62	−27	0.48	0.30	0.08	0.29	3.6	3	10	9	9
1926	22.3	58	−39	0.47	0.44	0.31	0.41	3.7	4	9	9	10
1927	13.3	50	−19	0.49	0.31	0.27	0.36	3.1	4	12	7	9
1928	18.8	59	−31	0.13	0.06	0.15	0.11	1.2	2	14	8	7
1929	2.8	44	−19	0.30	0.28	0.30	0.29	3.3	4	12	8	8
1930	21.7	63	−44	1.41	1.15	0.97	1.18	11.7	6	11	8	9
1931	28.0	62	−30	0.34	0.20	0.31	0.28	2.9	2	14	6	8
1932	13.6	69	−31	0.30	0.37	0.30	0.32	4.3	3	12	9	8
1933	7.9	58	−45	0.25	0.26	0.34	0.28	3.3	3	13	8	7
1934	19.5	61	−30	0.08	0.04	0.07	0.06	0.7	1	13	8	7
1935	24.0	63	−25	0.21	0.24	0.15	0.20	1.9	2	13	7	8
1936	−12.9	43	−60	0.90	0.70	0.50	0.70	9.1	6	12	8	9
1937	6.8	55	−35	0.83	0.40	0.25	0.49	6.6	4	12	9	7
1938	7.2	60	−35	0.71	0.63	0.71	0.68	8.6	5	11	7	10
1939	−0.8	51	−46	0.85	0.60	0.45	0.63	9.7	5	13	8	7
Period	9.6	69	−60	0.54	0.43	0.42	0.46	4.8	4	13	7	8

Climatological Data for February 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	43	......	......	...	...	......	...	......	0.77	+0.25	0.25	10.0	......	......	......	......	......	I. Idso.
Cavalier	Pembina	894	29	−5.6	......	42	18	−37	15	44	1.58	+1.18	1.04	16.0	5	13	0	15	n.	Burke Bechtel.
Cooperstown	Griggs	1,428	42	−9.4	−18.8	43	18	−42	15	38	0.78	......	0.50	10.5	4	15	4	9	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9	......	......	...	...	......	...	......	0.36	−0.14	0.11	3.7	2	7	12	9	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	−4.4	−9.5	39	17	−35	8	36	1.02	+0.69	0.45	16.0	10	10	7	11	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	0.2	−12.5	40	17	−36	15	47					5	13	11	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	15	−5.4	−12.6	37	17	−41	15	40	0.33	−0.11	0.08	3.9	7	15	7	6	nw.	Mike Davis.
Ellendale	Dickey	1,457	44	2.3	−8.4	41	17	−53	15	43	0.56	+0.02	0.24	8.6	6	13	7	8	nw.	J. E. Demmer.
Fargo	Cass	895	3	−2.0	−10.1	38	17	−38	15	42	0.75	+0.41	0.31	13.1	6	7	8	13	n.	W. B. Aerological Sta.
Forman	Sargent	1,249	46	−0.8	−13.9	37	17	−38	15	40	0.52	−0.02	0.45	7.0	2	18	1	9	nw.	Helge Dyste.
Fullerton	Dickey	1,439	41	2.0	−10.0	40	17	−34	15	44	1.46	+0.53	0.54	19.0	6	7	14	7	n.	F. O. Alin.
Grafton	Walsh	827	47	2.2	−4.5	41	17	−40	8†	41	1.64	+1.10	0.49	22.8	8	13	8	7	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	48	−4.0	−11.6	40	17	−38	15	37	0.96	+0.40	0.33	10.2	9	7	9	12	n.	U. S. WeatherBureau.
Hankinson	Richland	1,068	10	1.0	......	38	18	−29	16	44	0.77	......	0.40	15.5	4	13	5	10	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	47	−8.0	−10.5	39	17	−41	15	40	0.91	+0.32	0.34	9.1	7	15	9	4	nw.	M. J. Rockwell.
Hillsboro	Traill	901	39	−3.4	−13.7	40	18	−36	14	38	0.58	0.00	0.25	11.6	4	16	1	11	n.	Lyle George.
Jamestown	Stutsman	1,457	47	0.2	−9.4	41	17	−37	15	40	1.34	+0.75	1.10	13.4	3	12	10	6	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	−5.5	−10.3	37	17	−37	8	39	1.00	+0.38	0.32	10.0	10	12	8	8	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	−2.1	−9.4	40	17	−35	15	37	0.62	+0.04	0.28	9.8	4	15	1	12	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	35	1.4	−9.8	39	17	−38	15	41	0.87	+0.25	0.25	17.5	7	13	7	8	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	−6.0	−11.8	38	17	−44	15	43	0.42	−0.29	0.12	7.3	7	13	8	7	n.	C. E. Blasky.
McLeod	Ransom	1,075	28	1.8	−11.5	40	17†	−40	15	50	0.52	−0.09	0.22	10.0	5	18	5	5	n.	J. G. Carlson.
Mayville	Traill	975	43	0.5	−9.0	42	18	−38	15	41	0.94	+0.52	0.50	12.0	5	10	7	11	n.	H. B. Addicott.
Oakes	Dickey	1,318	10	1.6	−12.5	40	17	−35	15	42	0.55	+0.10	0.28	10.9	4	21	1	6	nw.	F. H. Murray.
Park River	Walsh	998	35	−7.0	−14.7	39	18	−38	15	49	0.91	+0.51	0.30	24.5	7	13	5	10	nw.	E. J. Taintor.
Pembina	Pembina	789	65	−6.6	−9.6	38	17	−42	15	44	0.97	+0.34	0.30	10.0	6	15	1	12	nw.	E. N. Russell.
Petersburg	Nelson	1,520	9	......	......	...	...	......	...	......	1.11	......	0.31	11.1	5	11	8	9	nw.	T. M. Rykken.
Sharon	Steele	1,516	15	−4.2	−15.6	38	17	−36	15	38	1.02	+0.69	0.27	11.1	8	10	7	11	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	0.2	−11.3	43	17	−38	15	44	0.73	+0.26	0.22	18.5	9	9	12	7	ne.	I. C. Robertson.
Wahpeton	Richland	962	47	2.2	−9.8	39	18	−38	15	45	0.78	+0.29	0.30	13.7	10	12	8	8	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	−0.8	−8.9	40	17	−34	15	43	0.69	0.00	0.33	13.0	6	7	8	13	n.	U. S. Weather Bureau.
Average for Eastern Division		......	....	−2.1	−10.7	43	17†	−44	15	50	0.85	+0.30	1.10	12.3	6	12	7	9	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	43	−1.0	−12.1	42	18	−36	15	54	0.89	+0.40	0.31	17.8	6	17	3	8	nw.	Henry Doerr.
Bisbee	Towner	1,601	3	−4.9	......	39	17	−40	15	39	0.55	......	0.10	9.1	11	19	1	8	w.	I. K. Lund.
Bismarck	Burleigh	1,670	65	1.5	−8.8	45	18	−39	15	51	0.63	+0.19	0.28	14 9	7	10	12	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	−4.9	−9.1	40	17	−39	8	44	0.38	+0.03	0.14	6.0	4	8	6	14	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	−6.2	−14.9	34	25	−35	8†	55	0.87	+0.50	0.30	9.2	5	6	0	22	nw.	Soo Line Agent.
Carson	Grant	2,500	27	3.8	−11.6	51	18	−37	8	55	1.36	+0.92	0.98	13.2	4	9	13	6	nw.	J. W. Evens.
Center	Oliver	......	1	−0.6	......	41	18	−40	15	52	0.37	......	0.34	8.0	3	17	7	4	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	−0.8	−15.3	40	17	−36	9	37	0.58	+0.23	0.31	7.5	3	15	5	8	nw.	R. L. Williams.
Drake	McHenry	1,634	10	−5.1	......	41	18	−38	8	38	0.48	......	0.15	8.9	8	15	0	13	nw.	Peter Anton.
Dunseith	Rolette	1,682	43	−5.6	−12.0	43	17	−41	8	45	0.42	−0.01	0.14	5.0	5	17	3	8	n.	Geo. Gehres.
Eckman	Bottineau	1,500	34	−5.2	−12.8	40	17	−45	15	43	0.45	+0.09	0.10	9.0	8	12	8	8	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	0.9	−15.0	43	18	−40	15	54	0.78	+0.33	0.36	14.0	4	9	17	2	n.	H. S. Solenberger.
Fessenden	Wells	1,610	27	−2.8	−12.9	40	17	−39	15	41	0.66	+0.16	0.21	13.2	4	18	3	7	n.	T. D. Monsen.
Fort Yates	Sioux	1,670	39	4.0	−7.8	42	18	−33	8	50	0.25	−0.24	0.13	6.0	3	18	4	6	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	−2.1	−15.5	42	17	−38	8	39	0.56	−0.01	0.20	7.8	6	11	8	9	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	−1.9	......	39	17	−38	20	54	0.69	......	0.34	29.0	5	14	4	10	nw.	A. H. Haut.
Garrison	McLean	1,901	62	0.6	−10.3	42	17†	−37	8	49	0.77	+0.24	0.37	15.9	5	14	9	5	n.	E. L. Vorachek.
Granville	McHenry	1,504	32	−2.6	−12.7	40	17	−40	8†	44	0.53	+0.09	0.21	16.0	6	13	6	9	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	−4.6	−10.4	40	17	−39	8	38	0.36	−0.19	0.20	11.5	5	15	7	6	nw.	C. E. Blackorby.
Linton	Emmons	1,711	22	2.5	−12.0	44	18	−38	15	54	0.09	−0.39	..04	6.5	3	14	11	3	n.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	21	−2.7	−15.9	42	17	−38	8	45	0.58	+0.04	0.36	6.5	4	9	12	7	nw.	F. W. Perry.
Maddock	Benson	1,604	24	−5.2	−16.3	38	17	−44	15	40	1.17	+0.79	0.41	12.9	10	10	11	7	nw.	A. T. Felland.
Mandan	Morton	1,750	25	0.6	−12.3	45	18	−34	15	59	0.62	+0.26	0.24	9.0	7	13	9	6	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36	......	......	...	...	......	...	......	0.65	+0.19	0.30	7.7	5	......	......	......	......	P. B. Anderson.
Max	McLean	2,093	10	−2.7	......	38	18	−36	8	49	0.80	......	0.30	16.0	4	9	2	17	nw.	A. W. Rice.
Minot	Ward	1,557	43	−1.0	−10.7	43	17	−38	8	45	0.52	+0.07	0.21	12.3	10	16	1	11	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	46	−5.6	−12.7	39	17	−42	8	39	1.26	+0.95	0.73	8.0	9	8	10	10	nw.	Iver Johnson.
Napoleon	Logan	1,955	47	−0.8	−9.1	42	18	−41	15	51	0.85	+0.45	0.50	10.0	4	15	7	6	sw.	C. J. Hoof.
New Salem	Morton	2,163	35	0.8	−12.3	42	12†	−39	8	52	0.74	+0.29	0.50	8.0	5	14	8	6	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	−2.5	−11.3	40	18	−38	15	53	0.55	+0.16	0.20	10.5	3	14	6	8	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	−5.0	......	43	17	−38	8	42	0.90	......	0.26	9.0	8	18	1	9	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	10	......	......	...	...	......	...	......	0.65	+0.30	0.25	6.5	5	11	8	9	nw.	W. B. Paterson.
Ryder	Ward	2,108	10	......	......	...	...	......	...	......	0.32	−0.07	......	5.0	......	......	......	......	......	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3	......	......	...	...	......	...	......	0.73	......	0.32	15.0	5	9	17	2	nw.	J. B. Smith.
Steele	Kidder	1,857	45	−2.8	−12.2	40	18	−39	8	51	0.26	−0.18	0.14	9.5	3	10	11	7	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10	......	......	...	...	......	...	......	0.55	+0.25	0.24	8.7	12	13	5	10	sw.	G. N. Pilgard.
Timmer	Morton	......	2	......	......	...	...	......	...	......	0,36	......	0.24	12.0	3	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	37	−3.3	−11.0	41	17	−40	8†	43	0.65	+0.21	0.50	5.5	3	13	7	8	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	1.6	−10.2	42	17†	−38	8†	49	0.61	+0.11	0.25	9.0	6	15	6	7	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	31	......	......	...	...	......	...	......	0.72	+0.34	0.27	10.2	8	14	8	6	nw.	Adam Leno.
Velva	McHenry	1,511	12	−0.4	−14.3	43	17	−40	15	41	0.59	+0.22	0.26	6.6	6	9	10	9	nw.	Oscar Anderson.
Washburn	McLean	1,731	38	1.6	−7.9	43	17†	−35	8	50	0.63	+0.22	0.35	9.5	4	19	3	6	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	......	......	...	...	......	...	......	......	......	......	......	......	......	......	......	......	D. A. Findlay.
Willow City	Bottineau	1,471	47	−6.6	−11.5	40	17	−46	15	47	0.48	−0.07	0.30	6.6	5	19	2	7	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	18	−0.3	−9.3	45	17	−37	14	52	0.29	−0.06	0.15	6.2	4	11	11	6	nw.	H. M. Larson.
Zap	Mercer	1,838	24	......	......	...	...	......	...	......	0.26	−0.10	0.14	4.0	2	16	8	4	......	R. A. Norton.
Average for Middle Division		......	....	−1.8	−12.0	51	18	−46	15	59	0.60	+0.16	0.98	10.1	5	13	7	8	nw.	......

Continued on page 8.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for February 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																
Cooperstown [2]	Sheyenne	.20							.15			1.04		T.							.19			T									1.58
Courtenay [2]	James	.28						.50																									0.78
Devils Lake [1]	Devils Lake	.05	.01		T.	T.	T.	.11		.09	.01		.04	T.	T.	T.	T	T	.01	.02		.01	T.	.01			T		T.				0.36
Edgeley	James	.40						.45		.10				.05						.02													1.02
Edmore	Devils Lake		.05		.02	T.	.03	.08	.02	.07	T.		.06	T.				T.		T													0.33
Ellendale	James	.24	.05					.06		.12				.07						.02		T.		T.									0.56
Fargo [1]	Red	.31				T.	T.	.11		.22			T	.02	T.		T.			.05		T.	T.	.04			T.		T.				0.75
Forman	Sheyenne	.45	T.					.07																T.									0.52
Fullerton	James	.54	.04					.31	.11	.29	T.			T.	T.					.17		T.		T.					T.				1.46
Grafton	Red	.49	.10		.08	T.			.25		.26			.21	.04						.21												1.64
Grand Forks [1]	do	.33	.02			T.	T.	.28	.08	.07	.07		.07	.01			T.		T.	.03			T.	T.									0.96
Hankinson [2]	do	.40					.02	.25		.10														T.									0.77
Hannah	Pembina				.21	.06		T.	T.	.11			.08	T.	.06		.05		.34	T.													0.91
Hillsboro	Red	.25			.01											.21				.11													0.58
Jamestown	James	.16							1.10	.08																							1.34
Langdon [2]	Pembina	.06			.13		.05	.14		.15			.05	.08				.01		.32		.01											1.00
Larimore	Red	.19						.28		T.	.09		T.	.06										T.									0.62
Lisbon	Sheyenne	.15	.10					.25		.20	.10			.02	T.		T.			.05		T.		T.					T.				0.87
McHenry	James	.12	.05					.05		.07	.05		T	.05	T					.03		T.		T.									0.42
McLeod	Sheyenne		.18			T.			.07			.22		.01							.04	T.							T.				0.52
Mayville	Red	.50						.02		T.		T.	.01								.40				.01		T.		T.				0.94
Oakes	James	.28	T.					.05		.16	.06			T.																			0.55
Park River	Red	.30							.03	.02	.20		.02	.16	T.			T.		.18													0.91
Pembina	do	.20				.20		.08		.09			.30						.10														0.97
Petersburg	do	.21						.31		.13			.16					T.		.30													1.11
Sharon	do	.27	.01			T.	T.	.23	T.	.18	.01		.17	.07	T			T.	T.	.08		T.		T.					T				1.02
Valley City	Sheyenne	.14	.10			T.		.01	.22	.06	.13			T	.01					.05	T.		.01										0.73
Wahpeton	Red	.30	.03			T.		.09	.01	.15	.04			.08						.04	.01			.03					T.				0.78
Moorhead, Minn [1]	do	.33	T.			T.	T.	.08	T.	.18	T.		T.	.02	T.		T.			.06	T.	T.		.02			T.		T.				0.69
Middle Division																																	
Ashley [2]	Missouri	.31	.21					.10		.16			.06							.05													0.89
Bisbee	Devils Lake	.09	.03		T.	T.	.02	.04	.02	.08	.06		.04	.06	.01					.10		T											0.55
Bismarck [1]	Missouri	.28	T.		T	T.		.19	.02	.10			T.	.01	T.		T.		T.	.02	T.	T.		.01			T.						0.63
Bottineau	Mouse				.11			.14				.07	.06																				0.38
Carrington [2]	James		.30					.05	.30		.20								.02														0.87
Carson	Heart		.98					.30		.05										.03													1.36
Center	Missouri							.34	.02										.01					T.									0.37
Dogden Butte	Mouse	.31	.03		T.			.24		T.	T.			T.	T.					T.				T.									0.58
Drake [2]	do	.04	.15		T.	T.		.15	T	.04	.01		T.	.05		.01				.03		T.											0.48
Dunseith	do	.09			T.	.09		.14		T.			.05	.05	T.			T.															0.42
Eckman	do	.10			.05	.05		.05		.05			.05	.05	T				.05	T.				T.									0.45
Energy	Missouri	.36	.12					.20		.10																							0.78
Fessenden [2]	James		.18						.21		.21										.06												0.66
Fort Yates	Missouri	.13					.09			.03				T.	T.					T.		T.											0.25
Foxholm (near)	Mouse	.19			.04	T		.02	T.	.10			T.	.20	T.					.01				T.									0.56
Gackle	James	.34	.04					.14		.11	.06									T.													0.69
Garrison	Missouri	.37			T.			.25	T	.08	T				T.	T.	T.			.05				.02									0.77
Granville	Mouse	.21	.10		T.	T.		.11		.06	T.		.03		T.	T.			T.	.02		T.	T.										0.53
Hansboro	Devils Lake	.20				.07		.03			.04		.02																				0.36
Linton	Missouri	.02						.04		.03					T.					T.		T.											0.09
McClusky	do							.36											.02	.02				.18									0.58
Maddock	Sheyenne	.09	.16		.05			.11	.09	.07			T	.15	.01				T.	.41		T.		.03									1.17
Mandan [2]	Missouri	.14			T.		.24	.06	.10	.04			.03		T.				.01	T.	T.		T	T.					T.				0.62
Max [2]	do	.20	.30					.10	.20															T.									0.80
Minot	Mouse	.21	T.		.03	.01	T	.12		.05	.01		.01	.04	T.				T.	.03		T.		.01									0.52
Mohall	do	.73	.03		.16	.07	T.	.09		.04			.03	T.	T.				T.	.06				.05									1.26
Napoleon [2]	Missouri	.20	.10						.50												T	T.		.05									0.85
New Salem	Heart	.50						.12		.08					.01					.03				T.									0.74
Pettibone	James	.17						.20	.18											T.													0.55
Rolla	Devils Lake	.15			.04	T.		.19			.14	.06	.05		T.			T.	T.	.26		.01											0.90
Rugby (near)	Mouse		.25		T.	T.		.05		.05			.10						.20														0.65
Ryder [2]	Missouri																																0.32
Selfridge	do	.32					T.	.25	.10	.05				T.						.01		T.		T									0.73
Steele	do	.10						.14		.02				T.	T					T.					T								0.26
Tagus	Mouse	.24	T.		.03	.01		.06	.01	.07	.01		.05	.01	.01	T.		T.	T.	.04	T.			.01									0.55
Towner	do	.50			.05	T.		.10	T.	T.									T	T				T.									0.65
Turtle Lake	Missouri	.25	.01					.22		.06	.05				T.					.02				T.									0.61
Tuttle	do	.10	.02		T			.27		.12	.04		T.	.01	T.					.09		T.		.07									0.72
Velva	Mouse	.17	T.		T.	T.		.26		.05	.06		T.	.01	T		T.		T.	.04		T.		T.									0.59
Washburn [2]	Missouri	.35	.03					.17		.08					T.					T.													0.63
Westhope	Mouse																																
Willow City	do	.30			.08			.05		.03								.02															0.48
Wishek [2]	Missouri	.15						.10	.02	.02			T.																				0.29
Zap	Knife	.12						.14		T.				T.		T.				T.			T.	T.	T.								0.26
Western Division																																	
Alpha	Lit. Missouri		.13					.12		.08	T.				T.					.01				T.			.01						0.35
Amidon	do	.21								.05																	.03						0.27
Beach	do	.12						.14		.10					.02					.02	T.			.04			T.						0.44
Berthold Agency	Missouri	.03	.16					.14																									0.33
Bowman [2]	Grand						.03		.02	T.				T.	T.					T.	T.			T.			T.		T				0.05
Crosby	Mouse	.30			.05			.06					.02							T.			.04										0.47
Dickinson [2]	Heart	.35	.01					.11	T.	.03	T			T.	.01	.02				.03	T	T.	.02	T.				T.					0.58
Dunn Center	Knife	.13						.11		.07					T					T.	T.			T.									0.31
Fairfield	Lit. Missouri	.16						.08		.07					T.					T			T.										0.31
Fryburg	Heart	.25				T.		.11		.03				T.						.03				T.			.02						0.44
Hettinger	Grand	.15						.16		T.					T					T.													0.31
Howard (near)	Missouri	.10				T.							.40									T.											0.50
Kenmare	Mouse	.40				.02		.16		.05	.05		.03	.04						.06													0.81
Marmarth	Lit. Missouri	.16						.07		.02					.01					T.							.04						0.30
Mary	do	.03						.11		.02										T.													0.16
Medora	do	.07						.14	T.	.07	T.		T.		.01					.01				.05			T.		T.				0.35
Mott	Cannon Ball	.27	.18					.24		.10											T.												0.79
New England [2]	do	.02						.17	.10	.06						.02																	0.37
Parshall	Missouri	.15	.03					.12		.05					.02					.04													0.41
Portal [2]	Mouse	.30						.10					.20											.10									0.70
Powers Lake	Missouri						.21						.17																				0.38
Richardton	Heart	.27						.37		.16					.04					.03		.01		.02									0.90
Sanish [2]	Missouri	.35	.10				.15		.02											.10													0.62
Stanley	do	.14	T.		.02			.18			T.		.05	T.						.07													0.46
Tioga	do	.40						.10	T.				T.							.10													0.60
Trotters	Lit. Missouri	.16						.16		.07														.07									0.46
Watford City	Missouri	.16						.18	.02											.02													0.38
Wildrose	do	.26	T.		.03	T.		.14	T.	.09			.09	T.					T.			T.		.10									0.71
Williston [1]	do	.10			T.	T.	T.	.17	.01	.04			T.	T.	T.				T.	.05	T.		T	T.	T.		T.						0.37

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for February 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	0	11	13	12	-3	-4	-24	-12	-13	22	38	-4	0	-2	17	40	42	-5	4	4	17	22	27	40	34	31	18	30	....	....	....	12.7
	Minimum	4	-11	-16	-12	-16	-10	-33	-34	-32	-28	-30	-16	-10	-26	-36	-28	-2	-7	-24	-25	-8	-17	-8	-9	8	8	10	0	....	....	....	-14.6
Beach	Maximum	3	5	13	13	32	22	4	-22	-23	-20	25	41	38	26	15	24	40	43	35	15	12	27	29	26	39	30	32	25	....	....	....	19.6
	Minimum	-7	-17	-13	-4	-10	-15	-24	-38	-27	-36	-27	16	-4	-7	-10	-3	16	27	-10	-17	-9	-13	16	2	17	18	6	6	....	....	....	-6.0
Bismarck	Maximum	10	2	6	12	12	10	-5	-16	-16	-17	23	25	-2	-1	3	22	42	45	8	10	8	26	28	20	43	26	27	17	....	....	....	13.1
	Minimum	-1	-13	-12	-3	-6	-13	-16	-34	-26	-26	-28	-6	-12	-30	-39	-1	19	8	-17	-24	-11	-19	2	-9	10	17	9	-2	....	....	....	-10.1
Bottineau	Maximum	10	4	6	6	3	0	-4	-11	-9	-14	0	-5	-2	-10	-10	11	40	36	13	10	13	11	14	34	34	22	24	21	....	....	....	8.8
	Minimum	-5	-15	-30	-10	-23	-27	-14	-39	-28	-26	-35	-20	-19	-25	-36	-24	0	0	-19	-34	-19	-28	-18	-8	3	-8	-3	-10	....	....	....	-18.6
Carson	Maximum	15	0	2	15	15	5	-5	-14	-20	-20	25	41	21	4	1	24	40	51	35	20	9	26	29	22	44	31	36	31	....	....	....	17.2
	Minimum	-2	-14	-17	-9	-10	-16	-16	-37	-29	-22	-30	-3	-12	-11	-24	-5	16	24	-16	-25	-10	-18	6	-4	6	16	5	1	....	....	....	-9.5
Crosby §	Maximum	0	-5	0	-4	11	3	-9	-25	-17	-15	14	10	12	-2	10	21	48	41	5	10	5	8	26	20	37	31	21	20	....	....	....	9.9
	Minimum	-7	-15	-24	-11	-16	-23	-23	-38	-27	-30	-30	-12	-23	-16	-32	-11	11	4	-20	-27	-18	-10	9	-4	0	18	-1	-12	....	....	....	-13.9
Devils Lake	Maximum	13	2	-2	0	6	5	-8	-16	-14	-13	8	-2	-7	-5	-1	14	39	23	-1	-1	-1	15	16	12	31	23	20	14	....	....	....	6.1
	Minimum	1	-17	-26	-11	-10	-19	-19	-35	-29	-27	-28	-14	-16	-28	-33	-10	8	-1	-24	-30	-17	-21	-7	-15	2	7	2	-3	....	....	....	-15.0
Dickinson §	Maximum	-1	-1	6	9	25	0	-10	-22	-19	-3	27	39	19	0	10	28	40	40	-6	13	0	29	21	20	38	28	25	20	....	....	....	13.4
	Minimum	-2	-15	-15	-14	-16	-16	-18	-37	-38	-34	-35	-5	-10	-10	-19	-6	0	23	-10	-28	-28	-26	-24	-4	-5	9	0	-1	....	....	....	-13.7
Dunn Center §	Maximum	2	-2	6	7	24	12	-7	-13	-14	-16	22	35	1	2	5	23	42	36	35	12	10	23	28	23	38	29	29	28	....	....	....	15.0
	Minimum	-2	-12	-15	-8	-13	-17	-17	-37	-29	-33	-31	-2	-13	-17	-22	-4	15	18	-17	-32	-12	-25	12	-3	-4	10	2	-8	....	....	....	-11.6
Fessenden §	Maximum	11	0	2	5	8	10	-3	-17	-17	-14	11	10	-1	-3	-4	7	40	34	-15	-4	1	10	20	16	30	24	20	12	....	....	....	6.9
	Minimum	-1	-10	-24	-15	-8	-19	-17	-36	-35	-24	-30	-2	-14	-16	-39	-9	7	16	-20	-32	-11	-24	8	-13	0	9	4	9	....	....	....	-12.4
Fullerton	Maximum	22	8	4	8	8	12	-1	-5	-15	-12	11	15	5	-2	-4	8	40	39	32	4	3	15	23	17	34	32	28	25	....	....	....	12.6
	Minimum	8	-6	-16	-10	-17	-8	-10	-27	-28	-19	-33	-8	-8	-10	-34	-14	-3	18	-8	-23	-8	-17	10	-8	1	16	14	4	....	....	....	-8.7
Garrison §	Maximum	4	2	5	7	15	12	-7	-9	-15	-18	19	14	1	-5	0	18	42	42	24	7	4	17	25	19	36	31	25	17	....	....	....	11.9
	Minimum	0	-14	-13	-7	-4	-18	-12	-37	-29	-28	-30	-4	-13	-14	-35	-3	12	21	-14	-30	-10	-21	8	-12	-1	11	2	-8	....	....	....	-10.8
Grafton	Maximum	17	12	5	2	6	3	-3	-7	-10	-6	5	6	-6	-3	-10	7	41	41	9	0	0	13	13	18	33	35	24	23	....	....	....	9.5
	Minimum	-5	-1	-26	-17	-11	-10	-14	-27	-32	-14	-34	-11	-14	-21	-40	-20	2	2	-16	-27	-22	-23	2	-16	-8	6	7	0	....	....	....	-13.9
Grand Forks	Maximum	20	7	-6	4	5	5	-5	-10	-6	-9	5	0	-4	-4	-12	10	40	17	6	-5	-5	10	11	17	32	23	25	11	....	....	....	6.5
	Minimum	7	-11	-24	-8	-6	-18	-21	-28	-29	-22	-29	-8	-19	-29	-38	-12	5	5	-20	-30	-26	-23	-9	-16	-5	10	6	-5	....	....	....	-14.4
Jamestown §	Maximum	14	8	3	4	7	11	-7	-10	-14	-15	12	15	-4	-3	-8	11	41	39	16	3	0	17	21	19	40	35	24	19	....	....	....	10.6
	Minimum	3	-7	-17	-11	-15	-11	-12	-31	-29	-21	-28	-4	-10	-16	-37	-11	4	15	-13	-26	-11	-20	6	-13	3	15	8	0	....	....	....	-10.3
Kenmare	Maximum	2	0	-1	-6	10	10	-5	-7	-14	-17	15	16	-2	0	-2	17	40	40	9	6	5	14	21	19	33	32	29	24	....	....	....	10.3
	Minimum	-6	-15	-24	-13	-11	-21	-21	-38	-26	-30	-26	-11	-22	-11	-32	-8	15	9	-17	-26	-18	-14	7	-8	3	14	7	-9	....	....	....	-12.6
Langdon §	Maximum	14	6	-4	-6	-4	0	-6	-6	-10	-10	1	-2	0	-5	-10	5	37	36	1	-4	4	10	13	13	30	27	24	17	....	....	....	6.1
	Minimum	-11	-11	-28	-15	-15	-21	-19	-37	-34	-17	-30	-17	-20	-19	-36	-16	-2	-1	-19	-36	-18	-26	-3	-21	-6	4	2	-6	....	....	....	-17.1
Marmarth	Maximum	6	6	13	22	34	25	10	-20	-12	-16	30	42	40	26	15	25	43	47	35	15	5	26	32	26	42	30	36	26	....	....	....	21.8
	Minimum	-4	14	23	12	-16	-6	-20	-30	-30	-36	-34	-15	-3	-2	-7	0	15	24	-6	-16	-4	-14	20	7	5	15	-3	10	....	....	....	-5.8
Minot	Maximum	4	4	4	0	13	11	-8	-9	-15	-14	17	15	-1	-1	-1	19	43	40	9	8	6	15	24	18	37	31	27	19	....	....	....	11.2
	Minimum	-2	-11	-28	-10	-9	-20	-18	-38	-30	-26	-28	-10	-18	-16	-37	-10	13	9	-16	-31	-11	-19	8	-15	3	11	2	-9	....	....	....	-13.1
Mott	Maximum	16	-1	4	12	27	17	1	-12	-22	-22	25	41	39	18	5	22	41	46	35	14	14	26	29	23	41	35	36	26	....	....	....	19.1
	Minimum	-3	-13	-18	-13	-14	-12	-14	-35	-29	-32	-31	16	-10	-8	-17	-1	14	23	-10	-21	-6	-18	15	1	6	16	3	7	....	....	....	-7.3
Pembina	Maximum	16	8	-5	2	4	3	-8	-8	-9	-8	-3	-5	-9	-8	-13	6	38	34	-2	-7	-6	10	7	14	32	20	22	12	....	....	....	4.9
	Minimum	-7	-8	-29	-18	-12	-18	-19	-32	-35	-16	-30	-12	-24	-24	-42	-21	-2	-2	-17	-37	-28	-29	-2	-20	-12	3	-2	-10	....	....	....	-18.0
Sharon	Maximum	15	5	-4	-1	3	-2	-9	-11	-14	-15	7	7	-5	-7	-12	6	38	35	7	-3	1	11	10	12	32	27	21	14	....	....	....	6.0
	Minimum	-1	-10	-27	-14	-14	-15	-16	-31	-31	-20	-31	-11	-16	-21	-36	-19	1	4	-18	-31	-19	-25	0	-17	-3	11	5	-1	....	....	....	-14.5
Steele	Maximum	10	0	6	4	4	4	-10	-12	-22	-22	12	12	-3	-8	-1	8	39	40	35	-1	0	14	20	17	33	24	22	19	....	....	....	8.7
	Minimum	0	-13	-22	-11	-20	-17	-14	-39	-37	-29	-35	-3	-15	-12	-41	-9	1	16	-16	-33	-14	-27	-2	-16	2	12	0	-8	....	....	....	-14.4
Valley City	Maximum	21	10	0	7	5	3	-6	-8	-12	-11	10	10	-3	-1	-4	9	43	41	19	3	4	12	12	15	35	30	26	24	....	....	....	10.5
	Minimum	2	-6	-21	-12	-11	-7	-12	-28	-27	-17	-27	-6	-8	-13	-38	-11	-1	13	-17	-26	-14	-19	8	-15	-1	15	10	2	....	....	....	-10.2
Wahpeton	Maximum	26	25	3	12	12	13	4	0	-5	-4	9	20	15	0	-4	9	38	39	36	-7	2	10	18	13	34	34	28	25	....	....	....	14.5
	Minimum	12	-3	-23	-13	-15	-4	-15	-23	-25	-15	-29	0	-5	-17	-38	-18	-3	16	-9	-27	-17	-25	3	-19	-1	14	17	0	....	....	....	-10.1
Williston	Maximum	1	1	7	3	17	-9	-7	-22	-18	-17	20	19	8	0	11	24	42	41	1	11	3	27	28	22	39	30	21	24	....	....	....	11.7
	Minimum	-9	-17	-9	-3	-10	-22	-30	-37	-26	-34	-24	-8	-12	-25	-24	-5	20	1	-21	-27	-12	-18	7	7	7	12	3	-6	....	....	....	-11.5
Moorhead, Minn.	Maximum	24	8	-2	11	12	6	-4	-10	-5	-9	6	11	7	-3	-11	7	40	37	24	-8	-3	7	17	14	32	23	24	13	....	....	....	9.6
	Minimum	8	-7	-19	-11	-6	-13	-14	-27	-27	-20	-30	-2	-13	-22	-34	-14	5	11	-19	-26	-22	-20	-1	-12	-6	14	10	1	....	....	....	-11.3

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for February 1939—Continued from page 6.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	...	12	.....	.....	....	....	....	....	.....	0.35	-0.12	0.13	7.0	5	17	6	5	nw.	H. A. Bury.
Amidon	Slope	...	16	6.0	-11.4	42	18	-39	8	58	0.27	-0.21	0.21	3.7	3	13	8	7	nw.	J. G. Jacobson.
Beach	Golden Valley	2,[illegible]	33	6.6	-9.6	43	18	-38	8	52	0.44	+0.03	0.14	6.0	6	9	15	4	sw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	3.3	-8.9	45	18	-36	8†	49	0.33	-0.07	0.16	6.0	3	14	7	7	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	.....	.....	....	....	....	....	.....	0.32	-0.08	0.16	6.4	3	.....	.....	.....	....	L. C. Grinney.
Bowman	Bowman	2,872	24	4.8	-13.7	42	18	-35	9	50	0.05	-0.43	0.03	1.2	2	16	7	5	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	-2.0	-11.4	48	17	-38	8	44	0.47	+0.11	0.30	7.2	5	10	6	12	nw.	J. H. Phelps.
Dickinson	Stark	2,543	46	-0.2	-13.3	40	17†	-38	9	62	0.58	+0.15	0.35	9.8	8	10	13	5	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	1.7	-12.9	42	17	-37	8	53	0.31	-0.19	0.13	4.5	3	12	9	7	nw.	O. T. Evenson.
Epping	Williams	2,224	28	0.4	-10.4	40	18†	-41	8	54	0.43	+0.02	0.25	6.0	2	21	4	3	nw.	T. Beachler.
Fairfield	Billings	.....	2	.....	.....	....	....	....	....	.....	0.31	.....	0.16	6.1	3	18	7	3	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	20	4.6	.....	46	18	-38	8	54	0.44	-0.03	0.25	5.9	5	10	9	9	nw.	Verne King.
Hettinger	Adams	2,675	31	9.9	-6.6	49	18	-34	8	54	0.31	-0.11	0.16	6.0	2	5	12	11	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	4.1	-4.9	38	17†	-43	8	57	0.50	-0.06	0.40	5.1	2	22	2	4	sw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	-1.2	.....	40	17†	-38	8	41	0.81	+0.44	0.40	10.0	8	19	2	7	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	29	8.0	-9.7	47	18	-36	10	64	0.30	-0.14	0.16	4.9	5	9	13	6	nw.	S. P. Grane.
Mary	McKenzie	.....	10	.....	.....	....	....	....	....	.....	0.16	-0.10	0.11	7.6	3	16	6	6	nw.	Fred Hartman.
Medora	Billings	2,271	23	.....	.....	....	....	....	....	.....	0.35	-0.13	0.14	5.0	6	12	13	3	w.	Vernon Thompson.
Mott	Hettinger	2,424	31	5.9	-7.6	46	18	-35	8	56	0.79	+0.17	0.27	9.0	4	15	10	3	nw.	W. M. Hendricks.
New England	Hettinger	2,400	44	4.2	-9.9	49	18	-37	7	58	0.37	-0.12	0.17	4.3	5	10	9	9	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	-2.3	.....	40	17†	-41	8	55	0.41	-0.01	0.15	6.0	6	4	18	6	nw.	C. E. Shubert.
Portal	Burke	1,954	33	-7.6	-13.0	40	17	-43	8†	53	0.70	+0.30	0.30	7.0	4	15	4	9	w.	R. G. Wegener.
Powers Lake	Burke	2,205	33	0.0	-12.7	41	17	-41	8	34	0.38	-0.08	0.21	5.0	2	13	7	8	w.	Geo. B. Gec.
Richardton	Stark	2,467	22	4.0	-11.2	38	17†	-37	8	50	0.90	+0.50	0.37	10.8	7	10	10	8	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	-1.3	-10.7	42	17	-38	8	59	0.62	+0.19	0.25	12.5	5	10	13	5	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	-3.6	.....	39	17	-39	8	45	0.46	.....	0.18	8.4	5	14	10	4	w.	Leroy Edwards.
Tioga	Williams	2,279	10	.....	.....	....	....	....	....	.....	0.60	+0.27	0.40	9.0	3	17	2	9	nw.	B. V. Olson.
Trotters	Golden Valley	.....	13	.....	.....	....	....	....	....	.....	0.46	+0.09	0.16	6.0	4	6	9	13	nw.	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	4.2	-9.7	42	17	-37	8	52	0.38	-0.04	0.18	6.5	4	15	8	5	w.	J. C. Zeller.
Wildrose	Williams	2,258	11	.....	.....	....	....	....	....	.....	0.71	.....	0.26	9.4	6	14	7	7	sw.	L Holter.
Williston	Williams	1,878	59	0.1	-8.0	42	17	-37	8	45	0.37	-0.04	0.17	4.6	5	11	11	6	n.	U. S. Weather Bureau.
Average for Western Division		....	.....	2.2	-11.1	49	18	-43	8†	64	0.45	+0.02	0.40	6.7	4	13	9	6	nw.	.....
Average for the State		.....	....	-0.8	-10.2	51	18	-46	15	64	0.63	+0.16	1.10	9.7	5	13	8	7	nw.	.....

[WBO, Minneapolis, 4-10-39—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVIII Bismarck, N. D., March 1939 No. 3

GENERAL SUMMARY

Although the temperature during March averaged near the seasonal normal, the readings from the 14th to the 18th were considerably below normal, while unusually high temperatures prevailed from the 22d to the 25th. Precipitation was about normal during the first half of the month, but only light, scattered amounts occurred after the 15th. All stations reported considerable snow between the 13th and 15th and the central and western sections had snowstorms from the 3d to the 5th. The wind velocity was mostly light and no storms of any importance occurred. Livestock continued in fair to good condition although considerable yard feeding was necessary. The warm weather from the 22d to the 25th caused much snow to melt, ice in rivers and streams broke up and much bottom land was flooded in many sections, particularly along the Missouri River.

TEMPERATURE

The mean temperature for the State was 23.3° or 0.5° below the 1892-1939 average for March. The mean temperature for the eastern division was 22.3°; for the middle division, 23.0°; and for the western division, 24.5°. The highest mean temperature was 30.3° at Hettinger, and the lowest, 16.4° at Pembina, making a range in mean temperature of 13.9°. The absolute range was 112°, from 83° at Carson and Napoleon on the 23d, to -29° at Pembina on the 7th. The average daily deficiency in temperature for the State since January 1, 1939, is 0.7°.

PRECIPITATION

The average precipitation for the State was 0.39 inch, or 0.37 inch less than the 1892-1939 average for March. In the eastern division the average amount was 0.33 inch; in the middle division, 0.41 inch; and in the western division, 0.42 inch. The greatest monthly amount reported was 1.30 inches at Foxholm, Mohall, and Towner; there was none reported at Hannah. The greatest amount recorded in any 24 consecutive hours was 1.09 inches at Foxholm on the 13th. The accumulated deficiency in precipitation for the State since January 1, 1939, is 0.22 inch. The average snowfall was 5.3 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	2	..	..	..	..	1	2	4	2	1	..	2	..	1	4	4	..	..	1	4	9	8	9	..	2	..	6	14	15	4	5
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	1
Fogs	4	1	11	2	..	..	1	2	7	16	15	1	1	1	..	..	1	2	1	4	1	2	2	8	18	..	1	..	..	..	..
Lunar halos	1	2	..	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	.	..	..	2	..	2	4	..	..	..	..	2	..	..	2	..	1	..	..	..	..	..	..	1	..	2	..	..	..
Sleet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	30.06	30.62	16	29.53	25	8.2	27	n.	14†	86	59	60	78
Devils Lake	30.10	30.51	16	29.52	31	9.6	29	ne.	14	89	72	73	74
Williston	30.09	30.68	16	29.55	25	7.6	30	nw.	25	88	64	62	77
Moorhead, Minn	30.10	30.53	7	29.49	30	9.2	22	nw.	26	90	76	79	55
Averages & ext's	30.09	30.68	16	29.49	30	8.6	30	nw.	25	88	68	68	71

† And other dates.

COMPARATIVE DATA FOR MARCH

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	24.2	66	−35	0.87	0.98	0.65	0.83	1.9	4	12	8	11
1893	13.9	68	−35	1.10	1.30	0.46	0.95	10.0	5	13	7	11
1894	24.8	69	−22	1.20	1.71	1.43	1.45	10.1	5	12	9	10
1895	23.2	75	−35	0.07	0.21	0.24	0.17	1.0	2	16	10	5
1896	15.7	70	−35	1.19	1.15	1.06	1.13	8.0	8	12	10	9
1897	11.9	58	−48	1.15	1.04	1.90	1.36	8.0	7	15	7	9
1898	21.3	79	−24	0.77	0.80	0.80	0.79	6.7	5	13	8	10
1899	7.5	72	−30	1.23	0.96	0.68	0.96	10.0	5	12	10	9
1900	20.3	77	−24	0.96	0.96	1.11	1.01	8.5	5	14	7	10
1901	25.3	85	−32	0.95	0.85	0.78	0.86	5.2	5	15	8	8
1902	27.4	65	−25	2.75	2.90	2.55	2.73	11.7	8	10	6	15
1903	22.1	80	−24	0.78	0.44	0.42	0.55	5.1	3	12	6	13
1904	18.2	64	−26	1.26	1.33	1.64	1.41	11.5	5	11	6	14
1905	32.5	81	−25	1.09	0.85	0.32	0.75	2.3	4	11	8	12
1906	18.5	67	−34	0.31	0.39	0.44	0.38	3.1	3	15	6	10
1907	23.1	83	−20	0.57	0.58	1.00	0.72	5.1	4	14	9	8
1908	21.1	68	−31	1.17	0.94	1.53	1.21	12.1	8	10	9	12
1909	24.0	61	−24	0.34	0.40	0.26	0.33	2.7	4	10	9	12
1910	41.3	90	− 7	0.83	0.93	1.08	0.94	0.3	3	18	8	5
1911	30.6	78	−18	0.14	0.26	0.29	0.23	1.6	2	16	10	5
1912	15.4	65	−28	0.28	0.32	0.52	0.37	3.6	3	17	8	6
1913	17.2	70	−31	0.82	0.73	1.00	0.85	8.2	6	12	9	10
1914	25.5	76	−20	0.83	1.06	0.75	0.88	9.2	5	10	9	12
1915	22.9	63	−23	0.38	0.20	0.07	0.22	2.0	2	16	6	9
1916	20.3	69	−45	1.43	1.82	1.00	1.42	13.5	6	11	9	11
1917	22.2	67	−39	0.44	0.33	0.37	0.38	3.9	3	13	10	8
1918	35.0	82	−15	0.32	0.46	0.42	0.40	2.9	2	16	8	7
1919	17.8	67	−35	0.63	0.93	0.78	0.78	6.2	4	12	9	10
1920	22.4	67	−32	0.46	0.83	1.20	0.83	7.1	4	15	8	8
1921	25.2	75	−22	1.07	1.02	0.81	0.97	9.1	6	9	12	10
1922	25.8	60	−30	0.96	0.67	0.50	0.71	6.4	4	12	7	12
1923	18.3	65	−35	0.34	0.44	0.35	0.38	4.8	4	10	10	11
1924	25.5	58	−20	0.32	0.36	0.75	0.48	4.4	4	10	9	12
1925	27.4	75	−26	0.74	0.56	0.75	0.68	6.0	4	14	9	8
1926	25.8	83	−23	0.35	0.19	0.17	0.24	1.8	3	13	10	8
1927	30.4	77	−10	0.90	0.78	0.47	0.72	6.5	5	13	8	10
1928	28.1	85	−17	0.69	0.55	0.31	0.52	4.8	3	15	8	8
1929	30.5	77	−15	0.68	0.65	1.02	0.78	5.3	5	12	8	11
1930	26.1	62	−17	0.17	0.05	0.05	0.09	0.9	1	17	8	6
1931	25.7	63	−24	0.99	0.85	0.99	0.94	4.8	5	11	8	12
1932	18.9	64	−30	0.52	0.60	0.80	0.64	6.0	6	10	11	10
1933	28.5	70	−14	0.46	0.41	0.49	0.45	3.7	3	14	10	7
1934	26.3	74	−12	0.43	0.34	0.71	0.49	3.6	4	11	11	9
1935	26.3	75	−37	2.00	0.89	0.90	1.26	7.0	5	9	11	11
1936	25.4	61	−27	0.73	0.75	0.94	0.81	8.1	6	10	11	10
1937	24.8	72	−20	0.42	0.34	0.42	0.39	4.3	3	12	11	8
1938	33.1	72	−14	0.63	0.57	0.58	0.59	2.5	4	13	10	8
1939	23.3	81	−29	0.33	0.41	0.42	0.39	5.3	3	16	8	7
Period	23.8	90	−48	0.77	0.75	0.75	0.76	5.8	4	13	9	9

Climatological Data for March 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	43																	I. Idso.
Cavalier	Pembina	894	29	19.9		69	22	−25	5	48	0.24	−0.47	0.24	4.0	1	20	3	8	n.	Burke Bechtel.
Cooperstown	Griggs	1,428	42	17.6	−5.8	75	24	−17	18	41	0.12	−0.51	0.12	2.0	1	21	3	7	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9								0.70		0.70	8.0	1	24	1	6	s.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	20.4	+0.6	70	23	−14	17	45	0.19	−0.59	0.11	2.1	3	9	9	13	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	27.8	+0.5	80	23†	− 7	16†	49	0.12	−0.59	0.12	4.0	1	10	16	5	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	15	18.8	−2.2	66	24	−22	7	52	0.02		0.01	0.4	2	19	9	3	nw.	Mike Davis.
Ellendale	Dickey	1,457	44	28.6	+3.0	80	23	− 6	17	47	0.18	−0.73	0.18	2.9	1	18	6	7	nw.	J. E. Demmer.
Fargo	Cass	895	3	21.6	−1.1	67	24	−12	18	42	0.39	−0.49	0.31	4.5	3	8	10	13	n.	W. B. Aerological Sta.
Forman	Sargent	1,249	46	24.0	−3.6	74	24	−10	17	43	0.24	−0.50	0.24	3.4	1	25	2	4	n.	Helge Dyste.
Fullerton	Dickey	1,439	41																	F. O. Alin.
Grafton	Walsh	827	47	21.6	+0.4	64	24	−19	7†	38	0.71	+0.06	0.71	10.3	1	11	13	7	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	48	19.2	−3.2	61	23	−19	7	46	0.73	−0.01	0.49	8.8	3	8	10	13	n.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	26.7^{d}	−2.7	78^{d}	24	− 4^{d}	16	43^{d}	0.21	−0.70	0.14	3.0	2	18	6	7	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	47	16.7	−2.1	63	23	−27	7	47	0.00	−0.69	0.00	0.0	0	14	10	7	nw.	M. J. Rockwell.
Hillsboro	Traill	901	39	20.2	−5.4	67	23	−16	18	39	0.19	−0.56	0.19	2.0	1	21	5	5	n.	Lyle George.
Jamestown	Stutsman	1,457	47	26.1	+2.1	79	24	−11	17	48	0.45	−0.42	0.45	4.5	1	16	10	5	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	20.2	+0.6	65	23	−23	7	44	0.17	−0.63	0.14	1.7	3	6	19	6	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	22.8	+0.5	73	23	−15	7	41	0.63	−0.14	0.60	8.5	2	14	9	8	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	35	28.0	+0.9	81	25	− 6	16†	47	0.40	−0.24	0.40	6.0	1	13	10	8	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	19.6	−3.6	73	24	−20	18	54	0.18	−0.40	0.15	3.2	2	13	12	6	nw.	C. E. Blasky.
McLeod	Ransom	1,075	28	27.3	−0.4	78	24	−12	18	46	0.57	−0.14	0.57	6.0	1	27	2	2	n.	J. G. Carlson.
Mayville	Traill	975	43	24.0	−0.5	70	23	−13	7	38	0.75	+0.06	0.50	10.5	2	15	6	10	n.	H. B. Addicott.
Oakes	Dickey	1,318	10	27.6	−1.6	80	23†	−10	18	47	0.25	−0.53	0.25	2.7	1	19	6	6	nw.	F. H. Murray.
Park River	Walsh	998	35	17.6	−5.5	71	24	−22	7	50	0.20	−0.42	0.17	7.0	2	16	8	7	nw.	E. J. Taintor.
Pembina	Pembina	789	65	16.4	−1.8	60	23	−29	7	34	0.20	−0.61	0.10	2.0	2	13	10	8	nw.	E. N. Russell.
Petersburg	Nelson	1,520	9								0.50		0.50	6.0	1	13	12	6	sw.	T. M. Rykken.
Sharon	Steele	1,516	15	21.4	−3.2	73	24	−16	18	47	0.39	−0.25	0.35	4.5	2	10	12	9	w.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	26.0	0.0	80	24	−10	18	47	0.23	−0.44	0.16	3.5	2	20	5	6	sw.	I. C. Robertson.
Wahpeton	Richland	962	47	25.6	−1.9	70	23†	− 9	16	38	0.30	−0.35	0.29	4.3	2	9	14	8	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	22.5	−0.1	66	24	− 9	18	39	0.23	−0.78	0.22	3.5	3	8	10	13	n.	U. S. Weather Bureau.
Average for Eastern Division				22.3	−1.3	81	25	−29	7	54	0.33	−0.44	0.71	4.5	2	15	8	8	nw.	
Middle Division																				
Ashley	McIntosh	2,001	43	25.9	+1.6	82	23	− 9	17	48	0.31	−0.48	0.28	4.5	2	19	4	8	nw.	Henry Doerr.
Bisbee	Towner	1,601	3	21.0		65	23†	−17	7†	48	0.43		0.23	4.2	2	20	0	11	nw.	I. K. Lund.
Bismarck	Burleigh	1,670	65	26.6	+2.4	79	24	− 9	6	54	0.21	−0.68	0.11	3.8	5	13	13	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	20.0	−0.1	67	24	−14	6	37	0.22	−0.44	0.11	3.3	3	16	8	7	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	22.4	−1.0	77	24	−14	17	48	0.40	−0.27	0.30	4.0	2	18	0	13	sw.	Soo Line Agent.
Carson	Grant	2,500	27	30.0	+3.7	83	23	−11	6	55	0.52	−0.23	0.30	4.0	3	13	11	7	nw.	J. W. Evens.
Center	Oliver		1	23.5		75	22	−20	16	56	0.59		0.35	8.0	3	22	7	2	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	23.4	−3.0	71	24	−13	7	38	0.65		0.65	9.0	1	14	12	5	nw.	R. L. Williams.
Drake	McHenry	1,634	10	20.2		75	25	−16	15	43	0.31		0.25	5.0	2	11	8	12	nw.	Peter Anton.
Dunseith	Rolette	1,682	43	19.2	−1.0	65	23†	−15	7†	43	0.28	−0.35	0.14	5.0	3	12	13	6	n.	Geo. Gehres.
Eckman	Bottineau	1,500	34	18.5	−4.4	55	30	−23	15	56	0.70	+0.17	0.32	12.0	5	13	13	5	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	24.6	−4.4	75	24	−20	17	53	0.46	−0.31	0.20	8.0	3	17	11	3	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	27	23.2	−0.2	73	24	−13	6†	36	0.35	−0.40	0.33	5.0	2	21	6	4	n.	T. D. Monsen.
Fort Yates	Sioux	1,670	39	28.0	+1.7	78	23†	− 9	6	47	0.08	−0.77	0.05	2.0	2	19	7	5	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	21.7	−3.5	67	24	−18	15	45	1.30	+0.63	1.09	14.9	4	11	16	4	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	25.8		74	23†	−12	17	43	0.02		0.02	1.2	1	18	5	8	nw.	A. H. Haut.
Garrison	McLean	1,901	62	23.6	−0.2	74	24	−13	6	44	0.33	−0.52	0.25	7.4	4	16	9	6	nw.	E. L. Vorachek.
Granville	McHenry	1,504	32	20.8	−3.3	61	24	−20	15	55	0.67	+0.17	0.67	11.0	1	15	14	2	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	19.3	−1.3	69	23	−21	7	37	0.10	−0.84	0.10	1.5	1	19	4	8	sw.	C. E. Blackorby.
Linton	Emmons	1,711	22	26.9	−0.8	81	23	−14	17	54	0.02	−0.77	0.01	0.5	2	18	8	5	n.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	21	24.2	−1.9	76	24	−15	6†	57	0.08	−0.72	0.08	4.5	1	10	18	3	nw.	F. W. Perry.
Maddock	Benson	1,604	24	20.4	−4.2	70	24	−18	15	49	0.54	+0.01	0.44	5.9	3	13	14	4	nw.	A. T. Felland.
Mandan	Morton	1,750	25	25.3	−1.4	78	24	−11	17	53	0.44	−0.41	0.26	7.1	3	18	6	7	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36								0.29	−0.49	0.26	4.0	3					P. B. Anderson.
Max	McLean	2,093	10	19.5		72	24	−15	17	40	0.34		0.30	4.5	2	10	6	15		A. W. Rice.
Minot	Ward	1,557	43	22.8	0.0	73	23†	−17	15	52	0.58	−0.05	0.30	11.5	3	17	2	12	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	46	19.0	−1.9	61	22	−23	15	49	1.30	+0.66	0.85	8.0	4	9	18	4	nw.	Iver Johnson.
Napoleon	Logan	1,955	47	26.0	+3.3	83	23	−15	17	51	0.10	−0.73	0.08	2.5	2	19	3	9	s.	C. J. Hoof.
New Salem	Morton	2,163	35	25.6	−0.3	81	23	−13	6	46	0.28	−0.57	0.12	7.0	3	19	7	5	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	22.7	−1.6	75	23†	−15	17	52	0.18	−0.44	0.18	2.4	1	19	7	5	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	20.2		63	23	−17	7	39	0.93		0.63	8.9	3	11	12	8	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	10								0.82	+0.47	0.50	8.2	3	9	13	9	sw.	W. B. Paterson.
Ryder	Ward	2,108	10								0.21	−0.09	0.15	3.0	3	17	10	4	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3								0.42		0.20	2.5	4	15	11	5	nw.	J. B. Smith.
Steele	Kidder	1,857	45	23.8	−0.3	80	24	−19	17	50	0.09	−0.72	0.09	2.0	1	17	8	6	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10								0.53	+0.13	0.28	10.6	5	21	5	5	nw.	G. N. Pilgard.
Timmer	Morton		2								0.19		0.10	4.0	2					Geo. M. Sinclair.
Towner	McHenry	1,482	37	20.8	−1.3	65	24	−19	15	51	1.30	+0.57	1.00	8.5	3	19	7	5	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	24.2	−0.6	75	24	−15	17	45	0.12	−0.76	0.12	2.0	1	26	1	4	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	31								0.14	−0.65	0.10	1.8	4	16	8	7	nw.	Adam Leno.
Velva	McHenry	1,511	12	23.5	−3.3	76	24	−17	15	44	0.31	−0.22	0.14	10.0	3	12	14	5	nw.	Oscar Anderson.
Washburn	McLean	1,731	38	26.0	+1.6	76	24	−13	6	46	0.36	−0.38	0.19	6.0	4	20	6	5	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33																	D. A. Findlay.
Willow City	Bottineau	1,471	47	17.4	−2.3	61	23	−23	18	56	0.62	−0.12	0.60	7.3	2	20	9	2	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	18	25.8^{d}	−0.5	80^{d}	23	−10^{d}	16	46^{d}	0.06	−0.65	0.04	1.5	2	16	9	6	nw.	H. M. Larson.
Zap	Mercer	1,838	24								0.21	−0.40	0.16	3.0	2	24	3	4		R. A. Norton.
Average for Middle Division				23.0	−1.0	83	23	−23	15†	57	0.41	−0.34	1.09	5.6	3	16	9	6	nw.	

Continued on page 8.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for March 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																.....
Cooperstown[2]	Sheyenne														.12																	T.	0.12
Courtenay[2]	James														.70																		0.70
Devils Lake[1]	Devils Lake	T.	T.	T.		.05	T.				T	T.		.07	.07		T.									T.	T.				T.	T.	0.19
Edgeley	James														.12																		0.12
Edmore	Devils Lake	T.	T.			.01												.01															0.02
Ellendale	James					T			T.						.18													T.					0.18
Fargo[1]	Red	T.				T.	T.					T		.07	.31		T.										T.				.01		0.39
Forman	Sheyenne									T.					.24	T.																	0.24
Fullerton	James																																.....
Grafton	Red													T.	.71			T.														T.	0.71
Grand Forks[1]	do	T.	T.			T.	T.							.23	.49		T.	.01									T				T.	T	0.73
Hankinson[2]	do									.07					.14																		0.21
Hannah	Pembina																																0.00
Hillsboro	Red														.19																		0.19
Jamestown	James					T.								.45																			0.45
Langdon[2]	Pembina					.02								.01	.14																		0.17
Larimore	Red					T.								.03	.60																		0.63
Lisbon	Sheyenne			T.			T.		T.			T.			.40											T.					T.		0.40
McHenry	James					.03								T.	.15																		0.18
McLeod	Sheyenne	T.												T.			.57																0.57
Mayville	Red				T.						T.	.50		T.	.25																		0.75
Oakes	James		T.						T.						.25																		0.25
Park River	Red														.17	.03																	0.20
Pembina	do						.10								.10																		0.20
Petersburg	do	T.				T.								T.	.50		T.																0.50
Sharon	do			T.		T	T.							.04	.35	T.	T.										T.				T.		0.39
Valley City	Sheyenne					T.									.16	.07															T.		0.23
Wahpeton	Red									.01					.29	T.																T	0.30
Moorhead, Minn[1]	do	T.				T.	T.		T.			T		.03	.19		T.										T.				.01	T.	0.23
Middle Division																																	
Ashley[2]	Missouri					.03									.28																		0.31
Bisbee	Devils Lake			T.		T.								.23	.20																		0.43
Bismarck[1]	Missouri	T.		.01	.04	.05								.02	.09	T.												T.					0.21
Bottineau	Mouse	.06						.05							.11																		0.22
Carrington[2]	James														.30	.10																	0.40
Carson	Heart			.10		.30									.12																		0.52
Center	Missouri				.09		.15							.35																			0.59
Dogden Butte	Mouse			T.		T.								T.	.65																		0.65
Drake[2]	do	T.		T.		.06								T.	.25	T.																	0.31
Dunseith	do			.07		T.								.14	.07																	T.	0.28
Eckman	do			.02		.03								.32	.24																T	.09	0.70
Energy	Missouri			.14	T.	.12									.20																		0.46
Fessenden[2]	James					.02									.33																		0.35
Fort Yates	Missouri				.03	.05			T.						T.																		0.08
Foxholm (near)	Mouse			.03	T.	.05								1.09	.13																		1.30
Gackle	James			T.	T.									T.	.02																		0.02
Garrison	Missouri			T.	T	.06								.01	.25																	.01	0.33
Granville	Mouse			T.		T									.67																	T.	0.67
Hansboro	Devils Lake			T.		T.									.10																		0.10
Linton	Missouri					.01									.01																		0.02
McClusky	do														.08																		0.08
Maddock	Sheyenne	T		T		.03								.07	.44																		0.54
Mandan[2]	Missouri			.05	.13								T.	.26	T.												T.	T					0.44
Max[2]	do				.04								T		.30																		0.34
Minot	Mouse	T.		T.	T.	.09								.30	.19																		0.58
Mohall	do			T.		.05								.85	.38														.02	T		T.	1.30
Napoleon[2]	Missouri						.02									.08																	0.10
New Salem	Heart			T.	.12	.08								T.	.08	T.												T.					0.28
Pettibone	James					T.									.18																		0.18
Rolla	Devils Lake			.11		T.	T.							.19	.63												T						0.93
Rugby (near)	Mouse			T.	T.	.02								.50	.30																		0.82
Ryder[2]	Missouri				.05									.15	.01																		0.21
Selfridge	do			T	.07	T.			.10					.20	.05																		0.42
Steele	do			T.		T.									.09																		0.09
Tagus	Mouse		.01	.01	T.	.03								.20	.28																T.		0.53
Towner	do		T.	T.		.05								1.00	.25											T.							1.30
Turtle Lake	Missouri					T.									.12																		0.12
Tuttle	do			.02	.01	T.				T.				.01	.10												T.	T.			T.		0.14
Velva	Mouse			T.		.11								.06	.14																		0.31
Washburn[2]	Missouri			.05	.03	.09									.19													T.					0.36
Westhope	Mouse																																.....
Willow City	do			T.		.02								.60																	T		0.62
Wishek[2]	Missouri													.04	.02																	T.	0.06
Zap	Knife				.16										.05												T.						0.21
Western Division																																	
Alpha	Lit. Missouri				.09	.06								T.														.03				T.	0.18
Amidon	do				.04	.07																						.03					0.14
Beach	do			.01	.12									T	T.													T.				T	0.13
Berthold Agency	Missouri			.24		.25									.30																		0.79
Bowman[2]	Grand			T.	.28									T.													.03	T.					0.31
Crosby	Mouse					.04								.90																			0.94
Dickinson[2]	Heart	.01			.15	.25									.03		T											.01	.01			T.	0.46
Dunn Center	Knife			.08	.04	.07								.02	T.																		0.21
Fairfield	Lit. Missouri				.04	.08					.16				.08																		0.36
Fryburg	Heart			.04	.08	.08								.03	T.	T.											.06						0.29
Hettinger	Grand				.16	.08		T.							T													.06					0.30
Howard (near)	Missouri				T.	.10									.74											T.					T.	T.	0.84
Kenmare	Mouse			.01		.04								.49	.29																T.		0.83
Marmarth	Lit. Missouri				.40	.08								.03														.06			T.	.03	0.60
Mary	do			.01	.05									T	.01																		0.07
Medora	do			.02	.26	.03								.04													T.				T.		0.35
Mott	Cannon Ball				.13	.08																						.01					0.22
New England[2]	do				.52									.04														.03					0.59
Parshall	Missouri					.02									.10																		0.12
Portal[2]	Mouse			T.		.10								.10	.50	T.															T.		0.70
Powers Lake	Missouri					.06								.42																			0.48
Richardton	Heart			.04	.14	.33								.02	.03													T.					0.56
Sanish[2]	Missouri				.12																												0.12
Stanley	do			T.	T.									.31	.19																T.		0.50
Tioga	do			T.	T.									.50																		T.	0.50
Trotters	Lit. Missouri			.16	.22																												0.38
Watford City	Missouri			.07	.18																												0.25
Wildrose	do			T.		.06		T.	T					.64	.13																T.		0.83
Williston[1]	do	T.		T.	.10	.04						.03	.11	.01		T.															T.	T.	0.29

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for March 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	31	43	23	20	19	14	21	25	31	39	40	44	23	13	13	11	17	43	47	62	70	77	82	77	73	39	34	43	52	59	51	39.9
	Minimum	6	19	6	0	0	-3	-2	5	4	8	15	15	9	0	-6	-6	-9	-4	7	23	26	31	34	35	30	23	20	15	15	24	29	11.9
Beach	Maximum	31	39	32	13	14	17	23	29	31	38	42	41	35	11	19	13	23	48	50	60	66	70	74	72	69	51	35	43	53	55	51	40.3
	Minimum	4	19	10	1	-5	2	-1	2	3	13	16	22	10	-1	-6	-3	-4	10	31	33	36	34	34	34	41	22	22	21	21	12	32	15.0
Bismarck	Maximum	31	41	26	12	15	10	22	25	32	31	38	40	23	9	10	9	16	49	43	60	62	77	78	79	72	36	34	44	53	57	51	38.2
	Minimum	11	24	6	2	0	-9	2	8	2	14	18	23	7	1	-2	-6	-8	-5	28	27	33	32	32	34	36	27	25	20	24	29	31	15.0
Bottineau	Maximum	12	30	28	30	17	17	17	20	18	25	22	26	28	18	14	9	10	34	38	44	49	53	64	67	47	30	34	40	52	53	37	31.7
	Minimum	-3	8	3	5	-10	-14	-11	1	-11	7	12	1	3	-2	-12	-10	-15	10	15	22	24	28	28	30	29	20	15	16	20	25	27	8.4
Carson	Maximum	34	41	31	20	15	20	21	28	33	35	44	61	30	20	24	15	19	54	63	64	72	80	83	79	76	55	44	45	60	58	67	44.9
	Minimum	10	20	10	10	-1	-11	-1	10	-1	9	14	25	13	1	-10	-5	-10	-1	33	27	37	37	36	38	40	24	24	14	16	26	34	15.1
Crosby §	Maximum	27	38	28	18	15	14	18	17	25	27	38	36	22	18	5	7	15	38	40	42	48	55	64	69	63	35	40	45	52	55	46	34.2
	Minimum	12	15	3	0	0	-14	-1	1	-8	-14	0	19	2	-5	-14	-15	-13	-7	28	24	28	32	36	34	28	20	22	20	26	27	30	11.1
Devils Lake	Maximum	20	34	14	8	9	10	10	24	19	29	26	29	8	8	8	7	12	36	34	43	48	58	70	70	50	33	34	44	55	54	37	30.4
	Minimum	2	14	0	-4	-3	-13	-12	4	-4	16	19	8	0	-1	-14	-13	-14	-9	23	19	28	34	38	37	30	20	17	22	26	32	25	10.5
Dickinson §	Maximum	28	39	20	14	12	9	18	25	29	34	39	41	17	17	13	9	18	42	44	48	60	69	74	74	69	36	34	44	53	55	50	36.6
	Minimum	0	4	14	1	0	-7	-6	0	-8	-4	-5	-4	17	-3	-13	-12	-13	-6	5	28	30	30	28	30	34	24	23	17	20	20	32	8.9
Dunn Center §	Maximum	28	40	28	4	19	15	18	31	21	36	40	44	26	5	15	13	20	42	39	39	57	61	75	65	64	58	30	42	57	57	45	36.5
	Minimum	9	14	3	0	1	-13	-6	-8	-7	12	4	17	4	-4	-13	-11	-12	-10	30	26	32	29	30	30	35	24	24	18	21	26	31	10.8
Fessenden §	Maximum	20	35	14	16	12	13	12	26	26	31	31	32	28	11	9	7	13	34	38	41	50	62	71	73	66	34	35	45	55	58	41	33.5
	Minimum	-2	14	8	-4	0	-13	-8	3	-4	16	17	21	4	2	-11	-11	-13	11	26	20	30	34	36	37	34	25	20	19	25	30	30	12.8
Fullerton	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Garrison §	Maximum	28	28	22	8	14	11	15	22	21	30	34	34	10	7	9	8	14	44	41	50	56	65	73	74	70	34	39	45	54	56	48	34.6
	Minimum	2	16	7	1	1	-13	-2	4	0	17	15	21	4	-2	-8	-10	-12	0	30	21	31	28	29	32	34	24	23	19	23	27	31	12.7
Grafton	Maximum	19	37	35	9	11	14	9	23	22	32	33	35	31	15	12	13	17	19	37	34	46	55	63	64	51	39	31	46	57	57	55	32.9
	Minimum	2	9	2	-10	-5	-4	-19	0	1	13	26	15	0	5	-8	-3	-15	-19	18	11	25	29	31	30	29	25	16	24	29	31	27	10.2
Grand Forks	Maximum	20	38	20	8	10	12	10	22	20	33	28	37	14	14	9	13	15	28	35	34	43	52	61	46	37	35	29	45	52	59	39	29.6
	Minimum	-2	11	-3	-6	-5	-7	-19	3	0	14	17	7	2	5	-12	-11	-16	-18	15	10	25	30	32	32	28	20	16	22	28	30	24	8.8
Jamestown §	Maximum	26	39	32	12	15	12	17	26	26	32	34	37	29	14	8	8	14	39	39	55	57	71	78	79	73	63	33	46	54	59	48	37.9
	Minimum	1	16	10	-2	0	-5	-3	8	5	21	20	22	7	5	-6	-9	-11	-9	30	25	32	32	37	38	36	28	21	18	18	26	32	14.3
Kenmare	Maximum	25	36	32	7	15	13	14	21	20	26	30	34	23	9	6	6	13	38	40	43	51	54	63	67	67	41	40	42	54	55	52	33.5
	Minimum	8	20	2	0	1	-13	-4	6	-4	12	6	20	-1	-3	-18	-15	-11	-3	27	20	35	37	36	37	29	21	21	24	30	32	31	12.4
Langdon §	Maximum	17	37	29	9	9	11	7	25	24	31	29	30	27	9	12	11	17	30	36	36	55	58	65	61	45	55	38	44	57	56	50	32.9
	Minimum	8	11	-2	-13	-10	-11	-23	-2	-9	11	17	15	-4	-1	-16	-13	-15	-14	23	15	24	30	32	31	27	19	14	18	25	26	24	7.6
Marmarth	Maximum	26	42	34	20	17	20	20	34	36	32	41	41	35	18	24	17	28	52	53	62	62	74	77	75	71	57	34	42	58	58	55	42.4
	Minimum	6	16	11	6	-1	0	5	5	-5	9	8	17	18	3	-8	0	-5	5	32	30	31	29	29	30	32	26	24	28	18	20	34	14.6
Minot	Maximum	27	35	28	11	15	11	15	23	19	28	33	32	24	6	7	8	14	40	44	48	54	60	73	73	63	40	37	45	54	55	50	34.6
	Minimum	5	20	6	1	3	-13	-7	-8	-6	15	12	18	0	-2	-17	-16	-15	-12	27	21	27	32	32	35	30	22	21	20	27	39	32	10.9
Mott	Maximum	32	41	36	17	13	12	19	28	31	35	46	43	31	15	17	15	21	52	49	61	70	76	78	77	71	63	33	43	36	56	53	41.0
	Minimum	12	20	14	0	-2	-3	-3	10	-1	9	11	30	14	-1	-6	-3	-4	3	31	27	33	31	31	33	35	25	23	16	19	24	31	14.8
Pembina	Maximum	18	35	20	-1	10	8	5	21	19	30	27	32	13	13	9	8	11	19	30	33	45	47	60	43	35	30	30	44	53	55	44	27.3
	Minimum	-16	-11	-4	-21	-17	-4	-19	-5	-7	9	19	4	-3	5	-13	-10	-17	-12	19	6	17	28	28	29	28	18	12	21	28	26	25	5.6
Sharon	Maximum	24	36	30	8	10	11	11	24	25	32	27	33	23	8	8	7	12	31	38	39	52	60	72	73	61	39	33	43	53	57	37	32.8
	Minimum	-3	12	-1	-5	-5	-12	-14	4	-4	15	18	19	1	3	-12	-10	-15	-16	24	16	30	32	36	38	28	23	17	17	22	26	27	10.0
Steele	Maximum	29	36	30	11	14	9	17	26	30	32	34	36	28	5	4	0	9	38	35	51	58	75	79	80	70	48	32	43	52	54	50	36.0
	Minimum	-1	14	11	-3	-3	-13	-6	6	5	11	15	20	5	2	-10	-12	-19	-12	25	22	28	30	31	54	34	25	20	12	15	30	27	11.7
Valley City	Maximum	27	40	38	14	18	14	16	25	27	34	31	40	37	14	10	13	16	37	40	47	57	68	78	80	72	68	35	45	52	61	52	38.9
	Minimum	2	13	13	-1	-1	-3	-5	6	5	21	22	20	7	8	-7	-7	-9	-10	30	19	30	28	34	34	32	28	20	14	20	20	20	13.0
Wahpeton	Maximum	29	39	37	23	17	17	20	20	26	34	34	41	34	25	13	13	17	30	38	39	49	60	70	70	67	52	35	42	46	62	59	37.4
	Minimum	-3	14	14	-3	-2	-3	-6	4	0	19	23	18	11	11	-5	-9	-8	-8	26	17	30	31	33	37	31	30	21	17	24	29	32	13.7
Williston	Maximum	29	38	22	10	15	8	21	23	22	28	43	34	21	7	9	8	17	47	40	55	65	69	73	72	67	35	39	45	52	55	50	36.1
	Minimum	8	22	6	4	-2	-15	6	-1	-5	11	4	21	1	-2	-15	-8	-8	1	30	32	33	35	34	36	33	23	26	25	27	32	34	13.8
Moorhead, Minn.	Maximum	27	38	27	12	13	14	14	19	21	34	33	41	20	21	9	10	14	30	38	35	46	54	66	66	47	35	28	42	47	62	44	32.5
	Minimum	-5	8	0	-4	-3	-2	-7	4	6	21	17	15	7	8	-6	-5	-5	-9	22	16	30	32	37	35	30	25	20	21	25	30	24	12.5

Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for March 1939—Continued from page 10.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	12	....	......	....	....	....	....	......	0.18	-0.68	0.09	2.5	3	20	9	2	sw.	H. A. Bury.
Amidon	Slope	......	16	27.7	-0.2	75	23	-9	15	42	0.14	-0.59	0.07	1.7	3	15	8	8	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	27.6	+0.4	74	23	-6	15	43	0.13	-0.63	0.12	2.0	2	12	16	3	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	25.1	-0.9	76	24	-18	6†	57	0.79	+0.23	0.30	10.0	3	27	0	4	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	......	......	....	....	....	....	......	0.65	+0.05	0.65	8.0	1	7	17	7	.....	L. C. Grinney.
Bowman	Bowman	2,872	24	27.2	-0.5	75	23	-7	14	45	0.31	-0.36	0.28	3.5	2	23	3	5	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	22.6	-0.9	69	24	-15	16	45	0.94	+0.27	0.90	9.5	2	9	14	8	sw.	J. H. Phelps.
Dickinson	Stark	2,543	46	22.8	-2.5	74	23†	-13	15†	48	0.46	-0.28	0.25	6.9	6	19	8	4	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	23.6	-1.9	75	23	-13	6†	52	0.21	-0.62	0.08	5.0	4	18	8	5	nw.	O. T. Evenson.
Epping	Williams	2,224	28	23.4	-0.6	72	25	-17	6†	45	0.14	-0.45	0.14	2.0	1	24	2	5	nw.	T. Beachler.
Fairfield	Billings	......	2	......	......	....	....	....	....	......	0.36	....	0.16	8.8	4	21	6	4	sw.	W. M. Geesaman.
Fryburg	Billings	2,790	20	26.0	......	75	23	-10	15	40	0.29	-0.49	0.08	3.5	5	13	14	4	nw.	Verne King.
Hettinger	Adams	2,675	31	30.3	+1.7	77	23†	-3	15	41	0.30	-0.40	0.16	6.0	3	15	10	6	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	21.8	-0.1	71	24	-24	16	46	0.84	-0.06	0.74	9.3	2	25	5	1	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	23.0	......	67	24†	-18	15	41	0.83	+0.20	0.49	14.0	4	23	6	2	w.	Synthia M. Costello.
Marmarth	Slope	2,714	29	28.5	+0.8	77	23	-8	15	48	0.60	-0.12	0.40	6.5	5	17	5	9	nw.	S. P. Grane.
Mary	McKenzie	......	10	......	......	....	....	....	....	......	0.07	-0.41	0.05	4.9	3	19	8	4	sw.	Fred Hartman.
Medora	Billings	2,271	23	......	......	....	....	....	..	......	0.35	-0.55	0.26	3.4	4	19	9	3	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	27.9	+1.0	78	23	-6	15	49	0.22	-0.71	0.13	3.0	3	22	4	5	nw.	W. M. Hendricks.
New England	Hettinger	2,400	44	27.4	+2.2	80	24	-10	14	53	0.59	-0.19	0.52	6.0	3	16	8	7	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	21.2	......	72	23†	-18	6†	56	0.12	-0.39	0.10	2.0	2	14	14	3	sw.	C. E. Shubert.
Portal	Burke	1,954	33	18.8	+1.1	71	24	-22	6†	52	0.70	+0.10	0.50	7.0	3	19	5	7	w.	R. G. Wegener.
Powers Lake	Burke	2,205	33	22.2	-2.8	72	23	-24	16	40	0.48	-0.21	0.42	8.0	2	20	8	3	se.	Geo. B. Gee.
Richardton	Stark	2,467	22	26.2	-0.9	77	24	-8	17	39	0.56	-0.16	0.33	6.7	5	17	9	5	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	21.5	-3.0	74	24	-19	15	45	0.12	-0.46	0.12	2.0	1	14	13	4	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	20.8	......	68	24	-17	17	49	0.50	....	0.31	7.1	2	19	7	5	nw.	Leroy Edwards.
Tioga	Williams	2,279	10	.. ..	......	....	....	....	....	....	0.50	-0.11	0.50	5.0	1	20	6	5	sw.	B. V. Olson.
Trotters	Golden Valley	......	13	......	......	....	....	....	...	......	0.38	-0.38	0.22	4.8	2	......	......	......	.....	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	25.8	+0.5	74	23†	-13	6†	45	0.25	-0.43	0.18	4.0	2	18	7	6	sw.	J. C. Zeller.
Wildrose	Williams	2,258	11	......	......	....	....	....	....	......	0.83	....	0.64	11.0	3	14	9	8	sw.	L Holter.
Williston	Williams	1,878	59	25.0	+2.1	73	23	-15	15	46	0.29	-0.40	0.14	2.9	5	20	7	4	sw.	U. S. Weather Bureau.
Average for Western Division		......	.....	24.5	-0.7	78	23	-24	16	57	0.42	-0.33	0.90	5.7	3	18	8	5	nw.	....
Average for the State		......	.....	23.3	-0.5	83	23	-29	7	57	0.39	-0.37	1.09	5.3	3	16	8	7	nw.	....

[WBO. Minneapolis, 4-27-39—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

THE LIBRARY OF THE
JUN 5 1939
UNIVERSITY OF ILLINOIS

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVIII BISMARCK, N. D., APRIL 1939 No. 4

GENERAL SUMMARY

Cool weather prevailed from the 5th to the 12th, but temperatures were somewhat above the seasonal average during the remainder of the month. The average for the month was below normal in the eastern section and above normal in the central and western sections. There was no freezing weather at most stations after the 22d. The precipitation was below normal in all sections. Except for moderate showers on the 16th and 25th, very little precipitation occurred after the 10th of the month. The wind was mostly light and no severe storms were reported. Due to the warm weather near the close of the month, good progress was made in seeding spring wheat and other small grains and considerable plowing for corn was accomplished. Early planted spring wheat was up to good stand and color and pastures and ranges were greening, but rain was needed in all sections for feed and crops.

TEMPERATURE

The mean temperature for the State was 41.6° or 0.2° above the 1892-1939 average for April. The mean temperature for the eastern division was 40.0°; for the middle division, 41.9°; and for the western division, 42.8°. The highest mean temperature was 45.3° at Marmarth, and the lowest, 35.0° at Park River, making a range in mean temperature of 10.3°. The absolute range was 91°, from 90° at three western stations on the 30th, to -1° at Edmore and Rolla on the 11th. The average daily deficiency in temperature for the State since January 1, 1939, is 0.4°.

PRECIPITATION

The average precipitation for the State was 0.87 inch, or 0.54 inch less than the 1892-1939 average for April. In the eastern division the average amount was 0.93 inch; in the middle division, 0.66 inch; and in the western division, 1.03 inches. The greatest monthly amount reported was 2.13 inches at Parshall; the least reported was 0.32 inch at Howard. The greatest amount recorded in any 24 consecutive hours was 1.09 inches at Bisbee on the 25th. The accumulated deficiency in precipitation for the State since January 1, 1939, is 0.76 inch. The average snowfall was 0.8 inch.

MISCELLANEOUS PHENOMENA

(Dates aud number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	3	..	..	..	3	3	1	1	1	3	2	3	1	..	1	..	1	10	6	3	7	2	2	..	1	..	1	2	1	..	..
Dust storms	..	..	1	2	1	2	3	..	..	1	..	..	..	..	..	..	10	..	1	..	..	..	1	3	..	..	..	..	..	..	..
Fogs	1	..	2	1	..	..	..	..	..	1	..	1	..	..	1	2	2	..	1	..	..	..	..	..	..	..	5	3	2	..	..
Lunar halos	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	3	..	..	..	..	..
Solar halos	..	..	..	..	..	..	1	5	..	..	..	..	1	..	1	..	..	..	1	..	..	1	3	2	1	..	..	1	..	..	..
Sleet	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	3	..	1	1	..	..	..	..	1	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2	10	1	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.98	30.55	11	29.32	25	10.6	34	n.	17	81	42	36	68
Devils Lake	30.00	30.48	11	29.33	25	10.5	33	n.	17	85	52	46	64
Williston	30.00	30.58	11	29.58	22	9.4	26	nw.	4	74	43	39	70
Moorhead, Minn	29.98	30.42	12	29.28	25	9.6	26	n.	17	84	57	54	48
Averages & ext's	29.99	30.58	11	29.28	25	10.0	34	n.	17	81	48	44	62

† And other dates.

COMPARATIVE DATA FOR APRIL

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	37.6	75	−2	2.58	3.09	2.29	2.65	6.3	7	10	6	14
1893	34.3	77	−8	2.45	1.56	1.09	1.70	7.8	6	7	9	14
1894	42.8	92	12	3.66	2.93	2.50	3.03	4.4	9	8	10	12
1895	49.6	87	10	2.10	2.38	2.20	2.23	0.0	5	13	8	9
1896	40.1	92	2	5.50	3.73	2.18	3.80	5.1	9	9	8	13
1897	40.8	93	7	0.80	1.20	1.24	1.08	1.1	5	12	8	10
1898	41.9	87	−4	1.38	1.36	1.40	1.38	0.5	5	14	9	7
1899	38.0	86	−22	1.46	1.31	1.31	1.36	6.3	6	12	10	8
1900	49.3	93	11	0.75	0.75	1.05	0.85	T.	3	20	6	4
1901	44.5	92	10	1.40	0.72	0.82	0.98	0.3	4	12	9	9
1902	40.2	87	−2	1.35	0.88	0.95	1.06	2.9	3	12	8	10
1903	42.5	83	8	1.67	1.10	0.92	1.23	2.7	5	16	6	8
1904	37.4	91	2	2.22	1.21	0.72	1.38	8.1	5	13	5	12
1905	40.2	83	3	1.04	0.38	0.11	0.51	3.7	3	15	8	7
1906	46.7	88	8	1.96	1.06	1.48	1.50	1.3	5	14	7	9
1907	31.9	80	−6	0.77	0.36	0.44	0.52	4.2	4	10	9	11
1908	43.9	91	−19	1.12	1.53	1.91	1.52	5.9	5	16	6	8
1909	34.2	80	3	0.95	0.71	0.64	0.77	5.1	6	10	9	11
1910	48.0	96	4	1.52	1.03	1.56	1.37	2.9	4	16	8	6
1911	41.5	90	−5	2.12	0.80	0.64	1.19	6.3	5	15	6	9
1912	44.4	88	2	2.61	2.32	2.22	2.35	1.7	7	14	8	8
1913	46.8	94	11	1.00	0.70	0.23	0.64	2.4	4	16	6	8
1914	40.9	84	2	2.49	1.31	0.58	1.46	2.8	6	9	10	11
1915	50.3	99	5	1.42	0.98	0.68	1.03	T	5	15	8	7
1916	39.2	79	−6	1.70	1.07	1.54	1.44	2.9	5	10	10	10
1917	37.2	73	5	1.89	1.67	1.49	1.68	5.6	7	9	9	12
1918	41.4	81	0	2.38	1.87	2.28	2.18	3.0	7	12	8	10
1919	42.3	79	6	1.45	1.40	1.72	1.52	6.2	6	11	9	10
1920	32.1	63	−11	0.73	0.67	1.12	0.84	2.1	5	13	8	9
1921	41.1	91	1	1.84	2.07	1.40	1.77	3.8	7	14	7	9
1922	42.3	89	−2	1.17	0.79	0.79	0.92	2.3	6	10	9	11
1923	38.7	89	−15	1.22	1.63	1.51	1.45	7.2	5	13	8	9
1924	39.3	84	6	3.94	2.31	1.35	2.53	7.5	9	8	9	13
1925	47.8	85	10	2.21	1.37	1.22	1.60	T.	6	11	10	9
1926	42.8	98	−4	0.17	0.34	0.32	0.28	0.9	3	17	8	5
1927	41.4	95	7	2.05	1.46	1.67	1.73	2.3	7	10	8	12
1928	35.9	84	−6	0.92	0.88	0.92	0.91	5.0	5	12	10	8
1929	41.5	85	−9	1.68	1.36	0.88	1.31	3.4	6	12	9	9
1930	47.3	86	8	1.16	1.14	1.45	1.25	0.5	6	14	7	9
1931	44.1	87	3	0.75	0.37	0.18	0.43	0.7	2	18	8	4
1932	44.1	79	0	2.50	2.09	1.84	2.14	0.7	8	9	9	12
1933	40.0	84	2	1.44	1.20	1.35	1.33	7.3	5	11	9	10
1934	43.7	95	7	0.75	0.34	0.24	0.44	1.9	3	15	8	7
1935	38.4	83	0	2.62	1.75	1.42	1.93	3.6	8	9	9	12
1936	35.6	87	−15	0.53	0.26	0.37	0.39	0.5	4	14	10	6
1937	40.7	79	2	3.44	1.56	1.06	2.02	5.8	8	8	9	13
1938	42.8	90	1	1.68	0.96	0.64	1.09	0.1	5	11	10	9
1939	41.6	90	−1	0.93	0.66	1.03	0.87	0.8	6	12	9	9
Period	41.4	99	−22	1.76	1.32	1.19	1.42	3.3	6	12	8	10

Climatological Data for April 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	43	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	I. Idso.
Cavalier	Pembina	894	29	38.3	......	84	30	5	11	44	0.72	−0.63	0.32	1.0	4	16	6	8	......	Burke Bechtel.
Cooperstown	Griggs	1,428	42	39.3	−1.4	82	30	3	11	42	0.40	−0.99	0.22	T.	5	20	2	8	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9	......	......	......	......	......	......	......	1.07	......	0.87	1.0	3	19	2	9	e.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	39.4	+0.6	82	30	3	11	38	1.05	−0.47	0.34	2.3	9	6	11	13	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	42.8	+0.1	84	29	4	11	52	0.72	−1.05	0.52	2.0	5	7	16	7	nw.	O. A. Thompson.
Edmore	Ramsey	1,521	15	37.9	−2.7	82	30	−1	11	44	0.73	−0.49	0.45	1.8	4	18	8	4	nw.	Mike Davis.
Ellendale	Dickey	1,457	44	42.8	−0.8	83	30	6	11	43	1.03	−0.76	0.77	0.2	4	13	8	9	n.	J. E. Demmer.
Fargo	Cass	895	3	40.1	−0.5	83	30	9	11	41	0.79	−1.21	0.48	1.4	8	6	10	14	n.	W. B. Aerological Sta.
Forman	Sargent	1,249	46	39.8	−4.4	80	30	3	11	37	1.26	−0.61	0.90	0.2	5	16	7	7	nw.	Helge Dyste.
Fullerton	Dickey	1,439	41	42.6	−0.2	83	30	6	11	42	0.87	−1.27	0.55	0.6	4	12	11	7	nw.	F. O. Alin.
Grafton	Walsh	827	47	41.4	+0.8	83	30	8	11	43	0.95	−0.26	0.43	2.4	4	9	16	5	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	48	39.6	−5.1	83	30	6	11	40	0.98	−0.64	0.43	1.7	9	7	8	15	n.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	39.3	−4.8	75	30	10	11	43	0.74	−1.43	0.49	1.0	5	9	11	10	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	47	37.9	−0.2	81	30	6	10	43	1.11	+0.07	0.89	1.0	4	11	13	6	nw.	M. J. Rockwell.
Hillsboro	Traill	901	39	39.4	−3.4	78	30	8	11	40	0.92	−0.92	0.28	1.0	9	14	7	9	s.	Lyle George.
Jamestown	Stutsman	1,457	47	40.8	−1.3	84	30	0	11	45	1.60	+0.02	0.89	4.8	4	10	11	9	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	39.4	+1.6	81	30	6	6	50	1.53	+0.38	0.75	1.0	11	8	15	7	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	40.2	−0.2	83	30	4	11	41	1.09	−0.51	0.64	1.5	5	12	4	14	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	35	40.9	−1.5	82	30	8	11	48	1.10	−0.71	0.41	0.5	8	14	5	11	ne.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	38.1	−3.1	83	30	0	11	47	0.58	−1.34	0.34	0.5	10	9	12	9	nw.	C. E. Blasky.
McLeod	Ransom	1,075	28	39.8	−4.4	76	22	9	11	36	0.90	−1.03	0.64	0.3	6	14	7	9	ne.	J. G. Carlson.
Mayville	Traill	975	43	38.2	−4.8	84	29	6	12	45	0.65	−0.92	0.33	0.3	3	15	9	6	nw.	H. B. Addicott.
Oakes	Dickey	1,318	10	40.6	−2.8	84	30	5	11	50	0.92	−1.04	0.43	0.7	4	15	6	9	nw.	F. H. Murray.
Park River	Walsh	998	35	35.0	−6.3	76	30	1	11	52	1.05	−0.23	0.52	5.0	7	12	4	14	nw.	E. J. Taintor.
Pembina	Pembina	789	65	38.6	0.0	84	30	5	8†	45	1.13	−0.07	0.54	1.0	6	13	8	9	nw.	E. N. Russell.
Petersburg	Nelson	1,520	9	......	......	......	......	......	......	......	0.77	......	0.25	1.0	8	14	10	6	n.	T. M. Rykken.
Sharon	Steele	1,516	15	39.2	−0.7	82	30	4	11	43	0.84	−0.66	0.39	2.0	8	9	11	10	n.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	41.7	−0.9	79	30	7	11	42	0.73	−0.81	0.40	4.0	7	11	14	5	nw.	I. C. Robertson.
Wahpeton	Richland	962	47	42.0	−2.4	82	30	10	11	42	0.64	−1.29	0.42	0.9	8	7	10	13	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	40.3	−0.3	81	30	9	11	37	0.91	−1.27	0.49	1.3	10	6	10	14	n.	U. S. Weather Bureau.
Average for Eastern Division		......	....	40.0	−1.5	84	29†	−1	11	52	0.93	−0.81	0.90	1.3	6	12	9	9	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	43	41.1	−1.5	85	23	7	11	42	0.69	−0.97	0.53	T.	4	16	5	9	se.	Henry Doerr.
Bisbee	Towner	1,601	3	43.6	......	83	30	7	11	38	1.69	......	1.09	0.8	8	18	1	11	w.	I. K. Lund.
Bismarck	Burleigh	1,670	65	43.9	+1.8	86	30	11	11	42	0.69	−0.83	0.45	0.3	7	12	10	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	39.8	+0.7	82	30	2	11	42	0.98	+0.21	0.47	1.0	7	13	11	6	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	40.8	+1.2	83	1	3	11	42	1.14	−0.11	0.52	0.5	4	15	1	14	nw.	Soo Line Agent.
Carson	Grant	2,500	27	43.5	+0.8	87	30	9	11	44	1.49	+0.25	0.74	0.0	6	8	13	9	nw.	J. W. Evens.
Center	Oliver	......	1	41.0	......	86	30	9	12	45	1.25	......	0.65	0.0	3	11	15	4	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	42.3	+0.9	87	30	6	11	44	0.73	−0.51	0.30	1.0	5	11	6	13	nw.	R. L. Williams.
Drake	McHenry	1,634	10	40.4	......	86	30	8	11	43	0.72	......	0.21	1.7	8	8	10	12	nw.	Peter Anton.
Dunseith	Rolette	1,682	43	40.4	+0.5	84	30	4	8†	46	0.67	−0.15	0.43	0.5	7	11	9	10	n.	Geo. Gehres.
Eckman	Bottineau	1,500	34	41.5	+0.9	89	30	4	11	48	0.81	−0.05	0.55	1.0	6	10	16	4	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	44.0	0.0	88	30	9	11	46	0.72	−0.24	0.72	T.	1	9	18	3	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	27	41.2	+0.5	87	30	5	11	45	1.03	−0.22	0.39	2.0	6	21	3	6	n.	T. D. Monsen.
Fort Yates	Sioux	1,670	39	44.4	−0.5	86	30	9	11†	42	0.59	−0.69	0.35	0	3	16	5	9	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	42.6	+1.7	87	30	8	11	43	0.56	−0.79	0.25	0.8	6	9	7	14	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	42.2	......	77	29	7	11	39	0.49	......	0.45	T.	2	10	13	7	nw.	A. H. Haut.
Garrison	McLean	1,901	62	43.4	+1.1	87	30	8	11	44	1.11	+0.02	0.54	1.0	7	15	8	7	nw.	E. L. Vorachek.
Granville	McHenry	1,504	32	42.4	+1.6	88	30	8	11	44	0.83	+0.02	0.37	0.5	5	8	8	14	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	38.6	−0.3	84	30	5	8	46	0.79	−0.47	0.70	4.0	3	14	7	9	nw.	C. E. Blackorby.
Linton	Emmons	1,711	22	43.3	+0.6	85	30	2	12	52	0.52	−0.73	0.32	T.	3	10	14	6	nw.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	21	42.3	+1.2	88	30	8	11	44	0.51	−0.69	0.33	0.0	2	11	7	12	nw.	F. W. Perry.
Maddock	Benson	1,604	24	40.6	−0.4	82	30	3	11	42	0.91	−0.22	0.37	1.0	7	13	5	12	nw.	A. T. Felland.
Mandan	Morton	1,750	25	43.3	+0.6	86	30	10	11	41	0.74	−0.43	0.43	0.1	6	13	4	13	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36	......	......	......	......	......	......	......	1.09	−0.15	0.40	1.0	8	......	......	......	......	P. B. Anderson.
Max	McLean	2,093	10	39.8	......	86	30	6	11	42	1.19	......	0.46	0.8	8	13	7	10	nw.	A. W. Rice.
Minot	Ward	1,557	43	43.4	+2.6	89	30	5	11	47	0.82	−0.38	0.37	1.2	5	9	2	19	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	46	41.2	+0.7	87	30	6	11	48	0.71	−0.19	0.44	0.2	7	9	11	10	nw.	Iver Johnson.
Napoleon	Logan	1,955	47	42.0	+0.6	86	30	5	11	49	0.53	−1.01	0.15	3.5	6	11	4	15	nw.	C. J. Hoof.
New Salem	Morton	2,163	35	42.6	+0.2	88	30	5	11	46	1.23	+0.19	0.61	0	6	17	7	6	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	42.2	+1.3	85	30	5	11	46	0.58	−0.54	0.25	1.2	3	10	5	15	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	39.8	......	84	30	−1	11	43	1.14	......	0.84	0.5	6	11	6	13	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	10	......	......	......	......	......	......	......	1.07	+0.24	0.80	0.9	7	13	12	5	nw.	W. B. Paterson.
Ryder	Ward	2,108	10	......	......	......	......	......	......	......	1.25	+0.45	0.60	1.0	7	15	5	10	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3	......	......	......	......	......	......	......	0.65	......	0.25	0.0	5	11	13	6	nw.	J. B. Smith.
Steele	Kidder	1,857	45	40.0	−3.2	84	30	3	11	46	0.42	−0.74	0.21	0	4	11	7	12	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10	......	......	......	......	......	......	......	0.76	−0.23	0.41	1.8	7	14	8	8	nw.	G. N. Pilgard.
Timmer	Morton	......	2	......	......	......	......	......	......	......	0.70	......	0.38	0.0	3	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	37	41.6	−0.3	83	30	7	11	47	1.23	+0.36	0.80	2.0	4	10	12	8	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	44.0	+2.5	88	30	11	6	44	0.55	−0.48	0.26	0.0	4	14	4	12	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	31	......	......	......	......	......	......	......	0.75	−0.22	0.36	0.3	5	11	11	8	nw.	Adam Leno.
Velva	McHenry	1,511	12	43.3	+1.2	89	30	6	11	47	0.76	−0.15	0.35	1.5	5	11	11	8	nw.	Oscar Anderson.
Washburn	McLean	1,731	38	44.6	+0.8	88	30	9	6	41	0.77	−0.20	0.55	0.2	5	9	10	11	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	D. A. Findlay.
Willow City	Bottineau	1,471	47	39.3	−0.3	85	30	3	11	50	1.16	+0.29	0.96	1.0	5	14	14	4	nw.	O. M. Sanderson.
Wilton	McLean	2,159	3	39.5	......	83	30	7	11	40	0.63	......	0.45	1.2	5	9	6	15	nw.	J. S. McGogy.
Wishek	McIntosh	2,010	18	41.6	−0.3	83	30	8	10†	47	0.61	−0.74	0.33	1.0	4	9	14	7	nw.	H. M. Larson.
Zap	Mercer	1,838	24	....	......	......	......	......	......	......	0.99	+0.09	0.55	T.	3	11	16	3	......	R. A. Norton.
Average for Middle Division		......	......	41.9	+0.4	89	30	−1	11	52	0.66	−0.64	1.09	0.8	5	12	9	9	nw.	......

Continued on page 14.

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for April 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																......
Cooperstown ²	Sheyenne				.02			T.		.04	T.	T.					.22	.06								.06							0.40
Courtenay ²	James		T.		.02						T						.87									.18							1.07
Devils Lake ¹	Devils Lake	.08		.01	.16	T.	T.	.03		.04	.07	T	T.				.32				T.			T.	.02	.32							1.05
Edgeley	James						.03				.02						.52	.12								.03							0.72
Edmore	Devils Lake			T.	.16	T.		.04		T.	.08															.45							0.73
Ellendale	James										.02						.77	.13								.11							1.03
Fargo ¹	Red		T.	T.	.13		T.	.02	T	.02	.04	.03	T.	T.	T.	.05	.48	T.								.02	T.						0.79
Forman	Sheyenne				T.						.02						.90	.15								.14	.05						1.26
Fullerton	James			T.	T		T.				.04					T	.55	.22								.06							0.87
Grafton	Red		.12		.22		T.	T.			T.	T					.18									.43							0.95
Grand Forks ¹	do		.04	.02	.07	.01	.01	.02		T.	.06	T.	T.				.32	T.								.43							0.98
Hankinson ²	do											.06					.49	.15								.02	.02						0.74
Hannah	Pembina	.10		.02	.10		T																			.89							1.11
Hillsboro	Red		.04		.14	T.		.05			.12		.07				.28	.08								.08	.06						0.92
Jamestown	James				T.		T.			T.	.48						.89								.01	.22							1.60
Langdon ²	Pembina		.15		.19		.03	.02			.03	.03					.04	.12						.03		.75	.14						1.53
Larimore	Red		.02		.08		T.	T.			.10	T.					25									.64							1.09
Lisbon	Sheyenne				T.	.02		.01			.05	.01					.41	.41								.08	.11						1.10
McHenry	James		.03	.01	.03			.01		.04	.03	.01					.34	.02								.06							0.58
McLeod	Sheyenne		.01		.02			.02		T		.03	T.				.64									.18							0.90
Mayville	Red										T.		.02					.30	T.							.33							0.65
Oakes	James										.04						.43	.32								T	.13						0.92
Park River	Red																																1.05
Pembina	do		.12		.20												.05							.08		.54	.14						1.13
Petersburg	do		.03	T.	.07			.01		.01	.13	T.					.25	.02								.25							0.77
Sharon	do	T.	T.	T.	.05			.01		.03	.10	.02	T.				.39	.01								.23							0.84
Valley City	Sheyenne				.08		.04		T.	.06	.02					.10	.40									.03							0.73
Wahpeton	Red		T.	T.	T	.01	.01	T.	T.	.01	.03	T.	T.				.42	.09								.05	.02						0.64
Moorhead, Minn ¹	do		T.	T.	.21	T	.01	.01	T.	.02	.02	.04	T.		.01	03	.46	T.							T.	.10							0.91
Middle Division																																	
Ashley ²	Missouri						T.				.05						.53	.07									.04						0.69
Bisbee	Devils Lake		.07	T.	.08					.15	.05	T.					.19	.01						.05		1.09							1.69
Bismarck ¹	Missouri	T.					T.		.02	T.	T.	T.		.02		.02	.43	.04		T.	T.				.01	.15							0.69
Bottineau	Mouse		.06	.08	.07	T.		T.		.02	.08	T.	T.				T.									.20	.47						0.98
Carrington ²	James	T.					T.	T.		.06	.12							.52									.44						1.14
Carson	Heart													.04			.45	.06			.15				.05	.74							1.49
Center	Missouri							T.									.65				.06					.54							1.25
Dogden Butte	Mouse	T.			.01			T		T.	.11	T.					.28	.03			T.			T.		.30							0.73
Drake ²	do		T.	.01	.08	T.	T.			.02	.13	T.					.10	.21				T.				.02	.15						0.72
Dunseith	do		T.	.05	.10	T.				.02	.03	T.					.02				T					.43	.02						0.67
Eckman	do			.03	.04					.02	.07						.10									.55							0.81
Energy	Missouri	T																								.72							0.72
Fessenden ²	James	T.			.01					.03	.15						.39	.12								.33							1.03
Fort Yates	Missouri																.35				.14					.10							0.59
Foxholm (near)	Mouse	T.		.01		T.		T.		.04	.08						.17	T			.01					.25							0.56
Gackle	James								T.	T.	T.						.45	T.								.04							0.49
Garrison	Missouri				.02					.08	T.						.42	.01			.02				.02	.54							1.11
Granville	Mouse	T.	T.	.02	.02	T	T.			T.	.12	T.		T.			.37				T.					.30							0.83
Hansboro	Devils Lake		T.	T.				T.		.01	.08															.70							0.79
Linton	Missouri	T.					T			T							.18	.02								.32							0.52
McClusky	do																T	.33								.18							0.51
Maddock	Sheyenne		T.	.01	.06	T.				T	.05						.37	.03								.28	.11						0.91
Mandan ²	Missouri								.01	T	T.			.02		.43	.12			T.	T.				.05	.11							0.74
Max ²	do									.04	.02	.11					.28	.17				.02			.46	.09							1.19
Minot	Mouse	T.	T.	.03			T.			.02	.12	T.					.28	T.			T			T	T.	.37							0.82
Mohall	do	.05		.02						.04	.06						.08	T			.02					.44							0.71
Napoleon ²	Missouri									.10	.05	.02					.15	.10									.11						0.53
New Salem	Heart									.01		T.			.02		.46	.06			.07					.61							1.23
Pettibone	James									T.	.09							.25								.24							0.58
Rolla	Devils Lake		T.		.10			T.		.01	.04						.08									.84	.07						1.14
Rugby (near)	Mouse		.06	T.	T.	T.		.02		.02		.03					.09									.80	.05						1.07
Ryder ²	Missouri		T.	T.					.08	.02	.01	T.				.34	.05					T.			.60	.15							1.25
Selfridge	do															.05	.15			.25	.05			T.	.15	T							0.65
Steele	do									.06	T	T.					.21	.02								.13							0.42
Tagus	Mouse	T.	.01	.02	T.	T	T.			T	.06	T				T.	.22	.01		T.	.03					.41							0.76
Towner	do		.03	T.	T.	T.				T.	.20	T					.20				T.					.80							1.23
Turtle Lake	Missouri																.24	.02			.03					.26							0.55
Tuttle	do			T.		T.	T.			.07	.02				T.	T.	.27	.03			T.				T	.36							0.75
Velva	Mouse		T.							.02	.14	T.					.35				.03					.22							0.76
Washburn ²	Missouri		T.							.02	T						.55	.06			.03					.11							0.77
Westhope	Mouse																																......
Willow City	do		.02		.05						.06						.07									.96							1.16
Wishek ²	Missouri					T.			.02							.33	.06									.20							0.61
Zap	Knife								T.		T.						.40			.04						.55							0.99
Western Division																																	
Alpha	Lit. Missouri	T			T.		T.		T.	.03	.03			.01		.23	.16	.01							.52	.09							1.08
Amidon	do								.02	.07	T.			.09	T.	.04	.30	.22							.12	.21							1.07
Beach	do					T			T.		.06					.12	.16	.09		T.					.33	.11							0.87
Berthold Agency	Missouri																.50			.12					.70								1.32
Bowman ²	Grand									T	T.			.01		.28	.29			T				.01	.36								0.95
Crosby	Mouse		.06							.02	.03						.15	.19								.20	.21						0.86
Dickinson ²	Heart			T.			T.			T.	T	.03			T.		.52	.18	T.		.07			T.		.60	.04						1.44
Dunn Center	Knife										T.	T.					.73	.12			.03					.50	.11						1.49
Fairfield	Lit. Missouri									T.		T				.37	.18								T.	.52							1.07
Fryburg	Heart	T.							.02			T.				.06	.28	.20			T.				.11	.20							0.87
Hettinger	Grand				T							T.					.36	.04			.02				T								0.42
Howard (near)	Missouri	T.	T	T.	T.	T.			T.	.02	.02	.03				T.	T			T					.25	T							0.32
Kenmare	Mouse		.01	.01	T.					.01	.09	.01					.03	.08			.01					.19	.12						0.56
Marmarth	Lit. Missouri	.04			.03	T.				.07	T.			.16		.11	.05			.06				.15	.48								1.15
Mary	do			T.						.01						.35	.44			.04						.45							1.29
Medora	do						T.		.01		T.	T				.34	.14	.05		T.	.03				.11	.22							0.90
Mott	Cannon Ball									T.		T.		.03			.45	.03			.03				.04	.24							0.82
New England ²	do									T.						.58	.25	.02		.04					.26	.01							1.16
Parshall	Missouri	T	T.	T.	T.					.10		.01					.33	.08			.01					.92	.68						2.13
Portal ²	Mouse									T.						.34	.19									.09	.08						0.70
Powers Lake	Missouri								.08	.03						.17	.84	.20		.09				.31	.27								1.99
Richardton	Heart	T.							T.		T.	.01		.01		02	.42	.01		.01	.07			T	.06	.44							1.05
Sanish ²	Missouri																.65	.10			.08					.33	.10						1.26
Stanley	do			.03						.06						.06	.57	.09			.05					.46							1.32
Tioga	do		.10	.10		T.			T.	.10						.12	.27								T.	.34							1.03
Trotters	Lit. Missouri								T.	T.							.20								.40	.12							0.72
Watford City	Missouri			T.					T		.04	.02				.05	.30	.13		T					.05	.57							1.16
Wildrose	do		T						T.	.11	.03	.02					.54	.08			T.				.14	.22							1.14
Williston ¹	do		T.	T.	T.				.04	T.	T.	T.				T.	.19	T.		T.				T.	.27	.15							0.65

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ¹ First-order Weather Bureau station; precipitation is for the24-hour period, midnight to midnight, unless otherwise indicated. ² Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement.
T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for April 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	55	55	57	61	35	35	40	41	52	35	30	46	58	59	57	37	35	52	56	52	62	77	85	72	45	70	74	74	76	83	....	55.5
	Minimum	19	29	27	26	17	10	14	10	22	10	7	9	23	28	25	30	29	23	28	32	20	47	50	42	40	33	39	35	35	42	....	26.7
Beach	Maximum	49	58	72	65	33	43	45	52	54	47	33	49	53	60	62	44	45	62	60	50	71	83	72	62	57	64	75	79	84	87	....	58.9
	Minimum	36	30	33	32	15	14	23	24	35	25	8	12	27	28	33	28	29	22	40	34	25	44	51	43	38	37	38	44	49	48	....	31.5
Bismarck	Maximum	57	57	66	52	31	41	42	39	49	37	32	45	52	60	59	43	46	55	57	47	66	80	75	70	51	68	75	77	79	86	....	56.5
	Minimum	27	33	33	31	17	14	22	17	29	12	11	14	31	31	39	35	32	25	35	32	25	38	53	48	40	34	43	42	45	52	....	31.3
Bottineau	Maximum	49	49	48	42	33	33	37	36	33	20	28	40	50	60	64	49	46	56	59	50	66	66	75	63	43	66	72	78	78	82	....	52.4
	Minimum	19	25	32	33	12	10	14	10	15	7	2	8	20	25	34	38	32	23	30	31	24	32	46	43	38	32	40	45	47	52	....	27.3
Carson	Maximum	58	52	70	55	35	47	45	35	56	45	33	48	54	65	60	46	46	59	57	44	68	82	78	72	56	66	78	78	81	87	....	58.5
	Minimum	27	26	32	32	16	10	19	11	25	17	9	11	27	25	37	32	32	19	33	31	24	38	48	44	39	36	37	43	44	52	....	29.2
Crosby §	Maximum	53	46	59	37	21	41	41	41	45	25	32	47	55	63	65	49	48	68	56	50	71	70	68	56	54	69	72	81	84	90	....	55.2
	Minimum	30	29	32	33	12	11	14	18	21	17	8	11	19	27	28	31	27	25	26	31	26	30	31	38	40	35	36	39	42	42	....	27.0
Devils Lake	Maximum	46	47	47	47	30	31	35	35	35	29	27	38	43	57	60	42	38	53	57	46	62	64	74	66	50	64	70	74	77	82	....	50.9
	Minimum	18	33	31	30	15	11	15	11	27	4	3	24	23	28	33	34	30	25	35	28	25	31	46	41	39	36	32	40	42	46	....	27.9
Dickinson §	Maximum	56	58	70	51	30	42	44	45	52	34	34	48	48	60	62	41	44	61	54	49	68	81	74	65	55	64	73	77	82	86	....	56.9
	Minimum	35	27	29	30	18	14	17	17	18	20	11	11	18	27	33	32	32	20	27	35	23	29	41	45	34	36	35	38	43	44	....	28.0
Dunn Center §	Maximum	45	58	62	48	30	38	40	45	45	30	35	34	40	56	60	37	44	57	52	48	61	71	74	59	51	58	69	78	75	87	....	52.9
	Minimum	28	29	32	30	15	13	16	15	21	21	6	10	18	26	28	32	32	21	33	36	21	33	38	44	39	36	37	36	39	44	....	27.6
Fessenden §	Maximum	48	51	54	55	41	41	44	45	40	20	30	38	48	58	60	38	40	52	58	43	61	70	76	68	68	64	72	77	80	87	....	54.2
	Minimum	21	32	34	41	16	12	20	18	18	13	5	23	24	26	29	34	31	24	31	34	22	34	49	40	37	34	35	36	35	42	....	28.1
Fullerton	Maximum	52	55	55	60	45	36	39	41	51	37	31	44	56	59	60	43	37	51	55	58	60	75	74	74	66	72	72	70	77	83	....	56.3
	Minimum	21	32	30	38	22	12	25	13	29	17	6	19	23	30	25	33	26	28	28	32	26	35	47	47	43	33	35	36	38	41	....	29.0
Garrison §	Maximum	52	54	63	62	35	40	41	40	41	39	31	44	48	60	65	55	46	57	57	53	66	75	75	68	62	66	75	79	81	87	....	57.2
	Minimum	26	31	36	35	15	13	18	14	26	16	8	14	28	26	30	37	31	21	39	34	22	39	51	43	39	33	41	40	43	43	....	29.7
Grafton	Maximum	40	44	50	48	45	30	32	34	40	38	30	42	44	62	61	60	46	58	61	58	61	62	73	73	68	60	64	70	77	83	....	53.8
	Minimum	16	29	30	38	21	25	28	11	25	15	8	21	22	34	27	37	33	22	25	33	20	28	45	40	44	41	34	35	39	40	....	28.9
Grand Forks	Maximum	37	43	49	48	33	28	32	35	38	30	28	36	41	58	59	46	47	54	60	52	60	66	70	71	64	59	60	69	76	83	....	51.1
	Minimum	17	29	30	33	18	10	19	13	27	13	6	24	25	30	29	34	32	28	30	26	20	34	48	41	43	40	32	32	39	44	....	28.2
Jamestown §	Maximum	47	54	55	52	34	36	40	38	45	26	28	39	53	58	60	38	37	52	58	52	63	73	76	71	57	70	72	72	77	84	....	53.9
	Minimum	20	34	34	34	21	13	14	14	16	24	0	4	25	29	27	32	33	27	29	29	23	28	45	44	45	35	38	37	36	44	....	27.8
Kenmare	Maximum	55	51	57	38	35	40	40	41	38	21	30	43	52	62	63	48	48	58	58	52	69	69	71	60	49	69	77	78	80	86	....	54.6
	Minimum	26	28	34	35	13	13	15	15	21	13	8	12	19	28	32	35	29	23	33	33	26	32	39	38	39	34	40	48	57	54	....	29.7
Langdon §	Maximum	39	46	45	45	37	30	34	40	37	34	31	43	48	75	60	57	40	58	63	56	61	65	73	72	52	64	71	75	76	81	....	53.6
	Minimum	12	27	29	34	12	6	10	5	23	8	9	18	23	25	29	30	29	20	31	33	18	27	41	36	37	36	30	35	39	46	....	25.3
Marmarth	Maximum	55	58	72	50	42	44	48	62	55	33	34	50	60	55	58	40	48	67	55	53	80	82	72	48	57	64	77	78	83	88	....	58.9
	Minimum	33	35	43	20	17	25	30	32	32	20	12	10	30	37	32	30	20	32	25	23	33	49	45	31	34	39	36	52	43	50	....	31.7
Minot	Maximum	54	53	59	57	38	38	39	40	38	35	30	45	50	61	64	58	47	59	58	54	68	72	74	69	61	70	76	82	83	89	....	57.4
	Minimum	22	30	35	35	14	11	20	12	30	11	5	11	25	25	37	38	31	21	40	36	21	31	48	38	38	30	37	49	50	50	....	29.4
Mott	Maximum	54	61	69	58	33	42	44	46	55	46	33	47	49	60	60	53	46	59	58	50	70	81	74	67	57	66	75	78	81	87	....	58.6
	Minimum	33	33	29	31	17	13	20	17	27	22	9	11	27	29	34	32	30	22	32	34	22	36	49	42	39	34	36	43	39	47	....	29.6
Pembina	Maximum	35	40	48	45	32	30	32	34	39	31	30	43	50	61	62	53	47	57	61	49	60	65	69	68	65	57	61	70	76	84	....	51.8
	Minimum	14	27	23	31	17	12	15	5	21	13	5	15	20	23	25	35	32	24	28	25	15	29	27	37	43	38	29	51	40	42	....	25.4
Sharon	Maximum	39	49	46	49	34	29	33	36	35	30	27	38	43	58	58	45	38	53	60	50	61	66	70	69	61	64	66	69	75	82	....	51.1
	Minimum	19	29	30	34	17	10	19	11	24	10	4	21	22	28	27	32	31	26	28	33	18	35	41	42	39	37	36	35	36	45	....	27.3
Steele	Maximum	58	54	59	50	32	34	32	40	42	33	30	41	50	50	53	43	38	54	59	45	60	76	80	70	59	68	68	79	80	84	....	54.0
	Minimum	17	29	32	32	16	9	20	10	21	15	3	9	22	25	25	32	29	22	25	33	20	30	52	42	34	30	32	35	36	43	....	26.0
Valley City	Maximum	48	52	52	50	44	34	36	39	40	35	31	41	53	58	60	55	40	55	60	55	61	71	75	72	72	67	67	71	76	79	....	54.9
	Minimum	15	29	32	40	20	13	22	15	25	18	7	25	23	32	23	33	33	28	23	35	19	35	42	42	42	37	40	33	35	40	....	28.5
Wahpeton	Maximum	42	48	51	56	48	32	36	35	41	41	29	39	41	56	57	55	44	53	63	56	56	74	74	74	74	70	69	64	75	82	...	54.5
	Minimum	22	30	28	39	25	14	23	18	25	23	10	18	26	33	27	34	32	29	29	31	21	33	50	42	44	39	34	33	36	40	....	29.6
Williston	Maximum	53	52	67	59	27	43	43	33	47	38	35	46	54	62	63	44	49	64	55	51	72	75	69	57	58	67	77	81	85	88	....	57.1
	Minimum	30	31	36	25	15	14	22	21	32	16	9	16	34	30	39	36	30	24	40	34	29	45	55	45	42	43	40	44	55	52	....	32.8
Moorhead, Minn.	Maximum	39	44	47	49	33	29	33	36	39	31	27	38	41	54	57	43	45	52	58	51	57	70	71	74	61	64	58	67	74	81	....	50.8
	Minimum	21	29	32	33	20	13	21	20	27	12	9	21	27	35	30	33	32	30	30	30	24	35	49	43	41	41	34	38	40	44	....	29.8

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

Climatological Data for April 1939—Continued from page 14.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	12	.....	......	....	....	.....	....	.....	1.08	−0.09	0.52	T.	8	16	9	5	nw.	H. A. Bury.
Amidon	Slope	......	16	44.0	+2.8	87	30	8	11	44	1.07	−0.19	0.30	0.2	8	14	3	13	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	45.2	+3.2	87	30	8	11	46	0.87	−0.28	0.33	0.5	6	10	16	4	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	44.2	+0.7	90	30	11	13	48	1.32	+0.31	0.70	0.0	3	18	6	6	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	40.8	......	87	30	7	11	39	0.51	−0.46	0.23	1.0	6	9	12	9	w.	Charles Kaufman.
Bowman	Bowman	2,872	24	43.4	+0.8	87	30	9	10	43	0.95	−0.17	0.36	T.	5	18	2	10	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	41.1	+0.9	90	30	8	11	48	0.86	−0.12	0.21	0.5	7	12	9	9	nw.	J. H. Phelps.
Dickinson	Stark	2,543	46	42.4	+0.3	86	30	11	11†	52	1.44	+0.36	0.60	T.	6	14	7	9	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	40.2	−1.6	87	30	6	11	43	1.49	+0.23	0.73	T.	5	12	11	7	nw.	O. T. Evenson.
Epping	Williams	2,224	28	42.6	+0.4	82	30	2	11	36	0.55	−0.48	0.21	0.0	3	19	5	6	nw.	T. Beachler.
Fairfield	Billings	......	2	.....	......	....	....	.....	...	.....	1.07	....	0.52	0.0	3	10	16	4	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	20	43.2	......	87	30	10	12	45	0.87	−0.30	0.28	0.5	6	10	13	8	nw.	Verne King.
Hettinger	Adams	2,675	31	45.2	+2.4	88	30	6	11	42	0.42	−0.55	0.36	T.	3	10	11	9	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	42.2	+3.1	88	30	4	11	44	0.32	−0.80	0.25	0.5	4	15	6	9	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	41.8	......	86	30	8	11	43	0.56	−0.39	0.19	1.0	10	10	8	12	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	29	45.3	+2.3	88	30	10	12	47	1.15	+0.13	0.48	0.7	9	8	9	13	nw.	S. P. Grane.
Mary	McKenzie	......	10	.....	......	....	....	.....	...	.....	1.29	+0.40	0.45	0.2	5	13	8	9	nw.	Fred Hartman.
Medora	Billings	2,271	23	.....	......	....	....	.....	...	.....	0.90	−0.13	0.34	T.	7	11	13	6	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	44.1	+2.3	87	30	9	11	48	0.82	−0.39	0.45	T.	6	17	8	5	nw.	W. M. Hendricks.
New England	Hettinger	2,400	44	45.0	+2.7	88	30	9	11	44	1.16	+0.15	0.58	0.0	6	12	5	13	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	39.4	......	86	30	5	11	51	2.13	+1.18	0.92	0.1	7	8	21	1	nw.	C. E. Shubert.
Portal	Burke	1,954	33	40.4	−1.0	88	30	6	11	45	0.70	−0.27	0.34	T.	4	13	4	13	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	33	40.4	+0.1	85	30	6	10	36	1.99	+0.78	0.84	0.8	8	15	12	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	22	42.2	+1.1	84	30	7	11	38	1.05	−0.09	0.44	0.2	9	9	10	11	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	43.0	+1.2	88	30	9	11	52	1.26	+0.19	0.65	0.0	5	9	20	1	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	41.3	......	86	30	5	11	43	1.32	....	0.57	0.5	7	12	12	6	nw.	Leroy Edwards.
Tioga	Williams	2,279	10	....	......	....	....	.....	...	.....	1.03	+0.37	0.34	1.0	6	9	12	9	nw.	B. V. Olson.
Trotters	Golden Valley	......	13	.....	......	....	....	.....	...	.....	0.72	−0.31	0.40	T.	3	8	15	7	nw.	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	44.9	+3.8	90	30	6	11	46	1.16	0.00	0.57	T.	7	11	15	4	nw.	J. C. Zeller.
Wildrose	Williams	2,258	11	.....	......	....	....	.....	...	.....	1.14	....	0.54	......	7	10	8	12	nw.	L. Holter.
Williston	Williams	1,878	59	45.0	+3.0	88	30	9	11	43	0.65	−0.55	0.42	0.4	4	14	11	5	nw.	U. S. Weather Bureau.
Average for Western Division		......	.....	42.8	+1.0	90	30	1	7	52	1.03	−0.16	0.92	0.3	6	12	10	8	nw.	....
Average for the State		......	.....	41.6	+0.2	90	30	−1	11	52	0.87	−0.54	1.09	0.8	6	12	9	9	nw.	....

[WBO, Minneapolis, 5-31-39—1500

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLVIII BISMARCK, N. D., MAY 1939 No. 5

GENERAL SUMMARY

May was a warm, dry month. Only two other Mays, since statewide records began, had higher average temperatures. Many stations in the eastern and southern parts of the State recorded readings near or above 100° on the 29th and 30th. Frost occurred generally in all sections on the 11th, although a few stations in the central and southern parts of the State had no killing frost during the entire month. Temperatures remained well above freezing after the 12th. Precipitation was considerably below average in the eastern division, particularly in the southeastern section, and slightly below average in the western division. A few stations in southwestern North Dakota had above normal precipitation. During the last decade of the month crops in the south-central portion deteriorated considerably due to drought. Pastures and ranges needed moisture in all sections and grasshoppers and Mormon crickets did considerable damage.

TEMPERATURE

The mean temperature for the State was 60.1°, or 6.5° above the 1892-1939 average for May. The mean temperature for the eastern division was 60.5°; for the middle division, 60.4°; and for the western division, 59.3°. The highest mean temperature was 63.8° at Edgeley, and the lowest, 56.0° at Hannah, making a range in mean temperature of 7.8°. The absolute range was 86°, from 104° at Mayville on the 29th and Lisbon on the 30th, to 18° at McHenry on the 11th. The average daily excess in temperature for the State since January 1, 1939 is 4.7°.

PRECIPITATION

The average precipitation for the State was 1.55 inches, or 0.75 inch less than the 1892-1939 average for May. In the eastern division the average amount was 1.33 inches; in the middle division, 1.60 inches; and in the western division, 1.71 inches. The greatest monthly amount reported was 3.22 inches at Dickinson; the least reported was 0.44 inch at Fargo. The greatest amount recorded in any 24 consecutive hours was 1.81 inches at Ashley on the 26th. The accumulated deficiency in precipitation for the State since January 1, 1939, is 1.51 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	1	2	1	..	8	13	4	2	3	..	..	..	1	5	3	..	5	3	3	5	3	..	..	..	..	2	4	1	..	..
Dust storms	2	..	..	1	8	5	7	9	45	5	..	..	..	..	7	2	5	..	2	6	1	..	..	..	..	..	..	..	2	..	..
Fogs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	..	1	1	3	2	..	..	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	2	..	1	..	..
Solar halos	..	..	..	..	..	..	1	..	..	..	..	1	4	..	..	..	1	..	..	..	1	1	1	1	..	3	1	..	..	..	..
Hail	..	1	.	..	2	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	4	6	1	2	16	3	..	..	..	..	..	..	1	..	..	..	3	3	8	3	..	7	13	9	7	3	2	..	..	8	10

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

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Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.85	30.35	12	29.31	5	9.9	34	nw.	5	74	39	35	71
Devils Lake	29.86	30.31	12	29.31	5	10.8	33	nw.	9	74	41	40	70
Williston	29.85	30.31	12	29.38	5	9.3	35	nw.	5	74	44	40	72
Moorhead, Minn	29.85	30.35	12	29.41	6	9.6	29	nw.	9	71	41	36	56
Averages & ext's	29.85	30.35	12	29.31	5	9.9	35	nw.	5	73	41	38	68

† And other dates.

COMPARATIVE DATA FOR MAY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	46.6	96	13	3.43	1.84	1.33	2.20	3.9	12	6	8	17
1893	52.2	97	19	1.29	1.14	2.40	1.61	0.2	6	11	8	12
1894	54.6	98	23	1.40	1.24	1.88	1.51	0.0	5	16	9	6
1895	54.4	101	15	2.60	2.88	2.57	2.48	0.0	8	10	11	10
1896	56.9	103	22	5.44	3.70	5.81	4.95	0.0	13	6	14	11
1897	55.4	97	16	0.85	0.61	0.60	0.67	T.	4	16	10	5
1898	52.7	92	14	1.95	1.84	2.15	1.98	0.0	5	15	9	7
1899	50.6	91	16	3.40	4.80	2.27	3.49	0.4	8	9	9	13
1900	59.2	106	15	0.78	0.70	0.59	0.69	0.0	3	18	8	5
1901	60.0	99	19	0.35	0.24	0.33	0.31	T.	2	21	4	6
1902	55.9	94	24	4.31	3.33	3.06	3.57	0.4	10	13	6	12
1903	54.3	96	11	2.52	3.35	3.50	3.12	T.	4	14	8	9
1904	54.2	93	20	2.05	1.64	1.10	1.60	T.	6	14	9	8
1905	50.1	88	10	4.24	2.78	1.72	2.91	4.0	8	12	8	11
1906	50.8	99	11	4.41	4.74	5.59	4.91	0.4	12	9	8	14
1907	44.0	84	6	1.52	1.02	1.39	1.31	3.1	6	12	10	9
1908	50.8	88	9	3.54	2.58	2.57	2.90	0.9	8	13	7	11
1909	51.0	98	5	4.78	3.92	4.68	4.46	0.1	10	12	9	10
1910	50.7	94	10	0.86	0.95	1.28	1.03	0.1	6	12	11	8
1911	55.0	99	6	4.06	2.25	2.39	2.90	T.	8	14	9	8
1912	54.2	90	16	4.17	4.59	4.42	4.39	0.7	11	10	10	11
1913	51.2	100	11	1.75	1.63	1.74	1.71	0.2	9	10	10	11
1914	55.2	95	16	1.83	2.56	1.98	2.12	1.0	8	16	8	7
1915	51.1	98	15	3.37	3.21	2.81	3.13	0.4	9	10	10	11
1916	51.0	95	7	2.95	1.70	1.64	2.10	0.3	8	11	11	9
1917	51.2	98	15	0.21	0.29	0.53	0.34	0.1	2	20	7	4
1918	51.7	99	6	2.58	2.40	1.83	2.27	0.5	9	10	11	10
1919	55.5	101	16	4.29	3.14	1.91	3.11	0.4	9	16	8	7
1920	53.9	89	20	2.40	1.34	1.54	1.76	0.1	7	13	10	8
1921	53.8	90	21	2.75	2.22	2.36	2.44	T.	9	13	10	8
1922	56.3	93	24	4.29	2.81	3.08	3.39	0.1	12	10	11	10
1923	54.1	100	13	2.56	1.57	1.17	1.77	0.2	6	15	10	6
1924	46.9	84	15	1.05	0.57	0.81	0.81	0.0	5	12	10	9
1925	53.6	111	10	1.94	1.17	1.22	1.44	T.	4	17	9	5
1926	58.5	105	10	2.07	2.09	2.45	2.20	0.0	7	13	11	7
1927	48.0	87	13	5.21	6.06	5.77	5.68	3.2	14	6	8	17
1928	58.2	107	16	1.02	1.23	1.00	1.08	0.0	5	18	7	6
1929	49.1	92	8	2.00	2.69	4.28	2.99	0.4	7	16	9	6
1930	50.8	98	18	3.76	2.40	1.69	2.62	0.7	9	12	8	11
1931	53.1	100	10	2.17	1.09	0.98	1.41	0.3	6	16	7	8
1932	55.9	98	25	2.66	2.02	1.76	2.15	2.2	6	13	9	9
1933	54.8	98	19	2.78	3.18	3.50	3.15	T.	9	9	10	12
1934	63.6	111	18	0.46	0.32	0.29	0.36	0.0	3	17	10	4
1935	49.5	89	20	2.11	2.93	2.79	2.61	1.5	12	6	11	14
1936	61.0	100	20	1.05	0.66	0.70	0.80	T.	4	19	9	3
1937	56.9	99	19	2.35	1.67	1.27	1.76	T.	7	12	11	8
1938	52.0	88	18	2.93	2.07	2.66	2.55	0.2	11	8	12	11
1939	60.1	104	18	1.33	1.60	1.71	1.55	0	8	13	11	7
Period	53.6	111	5	2.53	2.18	2.19	2.30	0.5	8	13	9	9

Climatological Data for May 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	43	.....	.....	...	...	...	...	...	...	...	...	...	...	10	...	...	...	I. Idso.
Cavalier	Pembina	894	29	57.5	.....	95	29	24	10	38	2.41	+0.01	1.67	0	7	10	12	9	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	42	60.0	+7.7	95	31	29	13	52	1.36	−1.24	0.64	0	5	22	6	3	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9	.....	.....	...	...	...	...	...	1.44	.....	0.69	0	5	16	7	8	w.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	59.2	+6.6	97	30	25	11	42	1.54	−0.49	0.64	0	9	4	17	10	ne.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	63.8	+10.1	100	30	21	11	52	1.71	−0.92	0.54	0	6	9	20	2	se.	O. A. Thompson.
Edmore	Ramsey	1,524	15	57.3	+4.9	94	30	20	11	48	1.68	−0.24	0.72	0	5	23	5	3	nw.	Mike Davis.
Ellendale	Dickey	1,457	44	62.2	+6.5	97	30†	29	11	51	2.25	−0.52	0.72	0	8	19	6	6	s.	J. E. Demmer.
Fargo	Cass	895	3	61.9	+6.8	103	30	24	11	51	0.44	−2.13	0.23	0	8	10	13	8	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	46	60.8	+5.4	98	30	28	11	51	1.29	−1.86	0.66	0	4	20	8	3	ne.	Helge Dyste.
Fullerton	Dickey	1,439	41	62.4	+8.4	98	30	26	11	54	1.17	−2.01	0.38	0	6	17	10	4	ne.	F. O. Alin.
Grafton	Walsh	827	47	61.0	+7.7	99	30	26	11	44	0.97	−1.20	0.24	0	8	5	19	7	nw.	F. W. Deason, M. D.
Grand Forks ††	Grand Forks	831	48	60.3	+6.6	100	30	22	11	44	0.91	−1.68	0.32	0	7	5	17	9	s.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	61.8	+4.0	98	30	29	10	44	2.25	−0.33	0.75	0	9	10	14	7	nw.	Joseph Riudt.
Hannah	Cavalier	1,568	47	56.0	+5.4	90	29	22	11	47	1.27	−0.85	0.95	0	4	14	13	4	ne.	M. J. Rockwell.
Hillsboro	Traill	901	39	.....	.....	...	...	...	...	...	...	.....	...	...	...	...	...	...	...	Lyle George.
Jamestown	Stutsman	1,457	47	61.2	+7.7	101	30	27	12	55	1.33	−1.67	0.42	0	5	14	10	7	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	57.7	+6.8	93	30	19	11	48	1.38	−0.64	0.75	0	8	11	15	5	ne.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	60.9	+8.3	98	30†	24	11	44	0.70	−2.19	0.25	0	6	13	8	10	ne.	Mabel Walsh.
Lisbon	Ransom	1,091	35	62.8	+8.9	104	30	28	11†	55	0.76	−2.16	0.38	0	6	19	3	9	sw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	58.0	+5.7	102	30	18	11	55	0.91	−1.92	0.34	0	7	11	16	4	nw.	C. E. Blasky.
McLeod	Ransom	1,075	28	62.8	+8.3	102	30	26	15	53	1.18	−2.09	0.42	0	4	16	8	7	sw.	J. G. Carlson.
Mayville	Traill	975	43	62.0	+7.3	104	29	22	11	48	0.78	−2.13	0.25	0	5	11	10	10	nw.	H. B. Addicott.
Oakes	Dickey	1,318	10	61.5	+4.9	99	31	28	12	57	1.69	−0.19	0.46	0	7	18	4	9	nw.	F. H. Murray.
Park River	Walsh	998	35	57.2	+4.2	98	30	22	11	44	1.39	−0.67	0.60	0	5	10	8	13	nw.	E. J. Taintor.
Pembina	Pembina	789	65	58.0	+5.2	95	29	20	11	50	1.99	−0.37	0.48	0	10	18	2	11	nw.	E. N. Russell.
Petersburg	Nelson	1,520	9	.....	.....	...	...	...	...	...	1.02	.....	0.56	0	7	9	14	8	n.	T. M. Rykken.
Sharon	Steele	1,516	15	59.9	+6.0	103	30	25	11	48	0.54	−2.33	0.20	0	5	10	15	6	n.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	62.2	+8.7	103	30	26	12	49	0.73	−2.07	0.32	0	8	10	19	2	ne.	I. C. Robertson.
Wahpeton	Richland	962	47	63.3	+7.7	96	30	24	11	49	2.06	−0.60	1.40	0	10	14	7	10	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	62.2	+7.1	101	30	28	11	47	0.48	−2.41	0.23	0	7	10	13	8	s.	U. S. Weather Bureau.
Average for Eastern Division		.....	....	60.5	+7.0	104	30	18	11	55	1.33	−1.20	1.67	0	7	13	11	7	nw.	.....
Middle Division																				
Ashley	McIntosh	2,001	43	60.8	+7.3	98	30	28	11	54	2.94	+0.40	1.81	0	8	15	8	8	nw.	Henry Doerr.
Bisbee	Towner	1,601	3	58.6	.....	90	29	22	11	42	1.39	.....	1.00	0	6	17	10	4	w.	I. K. Lund.
Bismarck	Burleigh	1,670	65	62.0	+7.5	98	30	32	11	42	1.57	−0.75	0.64	0	11	10	13	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	59.2	+7.9	92	30	28	11	44	0.93	−1.14	0.50	0	6	8	17	6	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	60.0	+7.5	102	30	23	11	44	1.58	−0.99	0.81	0	6	7	6	18	sw.	Soo Line Agent.
Carson	Grant	2,500	27	61.9	+8.8	101	30	25	11	50	2.52	+0.07	0.81	0	11	11	16	4	nw.	J. W. Evens.
Center	Oliver	.....	1	59.4	.....	93	30	26	11	49	1.82	.....	0.70	0	6	12	11	8	nw.	B. Wilcox.
Dogden Butte ††	McLean	1,880	13	60.6	+6.0	92	5	28	11	44	1.61	−1.36	0.88	0	5	14	11	6	nw.	R. L. Williams.
Drake	McHenry	1,634	10	59.4	.....	94	30	28	11	48	2.01	.....	1.19	0	7	10	6	15	se.	Peter Anton.
Dunseith	Rolette	1,682	43	58.6	+6.5	93	29	22	11	45	0.66	−1.18	0.31	0	6	15	10	6	ne.	Geo. Gehres.
Eckman	Bottineau	1,500	34	60.1	+8.7	94	29	28	11	47	2.45	+0.53	1.25	0	7	9	20	2	n.	B. C. Phipps.
Energy ††	McLean	1,750	27	61.4	+5.3	98	30	27	11	45	1.26	−0.90	0.48	0	5	13	16	2	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	27	61.7	+9.7	98	30	29	11	52	1.76	−0.55	1.12	0	6	20	8	3	n.	T. D. Monsen.
Fort Yates	Sioux	1,670	39	62.6	+6.5	100	30	27	11	50	2.21	−0.09	0.70	0	7	15	9	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	60.0	+6.0	92	29	29	11	45	2.63	+0.66	1.32	0	8	8	12	11	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	61.0	.....	100	30	26	11	48	1.33	.....	0.43	0	7	12	10	9	nw.	A. H. Haut.
Garrison	McLean	1,901	62	61.8	+9.1	95	30	32	11	44	1.13	−1.20	0.40	0	6	14	9	8	nw.	E. L. Vorachek.
Granville	McHenry	1,504	32	60.4	+8.8	93	29†	31	11	46	0.66	−1.28	0.26	0	5	11	11	9	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	57.4	+6.7	93	30	20	11	51	0.94	−1.15	0.50	0	4	12	15	4	nw.	C. E. Blackorby.
Linton	Emmons	1,711	22	61.6	+7.4	100	30	21	11	55	1.77	−0.64	0.56	0	7	11	17	3	e.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	21	61.7	+8.1	95	30	31	10	44	2.06	−0.42	1.12	0	6	12	7	12	ne.	F. W. Perry.
Maddock	Benson	1,604	24	58.8	+6.1	95	30	23	11	47	1.21	−0.90	0.74	0	6	17	11	3	nw.	A. T. Felland.
Mandan	Morton	1,750	25	61.5	+7.6	99	30	29	11	46	1.93	−0.51	1.00	0	12	12	8	11	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36	.....	.....	...	...	...	...	...	1.41	−0.85	0.93	0	5	.....	.....	.....	.....	P. B. Anderson.
Max	McLean	2,093	10	58.5	.....	91	30	32	10†	44	0.86	.....	0.30	.....	7	11	12	8	nw.	A. W. Rice.
Minot	Ward	1,557	43	61.6	+9.4	94	29	29	11	47	1.65	−0.49	0.70	0	8	10	8	13	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	46	59.0	+6.7	93	29	23	11	44	1.82	−0.03	1.17	0	7	10	17	4	nw.	Iver Johnson.
Napoleon	Logan	1,955	47	61.6	+9.2	101	30	24	11	56	1.95	−0.48	0.65	0	9	17	8	6	e.	C. J. Hoof.
New Salem	Morton	2,163	35	60.8	+8.4	100	30	28	11	51	1.52	−0.60	0.44	0	10	19	9	3	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	62.8	+11.0	100	30	25	11	45	1.56	−0.84	0.75	0	5	14	9	8	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	58.9	.....	91	29†	22	11	47	0.67	.....	0.25	0	7	11	12	8	n.	A. A. Jacobsen.
Rugby	Pierce	1,562	10	.....	.....	...	...	...	...	...	1.16	−0.26	0.75	0	6	5	20	6	ne.	W. B. Paterson.
Ryder	Ward	2,108	10	.....	.....	...	...	...	...	...	1.55	−0.63	0.83	0	9	20	6	5	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3	.....	.....	...	...	...	...	...	1.69	.....	0.80	0	6	7	16	8	nw.	J. B. Smith.
Steele	Kidder	1,857	45	60.0	+6.6	100	30	23	11	53	1.48	−1.19	0.69	0	7	14	11	6	sw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10	.....	.....	...	...	...	...	...	2.18	+0.59	0.93	0	9	18	7	6	ne.	G. N. Pilgard.
Timmer	Morton	.....	2	.....	.....	...	...	...	...	...	1.67	.....	0.50	0	6	.....	.....	.....	.....	Geo. M. Sinclair.
Towner	McHenry	1,482	37	61.2	+8.0	94	29†	26	11	47	0.98	−1.16	0.33	0	5	15	11	5	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	62.4	+9.6	95	5†	30	11	46	2.31	+0.08	1.25	0	5	16	8	7	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	31	.....	.....	...	...	...	...	...	1.40	−1.11	0.78	0	9	15	10	6	nw.	Adam Leno.
Velva	McHenry	1,511	12	62.4	+6.5	98	29	31	11	47	0.64	−1.99	0.20	0	6	7	18	6	nw.	Oscar Anderson.
Washburn	McLean	1,731	38	63.4	+9.6	95	30	32	11	47	2.37	+0.08	1.06	0	8	12	12	7	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	.....	.....	...	...	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. A. Findlay.
Willow City	Bottineau	1,471	47	57.2	+5.7	93	29	23	11	44	0.70	−1.14	0.26	0	4	15	16	0	nw.	O. M. Sanderson.
Wilton	McLean	2,159	3	58.7	.....	99	30	32	11	45	2.12	.....	0.80	0	10	15	8	8	nw.	J. S. McGogy.
Wishek	McIntosh	2,010	18	59.8	+9.1	98	30	23	11	57	1.55	−1.29	0.70	0	8	10	15	6	nw.	H. M. Larson.
Zap	Mercer	1,838	24	.....	.....	...	...	...	...	...	1.91	−0.44	1.50	0	5	9	0	22	.....	R. A. Norton.
Average for Middle Division		.....	.....	60.4	+7.7	102	30	20	11	57	1.60	−0.58	1.81	0	7	13	11	7	nw.	.....

Continued on page 20

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. †† Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for May 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																
Cooperstown [2]	Sheyenne		T.								T.						T.	T.		.02	T.			.07	.33		.64	T.			.30		1.36
Courtenay [2]	James		T.																	.06	.69		.15		.37		.17						1.44
Devils Lake [1]	Devils Lake		T.			.64				T.	T.		T.			.01		T.	T.	.01	.18		T.	.09	.33	.08	.13				T.	.07	1.54
Edgeley	James		.17														.52			.54			.03		.09	.36							1.71
Edmore	Devils Lake		T.			.72										.09									.43		.25					.19	1.68
Ellendale	James		.72	.23														.01		.36	.06				.01	.49	.37						2.25
Fargo [1]	Red		T.	T.			.01		T.	T.							T.		T.	.22	.01		.03	.01	.11	.01	.04					T.	0.44
Forman	Sheyenne		T.	.66																.15	T.	T.	T.		.37	T.	.11						1.29
Fullerton	James		.05	.13														T.		.38			T.	T.	.04	.21	.36						1.17
Grafton	Red					.16	.24									.03					.10				.12		.18	T.			.05	.09	0.97
Grand Forks [1]	do					T							T.			.02				.01	T.			T.	.25	.10	.17				.32	.04	0.91
Hankinson [2]	do		'30			.05															.01			.75	.35	.07	.08	.62	.02				2.25
Hannah	Pembina					.18																			.95		.09		.05		T.		1.27
Hillsboro	Red																																
Jamestown	James	T	T.																	.34			.11		.42	.42	.04					T.	1.33
Langdon [2]	Pembina					.23	.03									.03					.07				.75		.11	.10				.06	1.38
Larimore	Red						.01						T.			.04				T.	T.				.25	.11	.18				T.	.11	0.70
Lisbon	Sheyenne			.15																T.	.38			T.	.01	.08	.10	.04					0.76
McHenry	James		.13															.02		T.	.34				.22		.13				.01	.06	0.91
McLeod	Sheyenne			.42																.14		T.			.32		.30						1.18
Mayville	Red												.07	T.					.14	T.				.07	.25	.25							0.78
Oakes	James		.05	.36																	.46			T.	.01	.33	.42	.06					1.69
Park River	Red						.21														.10				.21		.60					.27	1.39
Pembina	do					.48	.12						.16			.20			.02		.31				.26	.04	.19					.21	1.99
Petersburg	do						.06						.01			.09				T.	.04				.21		.56				.05		1.02
Sharon	do		T				T.				.01		T.			T.		T.			.01				.14	.18	.20				T.	T.	0.54
Valley City	Sheyenne	.01	T.										T.						.01	.32			.06	.11	.13	.08						.01	0.73
Wahpeton	Red		.01	.09			.01											T.		.03	.08		.01		1.40	.03	.37	.03					2.06
Moorhead, Minn [1]	do		.02				T.	T.			T.		T.			T.	T.	T.	T.	.21	.02		.01	.02	.10	T.	.10	T.					0.48
Middle Division																																	
Ashley [2]	Missouri		.04	.10																.05	.38			.05	.05	.46	1.81						2.94
Bisbee	Devils Lake					.14				.02					T.			T.							1.00		.11				.04	.08	1.39
Bismarck [1]	Missouri		T.			.01	T.	T.			T.		.03					.10	T.	.10			.09	.26	.38	.39	.05		T.		.14	.02	1.57
Bottineau	Mouse		.02			T.	.50			T.	.02								T			T.			.05	T.	.13	T.				.21	0.93
Carrington [2]	James																				.04			.10	.55		.81	.03				.05	1.58
Carson	Heart					.16	.01											.15	.06	.34	.07		.22		.81	.60	.05					.05	2.52
Center	Missouri																	T.	T.				.36	.70	.20	.35					.06	.15	1.82
Dogden Butte	Mouse					T							T.						T.	T.				.20	.88	.03	.28					.22	1.61
Drake [2]	do		T.				.13											T.		T				.15	.19	.01	.30	.05				.18	2.01
Dunseith	do		T.			T.	.05			T.	.04								T.		.03		T.		.02		.31					.21	0.66
Eckman	do		.03			.02	1.10			.01									.01		T.			.03								1.25	2.45
Energy	Missouri																		.10					.31	.33	.04	.48						1.26
Fessenden [2]	James																		.05					.13	1.12	.04	.38					.04	1.76
Fort Yates	Missouri												T.					.17		.22	.29		.11		.70	.04	.68						2.21
Foxholm (near)	Mouse		.06		T.		.98			T.			.02				T.		.03		.08			.12	T.	.02						1.32	2.63
Gackle	James		.14																	.29			.09	.02	.23	.13	T.	.43					1.33
Garrison	Missouri		T.				.18													.04			T	.25	.20	.06	.40					T.	1.13
Granville	Mouse		T.			.03	T.																	.05	.10		.22				T.	.26	0.66
Hansboro	Devils Lake																				.05				.50		.09				T.	.30	0.94
Linton	Missouri		T.										T					.01		.25	.35		.11	T.	.33	.16	.56						1.77
McClusky	do					.29																		.22	1.12	.06	.28					.09	2.06
Maddock	Sheyenne		.12																.03		T.				.74	.02	.27					.03	1.21
Mandan [2]	Missouri	.01	T.			.07	T.				T.	T.	.01				.03	.04	.06	T.			.05	1.00	.05	.51		T			.08	.02	1.93
Max [2]	do		T.			.06	.04																	.24	.10	.02	.30				.10		0.86
Minot	Mouse		.10				.45				T.						T.	T.	.03		T.		T.	.19	.10	.05	.03				T.	.70	1.65
Mohall	do		.07		T.	.42	T.						.05				T.		.04		01			.06				T.				1.17	1.82
Napoleon [2]	Missouri																	.02	.03	.26	.27			.10	.50	.10	.65	.02					1.95
New Salem	Heart						.01						T.					.02	T.	.04	.02		T.	.15	.41	.02	.44				.03	.38	1.52
Pettibone	James		T.																	.12			T.	.15	.50	.04	.75						1.56
Rolla	Devils Lake		.02			.02	.11			T.	.04					T.					T.			T	.16		.07					.25	0.67
Rugby (near)	Mouse		T.			.06											T				T.		T.	.03	.75		'14				.06	.12	1.16
Ryder [2]	Missouri	.02				.10							T.					.02					.22	.15	.07	.02					.12	.83	1.55
Selfridge	do	.10											T.				.15		.14	T.			T	.80	T	.40	.10				T.	T.	1.69
Steele	do												T.							.15	.07		.05	.02	.40	.10	.69					T.	1.48
Tagus	Mouse		.14			T.	.70			T.	T		.03				.02		.07		.01		T.	.22	T	.06						.93	2.18
Towner	do		T.			.05	.10																	T	.32	T.	.18					.33	0.98
Turtle Lake	Missouri												T							.04				.25	1.25		.52					.25	2.31
Tuttle	do					T.							T.					T.	.01	.20	.02		.01	.07	.78	.06	.23		T.			.02	1.40
Velva	Mouse		T.			T.	.06																	.14	.20	.02	.17					.05	0.64
Washburn [2]	Missouri					.06													.04	.12				.31	1.06	.01	.49					.28	2.37
Westhope	Mouse																																
Willow City	do						.14			T.									T		T.	.07		T.	.07		.26					.23	0.70
Wishek [2]	Missouri	.02																	.35	.17			.05	.17	.07	.70						.02	1.55
Zap	Knife				.03															1.50				.30	.06							.02	1.91
Western Division																																	
Alpha	Lit. Missouri						.15	T.										.22	.09	.39			.26	.08	.06	.03						.33	1.61
Amidon	do				.04		.41												.17	.18	.06		T.	.09	.16	T.						.13	1.24
Beach	do					.02	.27	T.											.36	.10	.03		.15	.41	.21	.03					T.	.55	2.13
Berthold Agency	Missouri		.10			.05	.45																	.80	.13	T.	T.		.15			1.32	3.00
Bowman [2]	Grand				T.	.20												.19	22	1.60			.02	.31	T.	.02					.08	.04	2.68
Crosby	Mouse					.10	.17						.02						T.		.08	.13		.03			.11		.03				0.67
Dickinson [2]	Heart					T.	.32											.29	.42	.28	.16			1.09	.21	T.	.02		.01			.42	3.22
Dunn Center	Knife					.06	.33												.10	.06				.49	.38	.03			.05			.81	2.31
Fairfield	Lit. Missouri					.07	.25											.45	.03					.42	.11	.03			.11			1.05	2.52
Fryburg	Heart				T.		.29												.24	.40				.41	.18	T		.03				.49	2.04
Hettinger	Grand												T.							.16			.15		.14	.06						.14	0.65
Howard (near)	Missouri	.04			T.	.14	T.		T.	.01	T.	.16	T.				T		T		.32	.02	.09			T		.05				.08	0.91
Kenmare	Mouse		.08				.31						.09					.03			.08			.20	.03	.08	.02					.25	1.17
Marmarth	Lit. Missouri					.30												.49	.25				.32	.10	.01						.20		1.67
Mary	do							.24					.03						.34			T.	.64	.06	.20			.03			T	.65	2.19
Medora	do				.01	.05	.34											.03	.34	.36			.30	.07	.06							.56	2.12
Mott	Cannon Ball				T.		.07						T					T	.02	.19	.03		.05		.13	T.	.01					.14	0.64
New England [2]	do						.11					.03						.16	.18	.05			.36		.04			T.				.25	1.18
Parshall	Missouri		.19			T.	1.02						.07						.07					.38	.03	.05	.01		.01			.65	2.48
Portal [2]	Mouse			.26	.10							.10						.05				.03	.01			.03			.17			.27	1.02
Powers Lake	Missouri					.40			.09			.06						.11			.07				.18						.43		1.34
Richardton	Heart				.04		.31											.15	.06	.12	.03		.05	.34	.41	.09	T.	.01				.16	1.77
Sanish [2]	Missouri		.02										.05						.25					.52	.03	.04						.27	1.18
Stanley	do					.98							.09				.02		.13					.30	.07							.66	2.25
Tioga	do	.11					.25										T.	T.				T.		.31								.30	0.97
Trotters	Lit. Missouri					.21													.20		.24		.14	.18	.47			.04				.55	2.03
Watford City	Missouri						.06												.25		.09		.10	.39						.09	T.	.49	1.47
Wildrose	do	T.					.13				T.		.20			T.		T.	.26	.09	.30	.07	T	.09	.05	.04		T.				.34	1.57
Williston [1]	do	.04			.03	.16					T.		.01					.23	.02	.01	.36	.01	.47	.19	.03			.02	.02			.38	1.98

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. •Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for May 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	83	76	81	84	90	70	69	71	67	58	62	64	75	70	89	71	71	87	75	71	83	71	73	65	72	65	75	85	93	98	87	75.9
	Minimum	47	45	48	44	54	52	42	39	42	35	28	31	38	45	35	39	43	48	51	52	41	47	44	48	50	54	53	48	60	60	55	45.7
Beach	Maximum	76	74	81	86	82	64	63	71	67	58	62	64	76	74	90	74	86	82	78	70	71	64	70	59	59	72	81	85	93	87	77	74.1
	Minimum	47	44	41	49	53	40	45	38	41	33	25	35	38	44	49	44	51	54	54	45	41	41	44	54	43	40	49	54	58	63	50	45.4
Bismarck	Maximum	86	76	78	88	92	70	66	73	63	57	60	63	77	70	89	71	78	84	79	73	78	60	72	62	64	67	78	88	93	98	72	75.0
	Minimum	55	53	47	47	58	51	44	44	45	39	32	40	40	49	47	42	46	55	56	52	47	45	43	49	51	56	52	55	60	65	54	49.0
Bottineau	Maximum	83	83	76	75	86	89	68	62	70	59	53	60	64	76	67	80	63	69	82	72	72	64	63	64	64	68	72	78	84	92	88	72.5
	Minimum	55	52	45	38	46	46	46	36	43	32	28	40	40	45	50	36	39	47	48	50	50	40	42	44	49	52	50	50	55	64	61	45.8
Carson	Maximum	85	76	82	90	94	74	68	73	65	60	65	68	80	76	93	72	91	86	80	71	80	62	74	66	65	70	82	91	96	101	76	77.8
	Minimum	52	49	44	47	61	45	40	38	51	34	25	35	37	52	43	39	42	52	51	46	39	45	42	45	50	52	48	50	56	64	55	46.0
Crosby §	Maximum	85	74	78	81	78	68	62	72	56	53	64	65	70	83	80	57	78	81	76	60	57	61	58	67	61	78	83	86	92	83	74	71.6
	Minimum	56	40	44	45	45	42	41	38	42	34	30	33	38	45	49	40	40	46	51	40	46	38	40	42	47	48	46	55	58	55	54	44.1
Devils Lake	Maximum	84	77	73	81	93	69	65	70	61	54	56	63	76	65	83	63	69	82	67	75	75	61	68	53	61	66	74	84	92	97	76	72.0
	Minimum	51	57	46	39	59	51	45	42	39	35	25	36	38	44	43	40	35	51	47	52	48	42	41	48	50	53	50	46	61	62	58	46.3
Dickinson §	Maximum	79	72	78	87	84	66	60	70	60	59	59	64	77	72	89	71	80	79	76	65	70	62	60	56	62	69	79	84	90	89	66	72.1
	Minimum	46	43	39	43	49	42	41	34	38	34	25	34	34	42	46	40	40	46	54	45	38	41	42	42	48	47	49	47	55	59	51	43.0
Dunn Center §	Maximum	87	77	70	86	85	69	58	69	57	52	64	62	73	79	91	63	72	85	72	56	66	67	55	51	62	73	72	83	87	88	87	71.6
	Minimum	50	48	45	42	52	43	45	37	45	36	29	36	36	46	44	41	42	50	56	50	43	39	43	44	50	51	48	54	56	59	52	45.5
Fessenden §	Maximum	87	79	78	86	95	90	72	73	72	63	60	63	76	77	87	70	75	86	79	75	79	66	74	65	63	66	86	88	90	98	69	77.0
	Minimum	44	41	43	34	55	58	51	51	51	45	29	32	36	41	39	41	39	47	50	48	46	40	41	48	50	54	46	55	58	62	62	46.4
Fullerton	Maximum	84	77	84	91	77	70	73	68	60	65	70	76	70	90	75	74	89	75	77	83	73	73	66	77	67	....	75	83	95	98	94	77.7
	Minimum	42	52	47	45	52	54	44	45	45	37	26	34	41	44	36	41	46	47	51	58	45	47	47	48	50	55	54	49	58	60	57	47.0
Garrison §	Maximum	86	81	77	88	87	84	67	72	70	58	62	65	77	73	86	81	75	83	82	72	75	67	64	63	64	73	82	87	91	95	81	76.4
	Minimum	48	50	48	44	61	46	43	39	48	33	32	38	38	46	47	41	44	55	54	53	44	39	42	49	49	54	49	52	58	62	55	47.1
Grafton	Maximum	83	82	70	79	88	88	72	70	72	62	58	62	75	77	84	79	71	81	82	73	79	78	70	68	67	66	72	81	95	99	98	76.8
	Minimum	44	49	48	35	58	55	45	42	43	32	26	29	33	45	42	45	32	49	46	50	45	43	41	47	50	54	49	42	58	62	64	45.3
Grand Forks	Maximum	83	73	70	80	94	73	74	72	69	54	56	64	76	68	85	67	71	87	69	83	84	64	70	66	74	62	71	80	96	100	97	75.2
	Minimum	46	50	47	36	54	55	43	42	42	32	22	28	33	44	41	44	32	54	49	52	46	43	42	47	52	54	50	41	60	62	63	45.4
Jamestown §	Maximum	85	78	81	85	92	73	70	75	67	58	61	66	77	69	90	70	74	89	68	79	83	68	72	58	72	63	76	88	92	101	95	76.6
	Minimum	48	54	48	43	47	52	42	40	47	38	28	27	37	45	35	42	45	47	53	52	43	45	42	43	47	54	51	49	56	62	61	45.9
Kenmare	Maximum	87	75	74	83	86	70	65	71	58	53	62	65	75	79	84	60	73	83	73	67	63	61	58	64	61	77	84	88	93	88	65	72.4
	Minimum	54	51	46	45	50	45	44	42	43	34	29	41	43	43	52	36	36	41	50	52	49	40	41	43	48	47	46	52	62	65	54	45.9
Langdon §	Maximum	83	80	71	79	84	72	68	70	67	57	60	63	76	70	84	69	69	82	81	75	71	63	65	65	59	69	73	81	92	93	78	73.2
	Minimum	47	48	47	31	57	49	39	38	41	32	19	30	37	36	42	39	28	48	41	46	44	39	38	41	45	50	44	39	55	58	60	42.2
Marmarth	Maximum	70	78	83	86	84	66	61	66	64	62	65	65	82	75	92	82	82	82	80	65	73	52	58	58	59	76	85	85	91	92	70	73.8
	Minimum	42	38	50	54	41	43	35	35	39	26	27	35	50	47	49	46	63	55	45	39	37	46	47	48	40	50	55	55	55	53	53	45.1
Minot	Maximum	88	84	74	88	89	84	67	74	70	54	62	65	78	74	86	75	75	83	82	69	70	64	62	61	75	76	83	90	94	91	79	76.3
	Minimum	52	52	45	41	60	47	44	41	45	34	29	42	38	45	50	40	37	52	52	55	48	39	41	49	49	53	47	51	61	60	55	46.9
Mott	Maximum	83	72	80	87	89	91	65	72	64	59	61	65	78	72	90	84	83	84	83	74	77	62	70	64	65	70	80	89	95	102	83	76.9
	Minimum	48	46	42	43	55	43	39	34	45	35	29	36	35	52	45	41	44	54	56	46	41	45	43	47	49	47	45	50	56	58	53	45.2
Pembina	Maximum	83	76	68	77	89	72	70	70	63	54	58	61	73	69	78	62	70	78	68	63	75	66	67	63	63	62	70	80	95	92	89	71.7
	Minimum	43	49	42	27	54	54	45	43	39	34	20	29	35	40	41	43	31	49	44	49	46	53	39	47	48	51	45	37	66	66	65	44.3
Sharon	Maximum	83	72	75	80	93	75	66	72	62	56	58	66	76	67	86	64	69	87	69	77	82	67	71	63	69	63	72	83	93	103	97	74.7
	Minimum	48	53	51	38	63	53	39	35	43	35	25	32	31	44	38	41	34	48	48	50	45	44	41	45	48	52	49	45	58	61	61	45.1
Steele	Maximum	87	76	78	89	96	74	68	70	62	58	59	61	76	74	88	76	74	85	70	74	80	70	69	62	72	66	75	86	90	100	78	75.6
	Minimum	50	51	47	40	62	42	35	35	43	30	23	29	29	44	35	38	42	50	51	53	38	40	45	53	43	50	61	50	50	55	58	44.3
Valley City	Maximum	84	80	78	83	92	89	76	73	73	62	58	66	75	73	82	75	68	87	82	77	82	78	70	68	72	70	74	81	92	103	96	78.0
	Minimum	46	46	50	46	56	55	46	42	50	36	27	26	34	40	33	43	43	50	49	55	42	49	43	47	50	53	54	45	61	59	63	46.4
Wahpeton	Maximum	82	80	78	84	90	89	77	72	75	67	60	67	75	74	84	84	70	89	89	79	85	79	72	72	79	79	66	74	91	96	94	79.1
	Minimum	43	45	54	44	54	57	50	43	47	37	24	28	36	44	35	42	46	50	51	54	45	50	47	50	51	57	56	42	61	65	65	47.5
Williston	Maximum	74	73	79	87	80	65	59	71	64	54	63	64	75	74	83	67	80	83	76	60	62	60	57	63	64	77	81	82	89	84	72	71.7
	Minimum	57	49	48	55	51	43	46	43	43	35	29	41	43	47	55	44	48	56	57	49	44	41	45	51	51	50	55	56	61	62	55	48.7
Moorhead, Minn.	Maximum	81	73	78	83	91	77	75	72	71	55	55	67	74	66	87	68	69	89	68	78	83	71	69	65	81	65	70	77	95	101	96	75.8
	Minimum	44	48	53	46	54	59	51	45	45	38	28	33	36	48	40	43	39	53	54	54	50	50	46	49	54	57	56	44	60	63	65	48.5

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

Climatological Data for May 1939—Continued from page 18.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	12	......	......	....	....	.....	....	......	1.61	−0.82	0.39	0	9	21	6	4	nw.	H. A. Bury.
Amidon	Slope	......	16	59.8	+7.0	92	30	29	11	42	1.24	−1.28	0.41	0	8	16	10	5	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	59.8	+8.4	93	29	25	11	41	2.13	−0.19	0.55	0	10	5	19	7	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	62.0	+7.9	97	30	30	11	43	3.00	+0.76	1.32	0	7	21	5	6	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	57.1	......	98	29	30	9	54	1.22	−0.84	0.27	0	10	6	8	17	w.	Charles Kaufman.
Bowman	Bowman	2,872	24	58.8	+6.6	93	30	31	10	45	2.68	+0.39	1.60	0	9	25	1	5	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	57.8	+6.6	92	29	30	11	38	0.67	−1.27	0.17	0	8	8	12	11	w.	J. H. Phelps.
Dickinson	Stark	2,543	46	57.6	+5.4	90	29	25	11	44	3.22	+0.89	1.09	0	10	16	10	5	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	58.6	+5.9	91	15	29	11	47	2.31	−0.08	0.81	0	9	15	12	4	nw.	O. T. Evenson.
Epping	Williams	2,224	28	59.8	+7.0	90	30	26	11	41	1.65	−0.53	0.57	0	7	21	4	6	nw.	T. Beachler.
Fairfield	Billings	......	2	......	......	....	....	.....	....	......	2.52	......	1.05	0	9	19	10	2	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	20	58.9	......	91	29	33	11	43	2.04	−0.35	0.49	0	7	16	9	6	nw.	Verne King.
Hettinger	Adams	2,675	31	62.2	+8.6	101	30	29	11	46	0.65	−1.73	0.16	0	5	8	17	6	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	57.4	+7.6	92	29	25	10	45	0.91	−1.36	0.32	0	9	9	15	7	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	59.2	......	93	29	29	11	42	1.17	−0.79	0.31	0	10	14	8	9	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	29	59.4	+8.2	92	30	26	10	43	1.67	−0.65	0.49	0	7	11	13	7	nw.	S. P. Grane.
Mary	McKenzie	......	10	......	......	....	....	.....	....	......	2.19	+0.01	0.65	0	8	20	6	5	nw.	Fred Hartman.
Medora	Billings	2,271	23	......	......	....	....	.....	....	......	2.12	−0.44	0.56	0	10	15	14	2	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	61.0	+7.5	102	30	29	11	45	0.64	−1.76	0.19	0	8	20	9	2	nw.	W. M. Hendricks.
New England	Hettinger	2,400	44	60.4	+8.4	97	30	28	10	49	1.18	−0.80	0.36	0	8	11	14	6	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	58.6	......	91	30	28	11	45	2.48	+0.31	1.02	0	10	5	24	2	nw.	C. E. Shubert.
Portal	Burke	1,954	33	58.1	+7.6	92	29	30	10	43	1.02	−1.04	0.27	0	9	18	5	8	w.	R. G. Wegener.
Powers Lake	Burke	2,205	33	58.1	+4.9	91	28	31	10	47	1.34	−0.84	0.43	0	7	11	16	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	22	59.0	+6.4	91	30	31	7	41	1.77	−0.81	0.41	0	12	10	15	6	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	61.1	+6.1	92	29	28	11	45	1.18	−0.09	0.52	0	7	9	17	5	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	57.9	......	90	29	32	11	38	2.25	......	0.98	0	7	13	16	2	nw.	Leroy Edwards.
Tioga	Williams	2,279	10	......	......	....	....	.....	....	......	0.97	−0.81	0.31	0	4	19	6	6	nw.	B. V. Olson.
Trotters	Golden Valley	......	13	......	......	....	....	.....	....	......	2.03	−0.29	0.55	0	8	15	9	7	nw.	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	60.6	+7.9	91	29	28	11	40	1.47	−0.50	0.49	0	7	13	13	5	w.	J. C. Zeller.
Wildrose	Williams	2,258	11	......	......	....	....	.....	....	......	1.57	......	0.34	0	10	8	16	7	se.	L. Holter.
Williston	Williams	1,878	59	60.2	+6.2	89	29	29	11	34	1.98	−0.08	0.57	0	18	19	7	5	w.	U. S. Weather Bureau.
Average for Western Division		......	.....	59.3	+6.4	102	30	25	10	54	1.71	−0.48	1.32	0	9	14	11	6	nw.	....
Average for the State		......	.....	60.1	+6.5	104	30	18	11	57	1.55	−0.75	1.81	0	8	13	11	7	nw.	....

[WBO, Minneapolis, 6-24-39—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVIII Bismarck, N. D., June 1939 No. 6

GENERAL SUMMARY

June 1939 was cool and moist. The average temperature, 0.1 degrees, was the lowest since June 1928. No station reported a maximum temperature of 100 degrees and most stations in the northern and western sections reported maxima for the month below 90 degrees. A few stations in the northeastern part of the State recorded frost on the 9th but no serious damage was reported. The precipitation was the heaviest for June in 11 years. It was well distributed both geographically and throughout the month. The greatest amounts, however, fell in the southeastern part of the State. Crops were rather poor at the beginning of the month due to the dry weather during May but June was an unusually good month for crops and pastures. At the close of the month livestock and crops generally were in good condition.

TEMPERATURE

The mean temperature for the State was 60.1°, or 2.9° below the 1892–1939 average for June. The mean for the eastern division was 62.4°; for the middle division, 59.5°; for the western division, 58.4°. The highest mean temperature was 67.0° at Wahpeton, and the lowest, 55.2° at Bowbells, making a range in mean temperature of 11.8°. The absolute range in temperature was 70°, from 99° at Lisbon on the 5th, to 29° at Edmore on the 9th. The average daily excess in temperature for the State since January 1, 1939, is 0.3°.

PRECIPITATION

The average precipitation for the State was 4.59 inches, or 1.18 inches more than the 1892–1939 average for June. In the eastern division the average amount was 5.44 inches; in the middle division, 4.67 inches; and in the western division, 3.67 inches. The greatest monthly amount reported was 10.91 inches at McLeod; the least was 1.90 inches at Portal. The greatest amount recorded in any 24 consecutive hours was 5.40 inches at Hillsboro on the 6th. The accumulated deficiency in precipitation since January 1, 1939, is 0.33 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	..	..	..	1	1	1	2	1	1	1	2	3	1	..	..	..	1	1	..	1	..	..	..	..
Dust storms	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	3	1	..	..	2	1	..	..	..	..	..	..	4	1	1	2	7	2	..	..	1	1	..	..	..	..	1	3	..	1	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..	..	..
Hail	..	..	1	..	..	..	..	..	..	..	..	..	..	1	1	1	1	..	..	1	..	1	..	2	2	..	..	2	2	..	..
Thund'rst'ms	3	4	1	..	2	8	..	1	..	1	1	..	2	4	2	8	8	8	..	..	9	2	1	8	6	20	4	4	11	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	Local noon	6:30 p. m.	
Bismarck	29.86	30.17	3	29.44	6	8.9	25	w.	19	87	57	51	57
Devils Lake	29.86	30.08	11	29.45	18	9.3	26	ne.	16	87	56	58	61
Williston	29.86	30.20	29	29.40	23	8.2	32	w.	24	84	57	57	57
Moorhead, Minn	29.84	30.11	4	29.37	18	8.9	24	ne.	10	84	57	55	52
Averages & ext's	29.86	30.20	29	29.37	18	8.8	32	w.	24	86	57	55	57

† And other dates.

COMPARATIVE DATA FOR JUNE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	60.5	94	28	3.59	4.44	2.03	3.35	0	8	11	9	10
1893	67.4	103	33	3.25	4.28	2.60	3.38	0	9	13	10	7
1894	68.8	103	25	4.08	2.31	3.93	3.44	0	7	17	6	7
1895	59.7	97	29	5.37	4.54	4.11	4.67	0	12	8	13	9
1896	65.6	97	37	3.06	4.33	4.68	4.02	0	9	16	9	5
1897	61.7	109	20	4.40	4.40	2.45	3.75	0	9	11	10	9
1898	62.6	105	26	3.17	3.21	3.18	3.19	0	9	10	10	10
1899	62.2	105	30	3.20	4.25	3.98	3.81	0	10	12	11	7
1900	66.9	109	27	1.59	1.54	1.04	1.39	0	5	15	11	4
1901	61.6	95	22	7.20	5.31	5.90	6.14	0	15	10	11	9
1902	58.0	97	28	3.67	3.75	3.53	3.65	0	11	12	9	9
1903	62.4	96	27	1.02	1.52	1.78	1.44	0	4	17	8	5
1904	61.4	100	30	5.95	5.92	4.82	5.56	0	11	13	8	9
1905	59.7	97	32	4.49	4.64	3.87	4.33	0	12	10	7	13
1906	62.0	95	32	3.80	4.21	6.34	4.78	0	11	13	8	9
1907	61.9	95	25	3.47	2.53	2.80	2.93	0	10	12	10	8
1908	60.4	93	27	2.91	3.63	3.70	3.41	0	10	12	9	9
1909	62.9	98	28	3.94	2.49	3.92	3.45	0	10	12	11	7
1910	67.3	111	19	1.26	1.85	3.00	2.04	0	6	16	9	5
1911	66.9	108	25	3.13	3.42	2.61	3.05	0	9	13	10	7
1912	61.8	104	28	2.27	2.11	1.65	2.01	0	6	16	8	6
1913	65.8	101	27	2.85	1.98	2.52	2.45	0	8	16	9	5
1914	62.2	93	29	5.67	7.13	6.64	6.48	0	13	9	11	10
1915	56.7	94	20	5.59	5.11	3.73	4.81	0	12	9	12	9
1916	58.0	92	29	4.06	3.51	4.05	3.87	0	11	10	11	9
1917	59.7	103	19	2.38	1.88	1.96	2.07	0	8	13	11	6
1918	63.3	102	27	2.23	1.53	0.97	1.58	0	7	14	11	5
1919	67.2	108	22	3.15	1.99	1.50	2.21	0	5	15	10	5
1920	62.2	98	26	3.64	3.74	3.20	3.53	0	11	12	12	6
1921	68.2	108	30	3.28	2.83	4.74	3.62	0	9	14	10	6
1922	63.5	108	30	3.38	3.55	4.44	3.79	0	9	15	8	7
1923	66.1	100	30	4.79	2.83	4.21	3.94	0	8	13	12	5
1924	58.6	89	26	3.45	4.51	4.17	4.04	0	11	10	12	8
1925	61.5	98	30	7.72	5.43	4.84	6.00	0	14	11	10	9
1926	60.7	104	22	2.66	2.47	2.71	2.61	0	9	13	9	8
1927	61.2	99	22	3.81	2.34	2.30	2.82	0	9	11	13	6
1928	58.2	92	24	4.83	5.30	4.53	4.89	0	12	10	10	10
1929	61.4	98	21	1.10	1.10	2.12	1.44	0	7	16	9	5
1930	63.3	96	30	2.31	3.42	3.53	3.09	0	10	13	11	6
1931	68.4	110	27	2.93	2.05	2.07	2.35	0	8	14	10	6
1932	67.0	98	34	3.33	3.61	4.83	3.92	0	10	14	10	6
1933	70.7	110	33	1.99	1.66	1.67	1.77	0	7	18	10	2
1934	64.3	100	29	3.74	2.85	2.54	3.04	0	11	12	10	8
1935	60.3	99	25	3.65	2.70	2.77	3.04	T.	10	11	12	7
1936	66.4	110	28	1.41	1.40	1.20	1.34	0	6	16	10	4
1937	63.5	109	25	3.04	5.62	3.43	4.03	T.	7	15	9	6
1938	64.2	99	27	1.82	2.87	3.49	2.73	0	9	11	11	8
1939	60.1	99	29	5.44	4.67	3.67	4.59	0	12	10	11	9
Period	63.0	111	19	3.52	3.39	3.33	3.41	T.	9	13	10	7

Climatological Data for June 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Amenia	Cass	954	43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Idso.
Cavalier	Pembina	894	29	60.8	.....	89	23	36	8	41	2.86	−0.34	0.92	0	9	14	9	7	.....	City Light &Power Co.
Cooperstown	Griggs	1,428	42	60.8	−1.6	92	6	33	9	37	3.50	+0.17	1.26	0	9	20	6	4	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9	.....	.....	.....	.....	.....	.....	.....	5.00	.....	1.87	0	12	11	11	8	w.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	60.2	−1.7	87	6	35	9	32	4.65	+1.09	1.34	0	10	9	8	13	ne.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	63.4	+0.5	91	5	40	12	37	6.70	+3.04	1.95	0	12	5	15	10	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	15	57.4	−5.6	85	6	29	9	37	4.60	+1.34	1.15	0	10	17	8	5	ne.	Mike Davis.
Ellendale	Dickey	1,457	44	64.0	−2.0	92	5	44	9	39	7.83	+4.55	2.97	0	12	17	5	8	nw.	J. E. Demmer.
Fargo	Cass	895	3	63.8	.....	95	5	38	12	34	3.60	−0.10	1.61	0	11	1	20	9	s.	W. B. Aerological Sta.
Forman	Sargent	1,249	46	63.6	−1.2	97	5	42	12	46	9.53	+6.04	4.59	0	12	19	3	8	nw.	Helge Dyste.
Fullerton	Dickey	1,439	41	63.1	−0.2	93	5	41	12	36	7.27	+3.50	2.27	0	11	14	8	8	nw.	F. O. Alin.
Grafton	Walsh	827	47	63.6	+0.8	88	6	40	12	36	2.37	−1.03	1.02	0	13	4	14	12	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	48	62.9	−0.1	93	6	38	9	35	4.58	+1.23	1.42	0	14	3	13	14	s.	U. S. WeatherBureau.
Hankinson	Richland	1,068	10	65.2	−2.0	94	6	46	13†	37	8.09	+5.34	2.05	0	13	12	14	4	ne.	Joseph Rindt.
Hannah	Cavalier	1,568	47	56.8	−3.1	80	23	35	9†	37	3.93	+0.54	1.26	0	9	12	13	5	ne.	M. J. Rockwell.
Hillsboro	Traill	901	39	63.4	−0.8	93	5	43	9	34	8.95	+5.58	5.40	0	10	5	12	13	n.	Lyle George.
Jamestown	Stutsman	1,457	47	62.0	−1.2	89	23	41	9	36	7.43	+3.82	3.08	0	9	11	5	14	ne.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	59.6	−0.3	84	6	31	9	39	3.72	+0.32	1.15	0	12	4	17	9	se.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	62.6	+0.2	93	6	37	9	37	2.98	−0.88	0.79	0	8	15	3	12	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	35	94.3	+0.8	99	5	42	12†	41	9.26	+5.42	2.58	0	16	11	9	10	ne.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	58.8	−3.4	89	5	31	9	40	3.56	+0.17	1.35	0	11	6	14	10	nw.	C. E. Blasky.
McLeod	Ransom	1,075	28	65.6	+1.1	95	5	41	4	50	10.91	+6.90	4.54	0	11	13	8	9	sw.	J. G. Carlson.
Mayville	Traill	975	43	62.8	−1.2	95	6	37	9	42	4.68	+1.33	1.58	0	8	9	12	9	nw.	H. B. Addicott.
Oakes	Dickey	1,318	10	63.6	−4.0	97	5†	41	12	37	7.30	+4.72	2.12	0	17	13	4	13	s.	F. H. Murray.
Park River	Walsh	998	35	60.7	−2.2	90	6	32	8	39	2.98	−0.41	0.97	0	7	11	9	10	nw.	E. J. Taintor.
Pembina	Pembina	789	65	62.2	−0.5	86	6†	34	15	39	3.48	+0.15	1.10	0	9	10	13	7	nw.	E. N. Russell.
Petersburg	Nelson	1,520	9	.....	.....	.....	.....	.....	.....	.....	3.79	.....	1.20	0	11	10	10	10	nc.	T. M. Rykken.
Sharon	Steele	1,516	15	60.7	−2.9	93	6	40	8†	36	4.02	+0.29	1.32	0	13	5	15	10	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	63.5	+0.4	91	6	42	12	35	4.19	+0.73	0.83	0	12	8	15	7	ne.	I. C. Robertson.
Wahpeton	Richland	962	47	67.0	+1.9	94	5	42	12	38	7.96	+4.25	2.73	0	13	9	12	9	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	64.4	0.0	95	5	43	12	36	3.92	−0.13	1.84	0	12	1	19	10	ne.	U. S. Weather Bureau.
Average for Eastern Division		.....	.....	62.4	−0.8	99	5	29	9	50	5.44	+1.92	5.40	0.0	11	10	11	9	nw.	.....
Middle Division																				
Ashley	McIntosh	2,001	43	60.8	−1.6	90	5	40	12	34	6.20	+2.96	1.55	0	14	10	7	11	nw.	Henry Doerr.
Bisbee	Towner	1,601	3	58.4	.....	85	23	34	9	33	3.40	.....	1.20	0	11	17	4	9	ne.	I. K. Lund.
Bismarck	Burleigh	1,670	65	61.6	−2.1	89	5	39	11	34	5.42	+2.07	1.81	0	12	5	12	13	w.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	57.8	−3.5	83	24	33	9	30	3.15	−0.17	0.50	0	12	9	16	5	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	60.3	−2.7	90	5	36	9	34	4.29	+0.77	1.05	0	15	13	4	13	w.	Soo Line Agent.
Carson	Grant	2,500	27	59.7	−2.7	89	23	37	11	45	5.27	+1.77	2.09	0	12	3	19	8	nw.	J. W. Evens.
Center	Oliver	.....	1	59.5	.....	89	5	32	11	42	3.47	.....	1.05	0	10	3	15	12	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	59.0	−3.7	85	23	35	11	32	3.83	- 0.58	1.14	0	11	8	12	10	nw.	R. L. Williams.
Drake	McHenry	1,634	10	59.4	.....	85	23	38	9	33	3.89	.....	0.95	0	14	10	5	15	nw.	Peter Anton.
Dunseith	Rolette	1,682	43	57.4	−3.5	83	23†	30	9	35	3.53	+0.41	1.06	0	11	12	12	6	n.	Geo. Gehres.
Eckman	Bottineau	1,500	34	58.2	−3.4	86	23	33	9†	39	3.91	+0.91	1.53	0	11	8	17	5	ne.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	61.0	−3.5	88	5†	34	9	41	3.50	+0.10	1.10	0	10	12	13	5	se.	H. S. Solenberger.
Fessenden	Wells	1,610	27	59.6	−2.1	89	24	37	10	34	5.36	+1.67	1.45	0	14	14	8	8	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	39	61.6	+4.6	93	5	38	11	35	6.56	+3.10	2.10	0	11	19	4	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	58.0	−4.1	87	23	36	9†	34	2.80	−0.29	0.78	0	12	3	16	11	ne.	E. C. Bierbaum.
Gaekle	Logan	1,951	9	60.2	.....	90	5	40	9†	35	7.78	.....	2.30	0	12	13	7	10	ne.	A. H. Haut.
Garrison	McLean	1,901	62	60.5	−2.2	88	23	36	11	38	3.99	+0.45	1.12	0	10	11	12	7	w.	E. L. Vorachek.
Granville	McHenry	1,504	32	58.8	−3.4	87	23	33	9	37	3.97	+0.75	0.90	0	10	9	14	7	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	57.8	−2.6	83	23	30	9	41	3.92	+0.54	1.60	0	8	11	9	10	nw.	W. E. Disher.
Linton	Emmons	1,711	22	60.8	−3.5	91	5	34	11	42	7.46	+4.30	2.45	0	16	9	14	7	w.	Rev. E. J. Olberding.
McClusky	Sheridan	1,943	21	60.1	−2.1	81	5†	37	11	37	5.11	+1.74	1.49	0	10	8	15	7	nw.	F. W. Perry.
Maddock	Benson	1,604	24	57.9	−3.2	81	23	33	9†	33	5.08	+1.71	1.36	0	11	16	8	6	nw.	A. T. Felland.
Mandan	Morton	1,750	25	60.8	−2.5	88	23	27	11	37	4.65	+1.36	1.23	0	11	10	3	17	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36	.....	.....	.....	.....	.....	.....	.....	4.66	+1.09	1.41	0	12	.....	.....	.....	.....	P. B. Anderson.
Max	McLean	2,093	10	59.3	.....	89	23	34	10†	39	3.65	.....	0.93	0	11	15	4	11	ne.	A. W. Rice.
Minot	Ward	1,557	43	59.5	−2.8	90	23	35	9	42	3.23	+0.03	0.86	0	11	9	5	16	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	46	57.1	−4.0	87	23	31	9†	37	3.02	+0.13	0.68	0	10	9	16	5	ne.	Iver Johnson.
Napoleon	Logan	1,955	47	60.3	−2.1	90	5	37	12	37	7.50	+4.21	2.40	0	15	12	8	10	sw.	C. J. Hoof.
New Salem	Morton	2,163	35	59.3	−3.6	89	23	34	11	40	2.90	−0.57	0.86	0	12	15	7	8	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	60.8	−0.7	90	5	37	11	34	5.31	+2.06	1.23	0	9	11	8	11	ne.	Sam Loeppke.
Rolla	Rolette	1,860	2	58.3	.....	85	23	33	9	34	4 30	.....	1.32	0	16	8	10	12	e.	A. A. Jacobsen.
Rugby	Pierce	1,562	10	.....	.....	.....	.....	.....	.....	.....	3.88	+1.57	1.40	0	12	1	16	13	ne.	W. B. Paterson.
Ryder	Ward	2,108	10	.....	.....	.....	.....	.....	.....	.....	3.14	+0.63	0.80	0	11	12	10	8	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3	.....	.....	.....	.....	.....	.....	.....	6.69	.....	1.70	0	10	4	17	9	ne.	J. B. Smith.
Steele	Kidder	1,857	45	58.4	−4.1	88	5	35	12	42	5.57	+2.06	1.17	0	11	8	13	9	se.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10	.....	.....	.....	.....	.....	.....	.....	6.36	+4.48	3.10	0	15	15	6	9	se.	G. N. Pilgard.
Timmer	Morton	.....	2	.....	.....	.....	.....	.....	.....	.....	6.95	.....	1.87	0	10	.....	.....	.....	.....	Geo. M. Sinclair.
Towner	McHenry	1,482	37	59.4	−3.1	86	23	33	11	38	3.76	+0.61	1.13	0	12	9	16	5	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	60.4	−1.4	87	23	37	11	35	3.65	+0.01	1.12	0	10	19	3	8	ne.	Albert H. Slettum.
Tuttle	Kidder	1,936	31	.....	.....	.....	.....	.....	.....	.....	4.64	+1.30	1.77	0	9	10	11	9	nw.	Adam Leno.
Velva	McHenry	1,511	12	59.8	−4.7	87	23	35	9	37	3.49	+1.05	0.97	0	11	5	14	11	nw.	Oscar Anderson.
Washburn	McLean	1,731	38	61.6	−2.5	88	23	40	11	32	3.81	+0.42	1.12	0	11	10	9	11	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. A. Findlay.
Willow City	Bottineau	1,471	47	57.5	−3.5	84	23†	30	9	39	3.27	+0.12	1.15	0	11	10	15	5	nw.	O. M. Sanderson.
Wilton	McLean	2,159	3	59.2	.....	87	5	40	9	35	4.32	.....	0.96	0	10	8	13	8	nw.	J. S. McGogy.
Wishek	McIntosh	2,010	18	60.6	−1.7	90	3	36	10	38	7.77	+4.77	2.52	0	17	5	16	9	nw.	H. M. Larson.
Zap	Mercer	1,838	24	.....	.....	.....	.....	.....	.....	.....	6.40	+2.46	5.00	0	2	1	0	29	.....	Fred Buechler.
Average for Middle Division		.....	.....	59.5	−2.9	93	5	30	9	45	4.67	+1.33	5.00	0.0	11	10	10	10	nw.	.....

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EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for June 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Amenia	Red																																
Cooperstown ²	Sheyenne	T.	.78								1.26	.02		T.	.10		.86	.05							T.			.35		.06	.02		3.50
Courtenay ²	James	.03	1.17								1.87			.05	.27	T.	.73	.07				.06	.03		.03			.39		.30			5.00
Devils Lake ¹	Devils Lake	.04	1.33	T.		T.		T.			T	T.	T.	T.	.36	T.	.97	.15	.90	T.		.75	T.				T.	.01	.13	.01	T.		4.65
Edgeley	James	.17	.75	T.							1.95	.06			.68		.72	.02				.23	.03					1.53	.39	.17			6.70
Edmore	Devils Lake		1.15	.05		T.	.03								.68		.83	.49	.93			.39	.02						.03				4.60
Ellendale	James	.33	1.27				T.		.02		2.97	.06			.02		.79					.12	.03				.05	1.42	.75				7.83
Fargo ¹	Red	.05	.32	T.			T.	T.		.01	1.61	T.		T.	.35	T.	.70	T.	T.			.21	T.				T.	.18	.04	.12	.01		3.60
Forman	Sheyenne	.07	.22							.02	4.59	.15		.04	T.		1.08					.11	.06					2.18	.76	.25			9.53
Fullerton	James	.35	1.04				T.		T.	.03	2.27				.04		.82	.03				.22					T	1.78	.65	.04			7.27
Grafton	Red	.02	.58	.06			T.	.09			.05			T.	.04	.06	1.02	.04	.17		T.			.11	.11		T.	T.	T.	.02			2.37
Grand Forks ¹	do	.27	.67	.01			.60				.84	.01		.07	.20		1.42		.07			.01	.17		.01		.23				T.		4.58
Hankinson ²	do	.78							.01		2.05	1.50	.02		.01	.12	.32	1.15	.09				.23					1.60		.21			8.09
Hannah	Pembina		1.26	.21									.02				.78		.91			.42	.11		.19			.03					3.93
Hillsboro	Red		.25	.85			5.40				1.12	.05		.08	.07		1.05			.03	.05												8.95
Jamestown	James		1.05								3.08			.30	.59		1.29	T.				.08	.04					.70		.30			7.43
Langdon ²	Pembina		.97	.10				.01									.78	.05	1.15			.10	.05	.36	.06		.02			.07			3.72
Larimore	Red	.07	.78								.79				.26	.08	.79		.08						.13		T.						2.98
Lisbon	Sheyenne	.08	.05	.10	.02			.11			2.02	2.58			.24	1.15	.81	.02				.04		.04					1.88	.08	.04		9.26
McHenry	James	.03	1.35								.37				.36		.80	.01	.15	.04		.09						.20		.16			3.56
McLeod	Sheyenne		.53				T.			.06	4.54	.32		.98		.96	.97					.38						1.64	.38	.15			10.91
Mayville	Red		.63				1.30				1.58			T.	T.	.08	.90	T.	.04		.07		T.								.08		4.68
Oakes	James	.16	.09	.21				T.		.03	2.12	1.58			.02	.13	.96	.02	.01			.03	.06	.02			.01		1.80		.05		7.30
Park River	Red	.97	.05								T.				.44		.92	.06						.39					.15				2.98
Pembina	do	T.	1.10	.16			.10	T.					T.	.05	T.		.75		.90			T.	.05		.17				T.	.20			3.48
Petersburg	do	.06	1.20	.03							.32				.76		.92	.02	.18						.14			.03		.13			3.79
Sharon	do	.07	.78				T.				1.32	.04		.02	.23	T.	1.10	.13	.04	.04		T.	.03		.03			.19			T		4.02
Valley City	Sheyenne	.41	.22				.06			.83	.75				.66	.60	.08				.10		.04				T.	.33	.11				4.19
Wahpeton	Red		.55		T.			.01		.01	2.73	.15		.75	.12	.41	1.00	T.				.10						.90	.97	.26			7.96
Moorhead, Minn ¹	do	.13	.32	T.	T			T.		.01	1.84	.01			.38	T.	.53	T.	T.			.31					T.	.18	.07	.12	.02		3.92
Middle Division																																	
Ashley ²	Missouri	.01	1.18	.14						.04	1.55	.30		T.	.11		.66	.02	T.				.27				.12	.14	1.44	.22			6.20
Bisbee	Devils Lake	T.	1.20	.05											.04	T.	.75	.05	.48			.34	.10		.14		.15			.10			3.40
Bismarck ¹	Missouri	.41	1.07				T	T	T.	.29	T.		T.		.27	.18	.66	1.48	.33	T.	T.	T.			T.	.23	T	.37	.07	.06			5.42
Bottineau	Mouse	.50	.43	.47			.02	T.	.08				T.				.47	.19	.39	.05	T.		.18	T.			.23	T.		.19			3.15
Carrington ²	James		1.02	.31							.05	.27		.07	.02	.14	1.05	.24	.39				.05	.04	T.			.04	.33	.27			4.29
Carson	Heart	.05	.87							.64	.11		.10		.18	.10	.89	.05	.15									2.09		.04			5.27
Center	Missouri		1.05	.15			T.				T.		T.		.25	.16	.82	.15	.17			T.				.40		.22		.10			3.47
Dogden Butte	Mouse		1.14	T.			.02						T.	.03	.25	.03	1.00	.06	.33	T.		T.			.03		.85	T.		.09			3.83
Drake ²	do	.05	.95	.60				.01	T.					.03		.08	.77	.18	.32	T.	.15		.10		.04		.21		T.	.40			3.89
Dunseith	do		1.06	.06				T.					.19	T.	T.		.58	.12	.34	.09		.08	.50				.30		.21				3.53
Eckman	do		.52				.03	.02							1.53	.02	.70	.13	.13	.01		.12					.70						3.91
Energy	Missouri		.86				T.						.10	.08	.58	T.	1.10	.15	.18	T.							.32	.05		.08			3.50
Fessenden ²	James	.01	1.45	.04											.29	.01	.04	1.12	1.21	.01			.75				.15	.02	.03	.23			5.36
Fort Yates	Missouri	.10	1.31	.06							2.10				.22		.53	T.	.40			.09					.13	1.43		.19			6.56
Foxholm (near)	Mouse		.76	T.			T.	.04							.19	.01	.52	.12	.16	T.		T.				.07	.78	.04	.01	.10			2.80
Gackle	James	.12	2.01								2.30			.18	.07		.97	.07			1.04	.14		.14				.63	.11				7.78
Garrison	Missouri		.87	T.									.06		.61		1.12	.07	.15	.03							.61	.01		.46			3.99
Granville	Mouse	T.	.90	.06			T.	T.							.57	T.	.68	.21	.31	T.		.07	.03				.83			.31			3.97
Hansboro	Devils Lake		1.60										T.	T.	T.		.74	.13	.45			.35	.43		.10	.12							3.92
Linton	Missouri	.11	1.07	.02				T.		.19	2.11		.06		.08	T.	.61	.01	.26			.02	.16				.14	2.45	.04	.13			7.46
McClusky	do		1.49											.13	.36		1.17	.13	.96	.04		T.					.62	.06		.15			5.11
Maddock	Sheyenne	T.	1.11	.04										.12	.35	T	.98	.05	1.36	T.	.09	.52					.03	T.		.43			5.08
Mandan ²	Missouri	1.23	.15				T.	T.		.22			T.	T.	.11	.98	.01	1.13			T.	T.				.34	.31	.09	.08				4.65
Max ²	do	.02	.70	.30				.01						.08		.35	.93	.08	.50	T.							.52			.16			3.65
Minot	Mouse		.80	T.			T.	.02	T.				T.	.01	.14	.04	.59	.19	.25	T.						.02	.86	T		.31			3.23
Mohall	do		.68	T.			T.	.02					.12		.41	.03	.68	.13	.33								.60	T.	.02				3.02
Napoleon ²	Missouri		.71	.20							2.40	.60		.22	.17	.20	.80	.06	.05				.40				.02	.67	.85	.15			7.50
New Salem	Heart	.03	.86	.10			T.			.06	.13		.06		.03	T.	.76	.09				T.					.28	.20		.30			2.90
Pettibone	James	T.	.97								.20			.19	.29		1.06		.36			1.23						.62		.39			5.31
Rolla	Devils Lake		1.32	.09			.01	.01	T.			T.		T.	.02		.69	.13	.44	.03		1.00	.01	.01	.41		.08		.03	.02			4.30
Rugby (near)	Mouse	1.40					.03	.08						T.	.44	.04	.65	.18	.45		T.	.02			.18	T.	.23		.18				3.88
Ryder ²	Missouri	.50	.39					.01					.09		.41	.80	.13	.11	.06							.49			.15				3.14
Selfridge	do	.85	.30	T.						1.70	T		T.		.28	.51	T.	.65				.15					.10	1.65	.50	T.			6.69
Steele	do	.03	1.10					T.		T.	.98			.10	.55	T.	1.17	.07	.46				.29		T.			.67		.15			5.57
Tagus	Mouse	.58	T.		T.	T.	.05						.11		.32	.03	.69	.17	.06	.05	T	.01				3.10	.73	.06	.34	.06			6.36
Towner	do		1.13	.09			T.	.19							.33	.03	.68	.12	.44	T		.03	.05	T.			.50			.17			3.76
Turtle Lake	Missouri	T.	1.09	T			.09						.03	T.	.33	T	1.12	.03	.24								.33	.03		.36			3.65
Tuttle	do	.02	1.77				T.	T.					T.		T.	T.	.98	.12	.80	T		.03					.10	.58		.24			4.64
Velva	Mouse		.97				T.						.02	.09		.02	.75	.25	.39	.08		.01					.40			.51			3.49
Washburn ²	Missouri		1.03				.05						.01		.06	.07	1.12	.03	.56	T							.50	.13		.25			3.81
Westhope	Mouse																																
Willow City	do		1.15					.09					T.	T	.16	.04	.67	.20	.29	T.		.17	.02				.37		.11				3.27
Wishek ²	Missouri	.65	.10	.02						2.05	.10		.08	.05	.03	.65	.15	.10				.17		.02		.11	.70	2.52	.27		T.		7.77
Zap	Knife												T.		T.	1.40		5.00								T.	T.						6.40
Western Division																																	
Alpha	Lit. Missouri	.22	.61			.02		T	.03	1.01		.11	.50		.07		.52	.11	.15	.07	T.	.06						.10					3.58
Amidon	do	.08	1.10	.02					T	1.08	.05		.32		.09	.01	.99	.04	.24	.04		.26					.02	.10		.12			4.56
Beach	do	.23	.67			.02	.01		.19	.47	.12	.04	.20	.01	.02	.06	.47	.40	.09	.08	.09	T						.23	.13	.12			3.65
Berthold Agency	Missouri	T.	.51										.27		.22	.05	.94	.12	.02							.08							2.21
Bowman ²	Grand	1.21	.04			T.			.02	1.06		.07	.44	.30	.02	1.28	.06	.23	.09	.05	.22						.26		.10				5 45
Crosby	Mouse	.16	.60	.05		.14	.02	.23	T.					.10		.53	.57	.49	.17	.05	.02	.05				T.	.65			.14			3.97
Dickinson ²	Heart	.35	.47	.31						.65	.22		.03	.58		.02	1.01	.06	.08	.01	T	.35			T		T	.04	.09	.19			4.46
Dunn Center	Knife	.14	.26	.14			.02							.12	.01	.04	1.18	.11	.08	.04		.44					.06						2.64
Fairfield	Lit. Missouri		.96				.07	T.	T	.21			1.04		.10	.07	.88	.26	.14	T.		.05				T.	T.	.05		.05			3.88
Fryburg	Heart	.05	.87	.08			.09		.45	.31		T.	.42	T		T.	.85	.22	T.	T.	.05	.10				T.		.05		.16			3.70
Hettinger	Grand	.23	1.35					.07		1.01		.04	.25		.27		.55	.03	.05	.05	.06							.18		.16			4.30
Howard (near)	Missouri	.43	.68			.64	.08	.04				T	T.		.82		.76	.44	.38	T.	.18	T.			.05		.46		.02				4.98
Kenmare	Mouse	.45	.11	.32					.04							.34	.52	.28	.12	.06	T.		T.				.29			.11			2.64
Marmarth	Lit. Missouri	.98	.01							1.00		.04	.47	.17	T.	.56	.03	.05	.03	T.	.20	.02				.06	.27		.07				3.96
Mary	do		.78			.01	T.			.03			.39		.13		.71	.35	.14	.02	.05					.13							2.74
Medora	do	.13	.72				.04	T.	.13	.41		.01	.65		T.		1.02	.15	.16	T	.01	.07						.06		.21			3.77
Mott	Cannon Ball	.03	.64	T.				.02		.67	.09		.43		.20		.60	.02	.03	T.		.04				.04	.09	1.84		.12			4.86
New England ²	do	.89	.09						.08	.85		.02	.19	.11	.02	1.70	.01	.11		.14	.35						.22		.14				4.92
Parshall	Missouri	.71	.18	.52					T.					.12		.37	.65	.21	.08	.13	.12	T.				T	.52		.02	.24			3.87
Portal ²	Mouse		.05	.02		.05	.03	.07								.36	.60	.37	.09							.16				.10			1.90
Powers Lake	Missouri	.28	.37			T.	.03								.51	.62	.26	.39	.12	.04						.35	.07		1.23				4.27
Richardton	Heart	.08	.67	.02					.02	.18	.01		.23	.02	.03	.07	1.45	.09	.04	T.		T			.03		.55	.10		.14			3.73
Sanish ²	Missouri	.50	.46	.20										.09	T.	.65	.75	.17	.15	.12	.10	.08					.58			.07			3.92
Stanley	do		.31					.10					.02		.40	.05	.66	.28	.09	.08		.06				.14	.70	.09	.03	.15			3.16
Tioga	do	T.	.48			T	.05		.13						.55	T.	.55	.35	.04	.05							.56	.03	.09				2.88
Trotters	Lit. Missouri	.08	1.07							.07		.03	.43		.13		.60	.45	.15		.22							.08	T.				3.37
Watford City	Missouri	T.	1.88										.21		.15		.78	.43	.12	.05		.12					.08	.05					3.87
Wildrose	do	T.	.40			.08	T.	.08							.52	T.	.41	.59	.08	.07		.12			.05	.60	.04		.24				3.28
Williston ¹	do	.74	.47		T.	.02	.17						.02		.45	.11	.21	.42	.15	.02	.25	T.				.96		T.	T.				3.99

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ¹ First-order Weather Bureau station; precipitation is for the24-hour period, midnight to midnight, unless otherwise indicated. ² Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for June 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	61	59	74	86	90	87	72	70	64	50	64	66	73	74	66	64	67	74	70	73	75	78	85	80	80	77	72	81	72	77	....	72.7
	Minimum	53	50	42	52	61	54	50	45	42	42	42	40	46	50	42	50	47	50	47	42	53	50	53	57	47	53	51	53	53	50	....	48.9
Beach	Maximum	66	51	70	84	75	64	70	78	62	65	59	65	69	67	61	60	56	57	66	76	70	82	89	75	86	78	78	83	73	80	....	70.5
	Minimum	51	46	40	51	57	55	41	40	46	36	44	45	41	52	48	48	44	46	42	42	51	49	53	48	49	43	55	52	52	45	....	47.1
Bismarck	Maximum	66	58	72	82	89	72	72	68	61	61	63	63	73	74	65	59	57	70	69	73	76	82	89	79	82	77	75	81	73	79	....	72.0
	Minimum	53	48	46	56	60	56	49	46	45	46	39	43	48	54	46	49	48	51	48	45	58	55	55	58	50	60	57	59	59	52	....	51.3
Bottineau	Maximum	67	62	63	70	76	76	66	68	63	61	61	63	69	73	69	67	57	54	65	61	59	72	80	83	72	77	73	75	79	74	....	68.8
	Minimum	52	46	46	49	56	51	40	38	33	43	38	48	39	54	39	44	44	48	45	36	49	50	52	60	45	54	54	51	50	49	....	46.8
Carson	Maximum	54	53	64	82	86	75	73	72	55	63	60	61	74	72	69	61	55	67	69	72	75	81	89	79	85	82	76	85	75	82	....	71.5
	Minimum	50	46	40	55	60	57	42	40	43	43	37	45	41	52	49	48	45	48	45	45	51	47	52	53	40	52	55	56	54	47	....	47.9
Crosby §	Maximum	73	59	72	85	63	64	60	62	66	67	65	69	75	61	65	56	53	57	63	74	74	80	81	69	77	74	80	79	74	79	....	69.2
	Minimum	46	49	45	45	48	48	40	39	37	36	42	39	40	43	47	44	44	45	41	40	48	52	50	51	44	46	49	58	48	49	....	45.1
Devils Lake	Maximum	61	54	70	78	76	87	72	66	63	56	65	71	71	72	68	56	57	71	63	70	73	78	86	77	83	76	71	83	73	77	....	70.8
	Minimum	53	47	45	50	54	55	47	43	35	46	38	40	52	49	42	47	47	53	49	41	55	53	56	61	55	60	52	54	56	51	....	49.5
Dickinson §	Maximum	65	53	70	80	75	69	70	67	55	64	59	60	67	69	65	57	55	61	65	75	72	78	87	74	84	75	78	82	71	77	....	69.3
	Minimum	51	47	39	45	54	55	39	38	42	38	38	45	44	41	48	46	44	44	43	40	45	48	47	49	46	47	52	53	51	43	....	45.4
Dunn Center §	Maximum	65	55	70	75	72	69	65	68	55	58	60	60	72	69	63	56	55	61	65	67	71	77	87	73	79	72	72	83	73	74	....	68.0
	Minimum	50	49	42	50	53	54	39	40	39	39	36	49	46	50	48	48	45	45	43	40	55	51	49	53	45	48	53	44	51	45	....	46.6
Fessenden §	Maximum	64	54	71	78	83	80	70	70	58	63	71	74	74	73	70	56	55	70	68	66	72	72	80	89	78	83	75	70	82	74	....	71.4
	Minimum	54	48	45	47	55	54	44	38	46	37	37	47	45	43	42	47	47	52	47	38	52	51	52	60	48	58	50	53	50	50	....	47.9
Fullerton	Maximum	66	60	74	88	93	90	75	78	70	52	64	71	74	74	69	64	66	77	71	71	73	79	88	81	82	81	71	82	72	78	....	74.5
	Minimum	56	53	46	52	63	56	54	46	44	46	47	41	51	52	48	51	52	55	42	47	58	54	55	58	50	60	51	57	58	52	....	51.8
Garrison §	Maximum	70	56	72	81	83	70	71	68	61	66	67	63	73	66	64	56	52	66	64	72	73	81	88	76	83	75	77	82	73	80	....	71.0
	Minimum	50	48	47	54	58	55	45	45	41	44	36	47	46	48	49	48	46	50	44	40	56	52	50	56	50	54	53	56	52	49	....	49.0
Grafton	Maximum	83	61	71	82	82	88	75	76	65	60	71	34	76	71	71	70	59	72	72	71	72	81	87	86	85	84	82	85	81	81	....	75.8
	Minimum	57	49	46	46	58	56	55	46	47	49	47	40	49	48	43	49	48	54	50	43	55	57	57	65	52	60	51	55	59	50	....	51.4
Grand Forks	Maximum	65	67	72	83	92	93	75	70	65	54	67	72	72	74	69	57	65	75	65	72	69	80	88	83	86	81	72	84	76	79	....	74.1
	Minimum	56	48	47	52	60	58	54	47	38	49	48	43	51	52	46	50	49	57	50	44	58	56	57	61	54	58	52	55	54	48	....	51.7
Jamestown §	Maximum	64	55	73	82	88	88	75	73	66	52	63	69	70	66	65	59	60	76	69	73	73	80	89	82	85	79	65	82	74	79	....	72.5
	Minimum	56	53	47	52	60	64	52	46	41	46	47	43	52	50	47	50	49	49	50	46	53	55	55	64	49	57	51	55	58	52	....	51.6
Kenmare	Maximum	68	56	73	79	86	74	72	68	60	66	67	66	75	58	62	55	51	62	64	72	75	81	90	76	80	76	78	83	76	80	....	71.0
	Minimum	49	48	46	48	50	51	44	40	37	37	30	42	43	51	43	45	45	46	43	40	51	53	54	56	59	52	55	56	49	49	....	47.3
Langdon §	Maximum	62	68	70	76	75	84	83	66	64	58	69	72	80	73	73	67	62	73	68	68	71	79	83	80	82	79	73	83	78	80	....	73.3
	Minimum	52	44	42	45	45	52	45	36	31	44	32	37	52	45	33	43	44	50	46	38	51	53	52	63	48	59	48	50	50	44	....	45.8
Marmarth	Maximum	54	74	85	74	67	70	68	56	65	64	68	68	67	63	58	57	58	67	77	71	78	86	76	86	86	73	82	75	82	80	....	71.2
	Minimum	48	37	43	55	55	43	43	46	38	45	44	41	47	49	50	43	45	45	42	53	47	55	48	53	46	46	50	53	46	59	....	47.2
Minot	Maximum	65	63	72	80	78	77	70	68	64	64	66	67	74	73	60	59	59	57	64	75	75	82	90	86	82	76	77	82	78	77	....	72.0
	Minimum	46	47	48	49	53	53	43	40	35	42	37	40	49	48	43	44	45	49	44	36	53	49	48	58	48	55	52	56	50	49	....	47.0
Mott	Maximum	63	55	72	86	84	76	72	72	55	63	60	61	70	70	65	62	55	56	67	77	73	80	90	81	85	76	74	84	76	78	....	71.3
	Minimum	50	47	40	55	62	59	44	43	38	42	37	48	43	52	48	48	45	49	45	42	51	47	48	52	46	51	55	57	55	48	....	48.2
Pembina	Maximum	72	59	72	78	77	86	72	65	64	64	71	76	75	74	73	65	62	72	65	72	72	81	86	80	85	81	75	82	75	80	....	73.7
	Minimum	54	46	44	54	55	56	64	55	42	50	44	37	44	37	34	44	50	55	42	47	52	58	63	56	63	58	54	54	57	49	....	50.6
Sharon	Maximum	66	55	71	82	91	93	74	67	58	54	65	70	72	71	66	57	59	72	60	69	66	79	85	79	83	82	69	85	73	77	....	71.7
	Minimum	55	47	45	50	55	61	50	40	40	45	45	43	43	51	44	47	47	53	47	41	56	56	52	62	50	60	52	51	56	47	....	49.7
Steele	Maximum	65	58	73	84	88	74	71	63	61	55	61	66	71	70	60	55	55	70	65	70	74	79	86	76	81	75	70	79	71	76	....	70.1
	Minimum	55	47	41	42	56	57	45	43	36	43	37	35	45	51	41	47	45	45	48	40	40	50	50	56	47	56	51	53	55	46	....	46.8
Valley City	Maximum	74	69	74	83	90	91	75	73	68	62	63	70	72	68	69	64	67	76	74	70	69	78	78	80	82	81	73	84	80	76	....	74.4
	Minimum	57	53	46	48	60	65	54	46	43	49	49	42	53	50	48	50	50	57	50	45	55	57	56	69	49	60	48	56	61	51	....	52.6
Wahpeton	Maximum	91	76	74	88	94	93	87	78	76	70	67	70	69	70	70	72	70	78	77	73	75	80	87	89	85	86	88	83	85	79	....	79.3
	Minimum	60	55	47	50	63	68	67	45	43	50	48	42	51	53	51	65	51	61	52	48	59	56	57	67	50	59	55	59	58	51	....	54.7
Williston	Maximum	69	55	70	82	72	65	64	65	58	66	63	63	73	63	59	56	52	58	64	74	72	80	82	72	81	77	78	83	73	78	....	68.9
	Minimum	50	49	45	56	56	47	45	46	46	39	49	50	42	48	44	47	47	48	44	47	52	54	58	53	49	49	59	54	50	50	....	49.1
Moorhead, Minn.	Maximum	73	73	74	88	95	91	76	73	68	55	64	70	70	64	68	68	65	79	68	72	66	80	86	82	81	84	72	83	73	76	....	74.6
	Minimum	59	51	49	52	65	63	56	49	44	50	49	43	52	52	49	52	51	59	53	50	58	57	57	65	55	60	56	60	60	54	....	54.3

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

Climatological Data for June 1939—Continued from page 24.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	12	......	......	....	....	.....	....	......	3.58	+0.18	1.01	0	14	12	11	7	nw.	H. A. Bury.
Amidon	Slope	......	16	58.4	−2.6	88	23	35	3	44	4.56	+1.47	1.10	0	16	11	7	12	w.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	58.8	−2.9	89	23	36	10	37	3.65	−0.05	0.67	0	20	4	17	9	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	60.6	−2.2	90	23	35	11	40	2.21	−1.66	0.94	0	8	21	1	8	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	55.2	......	82	27	30	10	39	1.98	−1.31	0.50	0	8	9	10	11	e.	Charles Kaufman.
Bowman	Bowman	2,872	24	58.2	−4.3	89	22	36	9	40	5.45	+2.50	1.28	0	16	12	8	10	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	57.2	−3.9	85	4	36	10	40	3.97	+0.61	0.65	0	16	7	14	9	w.	J. H. Phelps.
Dickinson	Stark	2,543	46	57.4	−4.3	87	23	38	8†	40	4.46	+1.09	1.01	0	16	7	17	6	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	57.3	−4.7	87	23	36	11	39	2.64	−1.23	1.18	0	13	6	14	10	uw.	O. T. Evenson.
Epping	Williams	2,224	28	58.0	+4.5	86	23†	35	10†	42	3.21	−0.36	0.58	0	10	11	9	10	se.	T. Beachler.
Fairfield	Billings	......	2	......	......	....	....	.....	....	......	3.88	....	1.04	0	12	14	11	5	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	20	57.9	......	87	23	38	10	39	3.70	+0.40	0.87	0	13	7	10	13	nw.	Verne King.
Hettinger	Adams	2,675	31	61.4	−1.5	92	23	39	3	38	4.30	+1.10	1.35	0	14	8	15	7	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	57.2	−3.0	85	30	34	7	38	4.98	+1.92	0.82	0	13	4	17	9	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	59.2	......	90	23	36	11	36	2.64	−0.42	0.52	0	11	11	11	8	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	29	59.2	−2.8	86	22†	37	2	42	3.96	+0.90	1.00	0	15	3	8	19	nw.	S. P. Graue.
Mary	McKenzie	......	10	......	......	....	....	.....	....	......	2.74	+0.29	0.78	0	11	12	8	10	nw.	Fred Hartman.
Medora	Billings	2,271	23	......	......	....	....	.....	...	......	3.77	+0.61	1.02	0	14	7	15	8	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	59.8	−4.6	90	23	37	11	42	4.86	+1.64	1.84	0	15	15	9	6	nw.	W. M. Hendricks.
New England	Hettinger	2,400	44	60.4	−2.2	90	26	38	10	41	4.92	+1.96	1.70	0	15	7	12	11	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	57.0	......	87	23	32	11	41	3.87	+0.31	0.71	0	13	0	25	5	ne.	C. E. Shubert.
Portal	Burke	1,954	33	56.2	−3.0	85	23	30	8	37	1.90	−1.39	0.60	0	11	9	9	12	e.	R. G. Wegener.
Powers Lake	Burke	2,205	33	59.4	−1.9	89	23	35	9	34	4.27	+0.67	1.23	0	12	13	9	8	e.	Geo. B. Gee.
Richardton	Stark	2,467	22	59.4	−3.6	87	23	40	10	36	3.73	+0.32	1.45	0	17	5	20	5	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	58.6	−5.1	88	23	37	11	39	3.92	+1.06	0.75	0	13	10	10	10	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	55.8	......	85	23	33	13	37	3.16	....	0.70	0	15	9	16	5	w.	Leroy Edwards.
Tioga	Williams	2,279	10	......	......	....	....	.....	....	......	2.88	+0.80	0.56	0	11	8	8	14	w.	B. V. Olson.
Trotters	Golden Valley	......	13	......	......	....	...	.....	....	......	3.31	−0.17	1.07	0	11	2	12	16	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	59.8	−1.9	91	23	36	10	39	3.87	....	1.88	0	10	9	13	8	w.	J. C. Zeller.
Wildrose	Williams	2,258	11	......	......	....	....	.....	....	......	3.28	....	0.60	0	13	9	9	12	ne.	L. Holter.
Williston	Williams	1,878	59	59.0	−3.7	83	28	39	10	32	3.99	+0.56	1.11	0	13	12	8	10	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	58.4	−3.6	92	23	30	8†	44	3.67	+0.31	1.88	0	13	9	12	9	nw.	....
Average for the State		......	.....	60.1	−2.9	99	5	29	9	50	4.59	+1.18	5.40	0	12	10	11	9	nw.	....

[WBO, Minneapolis, 8-4-39—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLVIII Bismarck, N. D., July 1939 No. 7

GENERAL SUMMARY

July temperatures were considerably above the 48 year average, with the greatest excess in the eastern division. Nearly all stations reported maximum readings above 100° and more than the usual number of days above 90° prevailed. Generous showers occurred at nearly all stations from the 2d to the 7th, and also at many stations on the 17th and 21st. Most stations in the eastern part of the State were very dry. Hail was reported, with some damage at scattered stations on the 18th and 20th. Conditions were favorable early in the month and crops made rapid progress. Outlook was for excellent yields, particularly in some western sections until after the middle of the month when hot, dry weather set in. By the close of the month all crops needed rain and many late seeded fields were poor. Pastures were mostly good.

TEMPERATURE

The mean temperature for the State was 72.6°, or 3.7° above the 1892–1939 average for July. The mean for the eastern division was 72.6°; for the middle division, 72.5°; and for the western division, 72.8°. The highest mean temperature was 75.4° at Powers Lake, and the lowest 69.8° at Stanley, making a range in mean temperature of 5.6°. The absolute range in temperature was 71°, from 108° at Turtle Lake on the 29th, to 37° at Edmore and Langdon on the 1st. The average daily excess in temperature for the State since January 1, 1939 is 0.8°.

PRECIPITATION

The average precipitation for the State was 1.81 inches, or 0.62 inch less than the 1892–1939 average for July. In the eastern division the average amount was 1.57 inches; in the middle division, 1.82 inches; and in the western division, 2.04 inches. The greatest monthly amount reported was 5.87 inches at Ryder; the least was 0.42 inch at Fargo. The greatest amount recorded in any 24 consecutive hours was 3.10 inches at Ryder on the 16th. The accumulated deficiency in precipitation since January 1, 1939 is 0.95 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	1	2	2	..	..	..	..	..	..	..	4	6	1	1	4	3	8	7	1	3	2	4	9	7	..	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	..	..	3	..	4	1	..	1	1	..	..	..	..	..	1	4	10	2	..	..	..	..	..	3	..	..	..	..	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	1	1	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Hail	..	1	..	2	1	..	..	..	..	..	..	..	..	..	..	1	1	11	..	7	1	..	..	..	..	..	2	..	..	..	..
Thund'rst'ms	..	12	9	14	10	8	4	3	..	..	2	6	..	3	1	6	10	6	..	11	10	..	..	4	1	3	12	..	5	1	1

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.89	30.27	14	29.60	20	8.2	27	n.	17	80	45	36	83
Devils Lake	29.89	30.23	14	29.55	5	8.0	26	nw.	12	82	43	41	83
Williston	29.85	30.24	9	29.56	3	7.8	35	nw.	11	73	36	32	80
Moorhead, Minn	29.89	30.16	28	29.57	3	7.7	24	nw.	3	82	43	44	74
Averages & ext's	29.88	30.27	14	29.55	5	7.9	35	nw.	11	79	42	38	80

† And other dates.

COMPARATIVE DATA FOR JULY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	68.7	108	31	3.44	2.98	3.28	3.23	0	8	19	8	4
1893	69.5	112	35	2.54	1.94	1.64	2.04	0	7	17	10	4
1894	71.7	107	38	0.92	0.73	0.25	0.63	0	3	20	8	3
1895	66.1	102	29	3.12	2.44	3.13	2.90	0	8	14	11	6
1896	67.5	107	31	1.67	1.48	1.37	1.51	0	6	15	10	6
1897	68.9	109	38	6.46	4.43	2.40	4.43	0	9	13	11	7
1898	67.6	106	28	3.07	2.40	2.00	2.49	0	7	15	11	5
1899	68.3	109	32	2.37	2.30	2.35	2.34	0	6	18	9	4
1900	67.9	107	33	2.89	2.26	1.60	2.25	0	6	16	10	5
1901	70.8	110	40	5.10	4.08	3.66	4.28	0	6	18	7	6
1902	67.6	106	34	2.34	2.00	2.10	2.15	0	5	20	7	4
1903	66.7	109	26	2.59	1.77	2.32	2.23	0	7	17	8	6
1904	64.4	102	34	2.96	2.83	0.60	2.13	0	6	17	8	6
1905	65.6	100	32	4.27	3.90	3.17	3.78	0	8	17	9	5
1906	66.9	102	34	2.90	1.32	0.45	1.56	0	11	13	8	10
1907	65.8	103	31	2.69	3.90	2.60	3.06	0	9	16	11	4
1908	68.6	103	31	1.89	2.37	1.46	1.91	0	6	19	9	3
1909	67.1	99	34	3.45	2.94	1.80	2.73	0	8	15	9	7
1910	70.0	114	33	1.30	2.10	1.40	1.60	0	5	18	9	4
1911	65.1	107	23	2.25	1.76	1.10	1.70	0	6	18	10	3
1912	66.0	106	30	4.52	3.07	3.38	3.66	0	10	12	13	6
1913	65.6	103	35	2.64	2.38	1.65	2.22	0	8	17	8	6
1914	72.1	109	36	2.62	1.85	2.03	2.17	0	6	19	9	3
1915	62.3	97	30	2.42	2.66	4.30	3.13	0	11	12	11	8
1916	73.1	105	33	4.71	2.76	1.41	2.96	0	7	19	9	3
1917	70.9	114	27	1.96	1.80	0.87	1.54	0	7	17	11	3
1918	65.5	102	34	2.84	2.90	2.46	2.73	0	7	14	10	7
1919	71.2	105	37	3.15	1.11	1.32	1.86	0	5	18	10	3
1920	68.3	103	31	2.27	2.33	1.73	2.11	0	7	18	11	2
1921	71.4	110	35	4.47	2.87	1.88	3.07	0	7	17	10	4
1922	65.6	100	30	2.28	2.44	2.72	2.48	0	8	16	11	4
1923	71.2	103	35	2.90	3.34	2.91	3.05	0	8	16	11	4
1924	65.5	99	32	1.93	2.04	1.83	1.93	0	6	18	9	4
1925	66.7	106	29	1.43	1.33	1.30	1.35	0	6	18	9	4
1926	70.3	108	32	2.35	1.78	1.99	2.04	0	7	18	8	5
1927	65.4	97	28	2.33	3.11	3.09	2.84	0	9	15	10	6
1928	67.4	96	38	4.65	5.32	4.49	4.82	0	10	16	10	5
1929	70.6	109	34	1.93	1.09	0.78	1.27	0	5	21	8	2
1930	72.3	107	34	1.83	0.80	0.49	1.04	0	5	21	8	2
1931	70.6	111	37	2.89	3.20	3.01	3.03	0	8	17	8	6
1932	70.0	108	36	1.95	2.22	1.68	1.95	0	7	19	8	4
1933	71.9	109	36	2.04	2.13	1.83	2.00	0	7	19	9	3
1934	71.8	112	29	1.58	1.30	0.77	1.18	0	6	18	10	3
1935	73.8	110	45	3.90	5.44	3.90	4.41	0	10	17	11	3
1936	79.9	121	38	0.71	0.48	0.92	0.70	0	4	22	8	1
1937	71.7	111	40	3.70	2.70	2.40	2.93	0	9	15	10	6
1938	69.7	104	39	3.11	3.85	3.05	3.34	0	9	15	13	3
1939	72.6	108	37	1.57	1.82	2.04	1.81	0	7	19	9	3
Period	68.9	121	23	2.77	2.46	2.06	2.43	0	7	17	9	5

Climatological Data for July 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	43	73.2	+4.5	....	....	....	....	.....	0.34	−2.45	.....	.....	.....	.....	.....	.....	.....	James. H. Erickson.
Cavalier	Pembina	894	29	71.0	....	104	12	46	1	44	0.75	−1.92	0.24	0	6	18	3	10	nw.	City Light & Power Co.
Cooperstown	Griggs	1,428	42	72.4	+4.2	102	12	43	1	50	1.18	−1.28	0.90	0	5	29	2	0	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9	.....	....	....	....	....	....	.....	0.75	....	0.30	0	5	17	9	5	se.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	72.6	+5.2	99	12	46	14	34	2.04	−0.53	1.08	0	7	13	13	5	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	73.6	+4.8	100	29	41	1	40	1.73	−1.04	0.72	0	6	11	20	0	se.	O. A. Thompson.
Edmore	Ramsey	1,524	15	70.6	+4.2	97	12	37	1	43	1 63	−1.12	0.80	0	6	26	4	1	nw.	Mike Davis.
Ellendale	Dickey	1,457	44	72.8	+2.1	97	12	49	15	35	3.04	+0.30	1.14	0	9	25	3	3	se.	J. E. Demmer.
Fargo	Cass	895	3	72.8	+4.7	105	12	43	1	40	0.42	−3.11	0.26	0	4	.....	.....	.....	.....	W. B. Aerological Sta.
Forman	Sargent	1,249	46	71.6	+1.5	98	12	46	15	38	2.24	−0.73	0.59	0	7	24	5	2	se.	Helge Dyste.
Fullerton	Dickey	1,439	41	73.3	+4.3	98	12	48	15	38	1.94	−1.18	0.52	0	7	26	4	1	nw.	F. O. Alin.
Grafton	Walsh	827	47	74.0	+6.3	104	12	39	1	45	2.29	−0.26	1.24	0	6	13	15	3	se.	F. W. Deason, M. D.
Grand Forks ††	Grand Forks	831	48	72.4	+4.9	102	12	42	1	40	1.37	−1.38	0.58	0	8	10	18	3	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	73.0	−1.7	102	12	50	15	36	1.59	−1.15	0.61	0	8	12	14	5	se.	Joseph Rindt.
Hannah	Cavalier	1,568	47	70.0	+5.3	95	12	39	1	39	2.04	−0.31	1.64	0	3	21	6	4	w.	M. J. Rockwell.
Hillsboro	Traill	901	39	73.8	+4.2	101	12	49	20	41	1.70	−0.98	0.71	0	5	15	11	5	nw.	Lyle George.
Jamestown	Stutsman	1,457	47	74.2	+5.7	103	29	49	1†	44	0.75	−2.03	0.50	0	5	15	11	5	se.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	72.0	+7.4	101	12	37	1	43	0.63	−1.74	0.34	0	6	14	14	3	se.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	73.1	+6.1	101	12	43	1	38	1.40	−1.82	0.61	0	7	17	6	8	se.	Mabel Walsh.
Lisbon	Ransom	1,091	35	73.0	+3.7	97	12	48	15	39	0.95	−2.24	0.46	0	8	21	8	2	se.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	70.8	+3.1	103	29	38	1	44	1.74	−1.34	0.96	0	6	17	13	1	se.	C. E. Blasky.
McLeod	Ransom	1,075	28	72.8	+2.6	102	12	46	16	36	1.76	−1.21	1.40	0	4	25	4	2	sw.	J. G. Carlson.
Mayville	Traill	975	43	75.2	+6.2	104	12	40	2	53	0.86	−1.90	0.65	0	3	19	9	3	s.	H. B. Addicott.
Oakes	Dickey	1,318	10	72.2	−2.0	98	12	49	14	37	2.11	−0.17	1.25	0	6	17	7	7	s.	F. H. Murray.
Park River	Walsh	998	35	71.3	+3.4	103	12	38	1	48	1.63	−0.87	0.58	0	6	17	13	1	se.	E. J. Taintor.
Pembina	Pembina	789	65	73.5	+6.0	103	12	43	28	43	0.68	−1.67	0.20	0	5	23	7	1	s.	E. N. Russell.
Petersburg	Nelson	1,520	9	.....	....	....	....	....	....	.....	3.08	....	1.52	0	6	13	14	4	se.	T. M. Rykken.
Sharon	Steele	1,516	15	72.8	+1.9	102	12	46	1	36	0.80	−1.29	0.62	0	5	20	10	1	se.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	73.2	+4.5	98	12	47	1	39	1.57	−1.24	0.77	0	7	22	7	2	se.	I. C. Robertson.
Wahpeton	Richland	962	47	73.3	+3.5	99	12	47	14	38	0.86	−2.36	0.49	0	7	22	6	3	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	72.8	+4.7	102	12	48	1	37	0.43	−3.00	0.19	0	7	15	10	6	s.	U. S. Weather Bureau.
Average for Eastern Division		....	....	72.6	+4.5	105	12	37	1	53	1.57	−1.20	1.64	0	6	19	9	3	se.	....
Middle Division																				
Ashley	McIntosh	2,001	43	71.7	+3.0	99	29	47	15	41	1.93	−0.90	0.66	0	8	20	6	5	se.	Henry Doerr.
Bisbee	Towner	1,601	3	71.4	....	99	11	44	1	43	1.86	....	0.62	0	7	24	3	4	se.	I. K. Lund.
Bismarck	Burleigh	1,670	65	74.4	+4.6	100	29	53	14	39	2.52	+0.28	0.90	0	7	15	13	3.	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	71.8	+5.2	99	12	47	22	46	1.23	−1.14	0.56	0	9	15	16	0	se.	N. D. School of Forestry
Carrington	Foster	1,579	41	72.4	+3.7	104	29	48	14	42	2.23	−0.35	1.12	0	5	16	13	2	......	Soo Line Agent.
Carson	Grant	2,500	27	74.1	+5.3	105	29	48	21†	45	1.52	−0.51	0.75	0	5	13	16	2	nw.	J. W. Evens.
Center	Oliver	....	1	72.0	....	102	29	48	23	45	2.34	....	0.64	0	6	21	8	2	nw.	B. Wilcox.
Dogden Butte ††	McLean	1,880	13	72.8	+3.7	102	29	51	7†	40	1.89	−1.25	0.87	0	6	20	11	0	se.	R. L. Williams.
Drake	McHenry	1,634	10	72.9	....	103	29	48	14	43	2.14	....	0.90	0	10	12	11	8	se.	Peter Anton.
Dunseith	Rolette	1,682	43	71.1	+5.2	99	12	43	1	43	1.25	−1.30	0.47	0	4	19	12	0	se.	Geo. Gehres.
Eckman	Bottineau	1,500	34	72.0	+5.2	103	11	46	14	44	1.47	−0.76	0.86	0	9	10	21	0	se.	B. C. Phipps.
Energy ††	McLean	1,750	27	73.4	+1.4	103	29	49	14	44	2.92	+0.57	1.40	0	8	18	13	0	se.	H. S. Solenberger.
Fessenden	Wells	1,610	27	72.2	+4.2	101	11	44	14	42	2.01	−0.32	0.82	0	10	16	6	9	se.	T. D. Monsen.
Fort Yates	Sioux	1,670	39	73.6	+1.9	100	29	53	1	37	1.16	−1.03	0.45	0	5	25	5	1	se.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	73.0	+3.6	103	11	46	14	39	1.22	−1.01	0.71	0	8	14	13	4	se.	E. C. Bierbaum.
Gackle	Logan	1,951	9	72.6	....	99	11†	50	1†	37	2.01	....	1.66	0	3	15	15	1	nw.	A. H. Haut.
Garrison	McLean	1,901	62	72.6	+4.4	102	29	49	14	40	2.76	+0.30	1.13	0	7	16	15	0	se.	E. L. Vorachek.
Granville	McHenry	1,504	32	72.7	+5.2	104	11	47	14	44	1.37	−0.80	0.28	0	9	15	15	1	se.	W. A. Christianson.
Hansboro	Towner	1,597	31	71.4	+6.2	99	11	41	14	45	1.19	−1.27	0.52	0	4	22	8	1	nw.	W. E. Disher.
Linton	Emmons	1,711	22	73.7	+2.4	102	29	47	22	41	1.76	−0.37	1.17	0	7	19	12	0	se.	Wm. Heyerman.
McClusky	Sheridan	1,943	21	72.8	+2.9	99	29	49	14	38	1.26	−1.27	0.38	0	7	14	12	5	nw.	F. W. Perry.
Maddock	Benson	1,604	24	70.9	+3.3	102	29	43	1†	41	1.51	−1.08	0.58	0	8	22	7	2	nw.	A. T. Felland.
Maudan	Morton	1,750	25	74.2	+3.6	103	29	51	15	40	1.69	−0.69	0.57	0	7	20	7	4	se.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36	.....	....	....	....	....	....	.....	1.03	−1.21	0.39	0	8	.....	.....	.....	.....	P. B. Anderson.
Max	McLean	2,093	10	72.4	....	101	29	49	22	41	2.76	....	1.23	0	10	18	6	7	se.	A. W. Rice.
Minot	Ward	1,557	43	74.3	+6.4	103	11	49	1	41	1.71	−0.19	0.93	0	10	9	12	10	w.	Kenneth Chatfield.
Mohall	Renville	1,646	46	72.0	+5.7	105	11	46	14	44	1.33	−1.01	0.41	0	7	19	12	0	nw.	Iver Johnson.
Napoleon	Logan	1,955	47	72.2	+3.6	102	29	48	15†	44	0.92	−1.58	0.60	0	7	20	8	3	se.	C. J. Hoof.
New Salem	Morton	2,163	35	72.6	+2.7	104	29	47	21	47	2.31	+0.13	1.08	0	8	26	4	1	se.	J. Christianson.
Pettibone	Kidder	1,856	30	72.8	+4.8	103	29	48	1†	40	1.21	−1.63	0.39	0	5	19	12	0	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	71.0	....	99	11	44	14	40	2.04	....	0.74	0	6	15	11	5	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	10	.....	....	....	....	....	....	.....	1.13	−1.40	0.35	0	8	9	20	2	sw.	W. B. Paterson.
Ryder	Ward	2,108	10	.....	....	....	....	....	....	.....	5.87	+3.67	3.10	0	8	27	4	0	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3	.....	....	....	....	....	....	.....	1.65	....	0.97	0	4	15	15	1	se.	J. B. Smith.
Steele	Kidder	1,857	45	72.6	+3.2	107	29	45	14	43	0.85	−2.14	0.39	0	5	23	8	0	se.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10	.....	....	....	....	....	....	.....	1.46	−0.78	1.03	0	9	24	7	0	se.	G. N. Pilgard.
Timmer	Morton	....	2	.....	....	....	....	....	....	.....	1.48	....	0.86	0	6	.....	.....	.....	.....	Geo. M. Sinclair.
Towner	McHenry	1,482	37	72.4	+4.4	103	11	45	14	48	1.27	−1.14	0.45	0	8	23	8	0	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	74.0	+5.7	108	29	48	14	42	1.97	−0.58	0.63	0	7	29	1	1	se.	Albert H. Slettum.
Tuttle	Kidder	1,936	31	.....	....	....	....	....	....	.....	2.43	−0.09	0.94	0	8	25	6	0	se.	Adam Leno.
Velva	McHenry	1,511	12	72.5	+1.1	99	11	47	14	42	2.48	−0.12	1.27	0	7	17	14	0	se.	Oscar Anderson.
Washburn	McLean	1,731	38	74.6	+5.1	103	29	49	13	40	1.63	−0.85	0.53	0	6	19	11	1	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	.....	....	....	....	....	....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	D. A. Findlay.
Willow City	Bottineau	1,471	47	71.7	+6.0	104	11	40	1	45	1.15	−0.89	0.48	0	8	22	9	0	se.	O. M. Sanderson.
Wilton	McLean	2,159	3	71.6	....	102	29	51	23	42	1.61	....	0.51	0	7	23	7	1	se.	J. S. McGogy.
Wishek	McIntosh	2,010	18	71.2	+2.6	97	28	48	22	43	2.44	−0.09	1.46	0	9	17	14	0	sw.	H. M. Larson.
Zap	Mercer	1,838	24	.....	....	....	....	....	....	.....	1.68	−0.60	1.08	0	4	.....	.....	.....	.....	Fred Buechler.
Average for Middle Division		....	.....	72.5	+4.2	108	29	40	1	48	1.82	−0.64	3.10	0	7	19	10	2	se.	....

Continued on page 28

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. †† Post-office addresses of these stations are: Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for July 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red							.02										.18		.01						.07	.06							0.34
Cooperstown [2]	Sheyenne			.90	.02	.05	T.	.05				T.										.16											1.18
Courtenay [2]	James			.25	.04			.13													.30	.03											0.75
Devils Lake [1]	Devils Lake		T.	.05	.25	.89	T.	.16										T.	T.		.58	T.			T.		T.	.03		.08			2.04
Edgeley	James				.13			.72							.02		.60					.11						.15					1.73
Edmore	Devils Lake				.38	.80		.06										.09				.23								.07			1.63
Ellendale	James			.15				.34							.16		.67	.04				1.14						.06			.02	.46	3.04
Fargo [1]	Red		T.	.01		T.	T.	T.	T.				T.				.09	T.	T.		T.	.26			.06			T.					0.42
Forman	Sheyenne			.09				.13									.59	.02				.53			T.	.50		.38					2.24
Fullerton	James			.12	.18			.45							T.		.52	T.				.26			T.			.35				.06	1.94
Grafton	Red			1.24	.08	.41		T.	.03													.30						T.			.23		2.29
Grand Forks [1]	do		.05	.54		.58	T.	.05													.04	.08						0.01		.02			1.37
Hankinson [2]	do			.02				.02	.02								.61		.05			T.		.33				.41	.13				1.59
Hannah	Pembina						1.64											.32			.08												2.04
Hillsboro	Red		.71	.47		.31											T.					.15			.06								1.70
Jamestown	James			.50	T.	.03	.17		.02													.03											0.75
Langdon [2]	Pembina		T	.01	.34	.07		.03														.10						.08					0.63
Larimore	Red			.61	.03	.17		.02														.42						.02			.13		1.40
Lisbon	Sheyenne			.06		.12		.12		.06						T.		.46	.02			.05				.06			T.				0.95
McHenry	James			.96	.08	.46	.02															.18			.04								1.74
McLeod	Sheyenne							.08							T.		1.40					.02					.26						1.76
Mayville	Red			.65		.07																.14											0.86
Oakes	James			.12				.16								T.		1.25	.05			.50							.03		T.		2.11
Park River	Red			.43	.20	.58		.06														.03								.33			1.63
Pembina	do		.20	T.	.10	.12		.09					T									T.						.17					0.68
Petersburg	do			.56	.17	1.52		.11														.64								.08			3.08
Sharon	do			.62	.01		T.	.06				T.										.10			T.	.01				T.			0.80
Valley City	Sheyenne			.77		.02	.26										.26				.21	.01						.04					1.57
Wahpeton	Red	.02	T.			T.	.01								T.		.49	.02	.02			.06						.24					0.86
Moorhead, Minn [1]	do		T.	.01		T.	.01	.01				T.					.15	.01	T.		T.	.19			.05	T.		T.			T.		0.43
Middle Division																																	
Ashley [2]	Missouri			.27			.01	.66									.58	.06	.01			.14							.20				1.93
Bisbee	Devils Lake		.10		.48	.03												.49	.06		.62							.08					1.86
Bismarck [1]	Missouri		.77	.09	.24	.06	.90						T.		T.			.23	.23		T.				T.			T.		T.			2.52
Bottineau	Mouse		.24	.10	.02	T.		.02								T.		.10	.02			.14	T.			.03		.56			T.		1.23
Carrington [2]	James			1.12		.93	T.	.11														.04	.03		T.			T.					2.23
Carson	Heart			.53			.75	.10							.07			.07															1.52
Center	Missouri	.12				.24	.56	.64				T.						.50										.28					2.34
Dogden Butte	Mouse		T.	T.	.87	.29	T	.35	T.			T.						.34			T.	T.						.02		.02			1.89
Drake [2]	do		.01		.90	.34		.38				T.						.17	.05			T.	.04		T.	.01		.10			.14		2.14
Dunseith	do		.35	T.	.03			T.													.47						.40						1.25
Eckman	do		.86	.05	.03	T.	.01	.04										.22			.03	T.		T	.01			.22					1.47
Energy	Missouri	.05			.46	.22	.05	1.40										.32				.05		T.	.37					T.			2.92
Fessenden [2]	James			.10	.24	.18		.25										.04	.19			.10	.04			.05			.82				2.01
Fort Yates	Missouri		.40				.12	.45							T.			.05			.14							T.					1.16
Foxholm (near)	Mouse		.14		.04	.03	.06	.03									T.	.71				.01						.20					1.22
Gackle	James			1.66		.10		.25							T.																		2.01
Garrison	Missouri				.65	.23	.03	.62										1.13				T.		T	.01			.09		T.			2.76
Granville	Mouse	T.	.08	.03	.12	.19		.22					T.					.28			T.	.23			.10			.12					1.37
Hansboro	Devils Lake		.10		T.			T.										.15			.52						.42						1.19
Linton	Missouri			.28		T.	T.	1.17									.02	.01		.07	.05							.16			T.		1.76
McClusky	do			.02	.10	.16	.13	.35										.38										.12					1.26
Maddock	Sheyenne		T.		.38	.05	T.	.08										.05	.02		.58	.05								.30			1.51
Mandan [2]	Missouri		.57		.07	.21	.52								T.	.02	.22		.08			T.					T.					T.	1.69
Max [2]	do		.04		1.23	.17		.45	.06				.02					.66	.02				.10			.01							2.76
Minot	Mouse		.04	.06	.13	.11	T.	.26										.93				.02			.10	.04		.02			T.		1.71
Mohall	do	.03	.41	.11			T.										.20	.28									.14	.16					1.33
Napoleon [2]	Missouri			.60		.02	.02	.22								T.			.03			.01						.02					0.92
New Salem	Heart			.23		.05	.20	1.08					.24	T.	T			.40		.10		.01		T.									2.31
Pettibone	James			.39		.10		.27														.38						.07					1.21
Rolla	Devils Lake		.28		.04													.12	.50		.74	T.						.36					2.04
Rugby (near)	Mouse		.08	.35		.08		.11					T.					.16			.20	.06						.09					1.13
Ryder [2]	Missouri	.14	T.	1.00	.45		.53	.03				T					3.10					T.					.27					.35	5.87
Selfridge	do		T.	.15	T.	.21	.97														.32						T.						1.65
Steele	do			.17		.05	T.	.39										.07			.17				T								0.85
Tagus	Mouse		.01	T.	.05	.02	.24		.01				T			T.		1.03				.01		T.	.02			.06		T.			1.46
Towner	do		.05		.45	.10	.01	.20					T.					.27				.02						.17		T.			1.27
Turtle Lake	Missouri			.05	.38	.23	.05	.63	T.				T					.60													.03		1.97
Tuttle	do			.94	.01	.91	.07	.39										.02			.07	.02											2.43
Velva	Mouse		.10		.38	.18	T.	.33					T					1.27			T.	.11			.11			T.					2.48
Washburn [2]	Missouri			.05		.25	.31	.53										.38				.11											1.63
Westhope	Mouse																																......
Willow City	do		.27	.02	.21		T.	.03										.48			.06	.01						.07		T.			1.15
Wishek [2]	Missouri		.52			.03	1.46									.03	.03				.05						.04	.08		T.		.20	2.44
Zap	Knife					1.08												.05							.15		.40						1.68
Western Division																																	
Alpha	Lit. Missouri	T.	T.	.29		.80	1.03						.04		.14			.04				.01										.06	2.41
Amidon	do		.05	.05		.79	.86	.83							.24			.02	.06			T.											2.90
Beach	do	T.		.02	.01	.48	.56		.02				.09		.18			.02	.29			.01		T.								T.	1.68
Berthold Agency	Missouri		1.11		.98	.45	.18	.35					.05				.65																3.77
Bowman [2]	Grand	T	.25		.14	1.01	.57					.02		.28			.14		.26								.01					.08	2.76
Crosby	Mouse		.07	.42				.03	.01																			.15					0.68
Dickinson [2]	Heart		.02	.17	T.	.65	.22	.65					.08		T.	.01		.02		.07			T.					.04					1.93
Dunn Center	Knife		.08		.26	.59	.07	.71					.02					.15		.03					.03		.28						2.22
Fairfield	Lit. Missouri	.31				.87	1.06															T		.09									2.33
Fryburg	Heart	.14	T.		T.	.45	.29	.15					.33		.05				.36		T.	.01											1.78
Hettinger	Grand			.24	.40		1.02	.53										.51	.34														3.04
Howard (near)	Missouri			.26		T.	T.		.01				.05									T.			.14		.04						0.50
Kenmare	Mouse		.36	.53				.05										.31					.03			.01		.43					1.72
Marmarth	Lit. Missouri	T	.07	.08	1.52	1.85	.39					.03		.11			.23		T.								.02					.03	4.33
Mary	do		T.	.49		.50	.48						.25					.06		T.								.41					2.19
Medora	do	.10		.05		.48	.50						.18		.08				.78			.03					T					T.	2.20
Mott	Cannon Ball			.31		.62	.74	.33							.14			.87	.38	.08		.05						T.				.05	3.57
New England [2]	do		.13		.58	1.12	1.11							.37			.09		.16			.03					.13					.10	3.82
Parshall	Missouri		.25	.01	.07	.32	.01	.59	.02	.03		T.	T.					.97					.05	T.		T							2.32
Portal [2]	Mouse		.51	.75														.09				.03				.43		.54					2.35
Powers Lake	Missouri	.31		.11			.14										T.								.41		.03						1.00
Richardton	Heart		.06	.02		.65	1.39	.51					.02		.05		.03	.32	.29			T						.05		T.			3.39
Sanish [2]	Missouri			.02	.07	.10		.73	.04				.01					.01															0.98
Stanley	do	.04		.06	.05	.03	.18		.02									.46				.02			.06			.23					1.15
Tioga	do	.22		.04				.34										T.				T			.85			.15					1.60
Trotters	Lit. Missouri			.32		.41		.27				T.					T.					.03		.03				.41				.01	1.48
Watford City	Missouri					.08	.63						.10																				0.81
Wildrose	do			.41			.02		T.				.05			.06						T.			.08		.10						0.72
Williston [1]	do			.60	.02	T.	.07	T.	.04			.11										.09		T	.12		.04			T		T.	1.09

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for July 1939

Statious		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	80	88	84	92	84	84	81	93	82	87	95	95	86	72	84	75	75	84	90	93	79	83	96	90	94	96	84	86	99	95	92	87.1
	Minimum	50	56	59	59	62	61	57	56	53	54	57	65	57	49	47	56	58	57	55	55	51	51	55	57	55	60	60	53	61	62	56	56.3
Beach	Maximum	92	82	86	84	80	79	85	83	85	97	100	92	87	81	88	91	86	94	96	89	76	85	94	87	91	98	88	98	99	92	90	88.9
	Minimum	56	55	55	58	58	60	55	59	51	58	70	67	61	57	59	62	59	54	57	67	51	48	52	54	55	57	63	56	69	69	62	58.5
Bismarck	Maximum	82	86	83	90	83	81	83	89	83	89	97	95	87	73	83	86	84	88	90	96	78	83	92	87	93	94	87	90	100	93	92	87.6
	Minimum	56	63	61	65	63	61	59	62	53	61	69	71	59	53	54	63	64	61	62	64	56	56	53	63	60	61	65	61	70	66	56	61.2
Bottineau	Maximum	78	81	79	77	85	82	84	85	84	82	89	99	96	83	78	85	84	80	91	94	94	79	81	93	83	93	92	79	87	91	89	85.7
	Minimum	49	57	58	61	62	63	58	52	53	54	63	68	50	50	55	61	63	60	62	65	49	47	50	63	54	56	63	57	62	65	63	57.8
Carson	Maximum	85	86	85	91	84	84	84	88	84	91	99	95	92	76	87	91	87	93	95	103	79	85	97	91	97	100	90	97	105	96	95	90.7
	Minimum	54	54	56	62	60	58	54	56	57	59	59	68	56	55	52	62	62	58	56	65	48	48	52	57	52	55	61	59	68	60	60	57.5
Crosby §	Maximum	87	87	78	81	83	84	84	80	85	99	105	87	82	86	90	89	87	95	99	89	75	84	92	85	92	98	81	91	99	95	97	88.6
	Minimum	55	57	55	58	59	55	57	55	50	57	63	65	53	49	57	62	56	51	54	63	53	50	52	55	57	58	56	52	61	57	61	56.3
Devils Lake	Maximum	80	84	81	88	82	79	84	87	80	87	95	99	84	78	85	81	82	88	93	93	78	80	91	85	93	93	81	87	98	92	89	86.4
	Minimum	47	64	62	59	64	64	62	61	53	57	65	66	54	46	53	59	61	58	61	64	56	52	57	63	59	59	61	54	66	62	56	58.9
Dickinson §	Maximum	85	83	80	85	89	79	82	85	80	89	96	92	85	78	88	94	87	91	93	93	76	85	95	88	93	96	88	98	102	93	94	88.2
	Minimum	47	52	59	59	58	60	54	57	49	57	60	65	55	54	55	60	61	51	54	65	46	46	47	61	50	53	56	52	59	65	58	55.6
Dunn Center §	Maximum	88	73	78	81	74	75	75	80	73	82	99	94	86	81	87	88	83	90	94	91	75	86	90	82	95	92	79	95	105	86	93	85.5
	Minimum	52	54	60	59	59	60	55	58	50	58	64	67	53	52	55	60	63	55	54	65	51	50	49	61	51	53	61	52	62	57	49	56.4
Fessenden §	Maximum	81	84	83	84	89	78	83	87	84	89	101	89	86	79	85	86	84	90	94	99	81	82	95	83	95	96	88	88	100	92	92	87.8
	Minimum	45	60	59	59	62	60	59	59	53	54	60	73	53	44	46	60	61	51	59	60	53	49	53	64	54	55	61	65	62	62	53	56.7
Fullerton	Maximum	83	88	88	96	86	86	82	91	82	91	97	98	89	71	82	77	72	83	90	93	80	83	94	83	95	95	86	85	97	95	91	87.4
	Minimum	51	63	63	59	62	63	62	60	56	55	60	67	58	50	48	57	61	60	61	65	56	55	56	62	60	65	62	56	60	68	56	59.2
Garrison §	Maximum	83	82	83	85	81	81	82	85	81	89	99	94	87	77	85	91	83	88	90	94	76	82	94	81	95	95	87	91	102	92	92	87.5
	Minimum	52	58	60	60	61	63	56	57	52	55	59	71	54	49	51	62	64	59	59	64	54	53	54	55	55	56	63	55	70	54	56	57.8
Grafton	Maximum	84	90	88	85	85	82	86	89	87	91	92	104	98	82	83	82	85	84	91	93	88	84	94	94	95	96	95	87	97	94	90	89.5
	Minimum	39	65	63	57	65	60	65	62	56	54	63	72	59	48	51	54	59	55	57	63	59	53	54	66	59	63	65	51	61	64	56	58.6
Grand Forks	Maximum	82	91	84	87	80	84	83	90	81	89	91	102	85	77	82	76	83	75	89	90	81	84	94	83	94	95	83	88	94	94	91	86.5
	Minimum	42	65	64	57	64	61	66	62	55	56	62	64	55	48	55	58	57	60	59	61	59	53	55	61	56	60	64	49	62	62	51	58.2
Jamestown §	Maximum	82	88	87	94	85	87	83	92	82	92	109	99	88	75	85	78	81	90	93	95	80	85	96	92	95	95	88	91	103	96	95	89.4
	Minimum	49	56	64	63	67	63	60	58	57	54	63	68	57	49	52	60	60	51	60	61	55	53	52	64	60	55	64	61	65	68	58	58.9
Kenmare	Maximum	84	71	76	83	85	86	97	84	85	90	103	91	85	80	86	92	85	93	93	91	78	85	92	84	93	93	78	90	94	93	92	87.5
	Minimum	53	59	57	59	63	60	57	60	52	61	71	71	54	50	59	63	63	60	62	69	54	52	62	64	60	58	60	54	64	59	56	59.5
Langdon §	Maximum	80	84	84	83	83	83	85	87	81	90	97	101	88	78	81	83	81	87	93	93	83	83	95	90	94	96	89	87	96	94	90	87.7
	Minimum	37	62	59	54	61	56	61	58	47	53	64	73	52	52	49	56	61	55	51	64	51	47	52	52	74	55	60	49	66	61	52	56.3
Marmarth	Maximum	89	82	82	86	79	80	80	82	82	92	94	92	90	80	80	90	80	89	91	89	76	83	92	85	90	94	86	94	94	90	86	86.4
	Minimum	56	55	57	56	57	55	57	70	58	59	65	65	65	58	60	58	53	60	65	48	47	47	55	53	55	60	59	64	60	64	60	58.1
Minot	Maximum	85	81	80	85	84	85	84	87	84	92	103	98	95	83	87	94	88	90	92	95	89	84	94	88	95	95	92	92	96	91	93	89.7
	Minimum	49	62	56	56	63	64	53	54	50	58	69	70	55	52	61	63	60	60	67	54	53	58	64	56	57	59	62	51	71	67	52	58.9
Mott	Maximum	85	81	81	88	82	80	82	86	82	91	98	93	87	76	86	97	86	100	91	101	87	82	94	86	94	98	90	98	102	93	93	89.4
	Minimum	52	56	57	52	58	60	54	59	54	56	64	68	59	55	55	63	56	61	60	62	48	58	49	64	53	55	61	68	68	65	55	58.2
Pembina	Maximum	82	86	81	86	82	86	86	88	87	92	92	103	82	77	83	85	88	81	91	92	84	85	96	85	96	96	82	86	91	91	89	87.5
	Minimum	52	56	69	56	66	60	64	60	59	59	72	73	53	57	53	55	64	56	58	64	56	53	63	61	61	57	62	43	63	69	49	59.5
Sharon	Maximum	80	90	82	89	84	81	85	92	83	90	96	102	87	78	84	74	82	85	91	91	79	83	94	86	94	97	83	88	99	95	90	87.5
	Minimum	46	60	61	62	64	60	62	58	57	54	64	71	52	48	51	53	57	59	58	61	54	50	58	53	60	65	64	55	68	64	56	58.2
Steele	Maximum	80	85	85	92	81	80	81	88	80	90	100	101	83	73	85	85	80	90	97	82	93	81	92	91	93	96	94	96	107	103	95	89.0
	Minimum	49	59	57	60	61	61	57	54	53	52	63	70	56	45	46	60	60	52	60	50	59	48	50	50	53	60	62	55	66	63	52	56.2
Valley City	Maximum	84	85	84	87	85	87	83	89	87	88	93	98	96	84	81	79	74	82	87	86	86	80	92	81	89	92	80	87	94	91	90	86.8
	Minimum	47	64	64	59	66	63	62	59	53	52	61	69	57	51	50	59	60	60	63	61	58	52	55	60	60	61	67	58	63	70	59	59.5
Wahpeton	Maximum	79	90	91	87	87	87	83	88	87	86	87	99	96	85	81	80	68	77	83	85	84	82	92	91	90	93	90	83	87	95	92	86.6
	Minimum	48	62	65	61	64	62	77	67	59	54	64	67	58	47	50	57	61	59	59	60	65	54	56	64	61	64	64	59	57	65	55	60.0
Williston	Maximum	91	80	79	82	83	82	85	82	85	100	102	89	84	83	87	91	85	95	95	87	76	84	91	86	91	98	82	96	98	93	92	88.2
	Minimum	61	60	56	63	62	58	58	63	52	60	70	68	55	58	63	68	64	53	63	58	55	56	60	61	61	59	62	61	73	62	67	61.0
Moorhead, Miun.	Maximum	77	89	86	87	87	85	82	90	82	86	90	102	87	74	80	70	69	77	85	86	81	83	92	82	88	92	84	86	89	92	92	84.9
	Minimum	48	64	64	61	68	64	67	62	60	54	64	68	60	52	55	59	59	59	59	60	62	55	55	62	64	65	63	60	58	68	60	60.6

§Iustruments are read in the moruiug; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing, ᵇ 2 days, etc

Climatological Data for July 1939—Continued from page 26.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inehes				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	....	12	......	....	....	....	....	....	......	2.41	+0.35	1.03	0	8	27	3	1	w.	H. A. Bury.
Amidon	Slope	....	16	72.8	+2.7	100	29	46	21†	43	2.90	+0.43	0.86	0	8	18	8	5	se.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	73.7	+5.2	100	11	48	22	42	1.68	−0.13	0.56	0	10	13	14	4	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	73.4	+4.2	103	29	49	22†	47	3.77	+1.41	1.11	0	7	30	0	1	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	71.0	+4.8	101	11	43	14	46	1.92	−0.19	0.80	0	4	13	7	11	e.	Charles Kaufman.
Bowman	Bowman	2,872	24	72.4	+2.6	99	29	46	20	42	2.76	+0.63	1.01	0	10	28	3	0	se.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	72.4	+5.6	105	11	49	14	45	0.68	−1.43	0.42	0	5	18	11	2	w.	J. H. Phelps.
Dickinson	Stark	2,543	46	71.9	+3.7	102	29	46	21†	48	1.93	−0.24	0.65	0	10	21	8	2	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	71.0	+3.0	105	29	49	23	44	2.22	−0.01	0.71	0	10	18	13	0	nw.	O. T. Eveuson.
Epping	Williams	2,224	28	73.3	+5.3	100	11†	47	9	42	0.48	−1.50	0.19	0	3	26	4	1	se.	T. Beachler.
Fairfield	Billings	....	2	......	....	....	....	....	....	......	2.33	....	1.06	0	4	23	8	0	se.	W. M. Geesaman.
Fryburg	Billings	2,790	20	73.0	....	100	29	45	1	45	1.78	−0.41	0.45	0	8	21	9	1	nw.	Verne King.
Hettinger	Adams	2,675	31	74.3	+4.2	101	29	47	21†	43	3.04	+0.68	1.02	0	6	19	12	0	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	72.6	+6.6	99	11	44	21	42	0.50	−1.33	0.26	0	5	20	10	1	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	73.5	....	103	11	50	14	40	1.72	−0.57	0.53	0	7	18	6	7	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	29	72.2	+2.8	94	11†	47	21†	41	4.33	+2.45	1.85	0	10	17	6	8	se.	S. P. Grane.
Mary	McKenzie	....	10	......	....	....	....	....	....	......	2.19	+0.41	0.50	0	6	29	2	0	se.	Fred Hartman.
Medora	Billings	2,271	23	......	....	....	....	....	....	......	2.20	+0.04	0.79	0	8	19	11	1	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	73.8	+3.5	102	29	48	21	45	3.57	+1.43	0.87	0	10	28	2	1	se.	W. M. Hendricks.
New England	Hettinger	2,400	44	73.6	+4.8	102	29	47	21	46	3.82	+1.75	1.12	0	10	18	11	2	se.	F. S. Sleight.
Parshall	Mountrail	1,929	23	70.6	......	99	29	42	22	50	2.32	+0.32	0.97	0	10	9	22	0	se.	C. E. Shubert.
Portal	Burke	1,954	33	71.0	+4.8	104	11	45	9	47	2.35	+0.24	0.75	0	6	25	4	2	s.	R. G. Wegener.
Powers Lake	Burke	2,205	33	75.4	+4.6	104	11	43	1	41	1.00	−1.59	0.41	0	5	19	11	1	sw.	Geo. B. Gee.
Richardton	Stark	2,467	22	72.8	+2.7	100	29	45	21	36	3.39	+1.14	1.39	0	11	18	13	0	se.	Assumption Abbey.
Sanish	Mountrail	1,835	13	73.5	+2.9	102	11	48	23	49	0.98	−0.72	0.73	0	7	14	15	2	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	69.8	....	100	11	41	8†	47	1.15	....	0.46	0	10	22	8	1	w.	Leroy Edwards.
Tioga	Williams	2,279	10	......	....	....	....	....	....	......	1.60	−0.10	0.85	0	5	16	14	1	se.	B. V. Olson.
Trotters	Golden Valley	....	13	......	....	....	....	....	....	......	1.48	−0.08	0.41	0	7	15	14	2	.....	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	74.6	+5.3	103	11	51	18	46	0.81	−1.02	0.63	0	3	18	13	0	s.	J. C. Zeller.
Wildrose	Williams	2,258	11	......	....	....	....	....	....	......	0.72	....	0.41	0	6	24	7	0	sw.	L. Holter.
Williston	Williams	1,878	59	74.6	+5.7	102	11	52	9	42	1.09	−0.80	0.60	0	8	20	11	0	se.	U. S. Weather Bureau.
Average for Western Division		....	.....	72.8	+5.0	105	11†	41	8†	50	2.04	−0.02	1.85	0	7	20	9	2	se.	....
Average for the State		....	.....	72.6	+3.7	108	29	37	1	53	1.81	−0.62	3.10	0	7	19	9	3	se.	....

[WBO, Minneapolis, 8-24-39—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. XLVIII   BISMARCK, N. D., AUGUST 1939   No. 8

GENERAL SUMMARY

Although the temperature averaged 2.1° above the 48 year mean, it was the coolest August since 1935. Only a few scattered stations reported temperatures below normal. The highest readings occurred on the 5th, 6th, 15th, and 26th, with the lowest readings on the 8th, 9th, and 23d. The precipitation was fairly well distributed throughout the month, but with the greatest amounts from the 7th to the 11th. The middle and western divisions averaged above normal and the eastern division averaged below normal. The soil was dry at most places during the last half of the month due to the hot weather and by the close of the month corn, potatoes, pastures, and ranges had deteriorated somewhat, but livestock was mostly in good condition. The weather was favorable for farm work, and harvesting and threshing of small grain made excellent progress. Threshing was well advanced by the close of the month, with yields fair to very good.

TEMPERATURE

The mean temperature for the State was 68.6°, or 2.1° above the 1892-1939 average for August. The mean for the eastern division was 70.0°; for the middle division, 68.4°; and for the western division, 67.5°. The highest mean temperature was 72.2° at Mayville and Wahpeton, and the lowest 62.0° at Dunn Center, making a range in mean temperature of 10.2°. The absolute range in temperature was 73°, from 105° at New England on the 26th, to 32° at Bowbells on the 22d and Dunn Center on the 9th. The average daily excess in temperature for the State since January 1, 1939 is 1.0°.

PRECIPITATION

The average precipitation for the State was 2.10 inches, or 0.10 inch more than the 1892-1939 average for August. In the eastern division the average amount was 1.94 inches; in the middle division, 2.37 inches; and in the western division, 1.98 inches. The greatest monthly amount reported was 4.57 inches at Berthold Agency; the least was 0.88 inch at Crosby. The greatest amount recorded in any 24 consecutive hours was 2.42 inches at Ryder on the 10th. The accumulated deficiency in precipitation since January 1, 1939 is 0.85 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	..	..	..	10	12	8	1	4	8	10	..	1	2	4	8	9	1	..	..	..	..	..	..	..
Dust storms	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Fogs	..	..	..	..	..	..	..	3	5	2	1	1	..	..	..	..	6	..	..	..	..	..	..	..	..	..	1	3	..	4	3
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Solar halos	..	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	..	..	1	1	..	..	..	..
Hail	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1
Thund'rst'ms	2	..	..	2	4	8	5	1	2	5	3	..	..	..	2	8	..	6	10	1	1	..	..	..	..	5	9	2	6	4	2

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.92	30.22	20	29.57	6	7.5	27	nw.	21	78	38	34	73
Devils Lake	29.90	30.17	20	29.56	6	8.2	27	nw.	2	80	41	40	79
Williston	29.91	30.25	19	29.58	5	7.2	36	w.	15	73	41	34	76
Moorhead, Minn	29.89	30.15	25	29.66	5	8.1	27	sw.	26	83	44	41	69
Averages & ext's	29.90	30.25	19	29.56	6	7.8	36	w.	15	78	41	37	74

† And other dates.

COMPARATIVE DATA FOR AUGUST

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Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	67.3	105	24	2.86	2.80	1.59	2.39	0	8	15	10	6
1893	66.7	109	29	2.10	1.25	0.58	1.31	0	3	20	7	4
1894	68.8	102	30	1.37	0.86	1.20	1.14	0	4	17	10	4
1895	64.5	104	24	1.87	1.36	1.48	1.57	0	5	17	11	3
1896	64.7	107	21	2.07	0.86	0.42	1.12	0	5	17	10	4
1897	64.1	106	29	1.28	1.13	1.13	1.18	0	5	15	10	6
1898	65.4	104	24	2.92	1.40	0.75	1.69	0	5	15	11	5
1899	65.2	97	32	2.90	2.90	2.69	2.83	0	6	15	11	5
1900	70.4	114	33	6.05	4.53	4.60	5.06	0	10	14	11	6
1901	66.9	100	32	2.55	1.90	0.86	1.77	0	6	18	8	5
1902	64.3	96	26	2.65	2.36	1.88	2.30	0	8	16	9	6
1903	63.7	103	35	4.72	4.65	4.67	4.68	0	10	13	7	11
1904	63.3	102	31	1.56	1.92	1.34	1.61	0	6	17	7	7
1905	67.5	107	34	3.51	2.44	1.34	2.43	0	7	17	8	6
1906	66.3	105	31	1.53	1.74	2.25	1.84	0	7	17	6	8
1907	64.5	104	26	2.17	1.23	1.79	1.73	0	6	18	9	4
1908	63.2	104	25	2.48	2.46	1.55	2.16	0	7	17	8	6
1909	69.8	109	27	2.98	1.94	1.78	2.23	0	6	18	9	4
1910	63.1	109	24	1.58	1.30	1.51	1.46	0	5	14	8	9
1911	62.2	98	23	3.61	3.87	2.15	3.21	0	8	12	11	8
1912	63.4	118	32	3.41	2.60	2.62	2.88	0	10	11	10	10
1913	68.9	106	30	3.15	2.32	2.42	2.63	0	6	16	10	5
1914	64.2	101	26	2.00	2.26	2.61	2.29	0	7	13	11	7
1915	64.4	100	19	1.16	1.49	0.89	1.18	0	4	19	8	4
1916	66.0	100	26	3.17	2.79	2.05	2.67	0	8	16	10	5
1917	65.2	105	25	0.96	0.74	0.76	0.82	0	4	17	10	4
1918	66.5	102	34	3.51	3.39	3.25	3.38	0	8	15	11	5
1919	67.9	101	30	2.58	1.57	0.63	1.59	0	5	18	10	3
1920	68.8	108	28	1.03	2.01	1.55	1.53	0	5	22	6	3
1921	67.2	108	31	3.08	1.86	0.99	1.98	0	6	18	10	3
1922	69.8	115	33	1.29	1.63	1.02	1.31	0	6	18	9	4
1923	63.0	97	28	2.38	1.70	1.45	1.84	0	8	14	12	5
1924	63.8	102	28	2.27	1.36	1.09	1.57	0	6	17	9	5
1925	67.9	110	29	1.39	1.06	0.66	1.04	0	5	20	8	3
1926	65.6	105	36	3.01	2.41	1.68	2.37	0	7	14	8	9
1927	63.4	96	28	3.17	3.63	2.58	3.13	0	8	18	8	5
1928	64.8	105	25	3.84	3.15	2.28	3.09	0	8	17	9	5
1929	68.5	106	26	0.87	0.83	0.60	0.77	0	4	20	9	2
1930	70.4	104	32	1.40	1.45	1.49	1.45	0	6	15	9	7
1931	67.0	105	30	2.43	2.33	1.51	2.09	0	6	16	9	6
1932	68.3	100	28	2.40	1.37	1.89	1.89	0	7	16	10	5
1933	68.5	104	31	0.81	0.64	0.79	0.75	0	5	17	9	5
1934	67.4	108	25	1.70	1.15	0.60	1.15	0	5	16	11	4
1935	66.2	109	26	3.83	1.90	1.32	2.35	0	8	16	9	6
1936	69.8	110	29	1.67	1.37	1.16	1.40	0	6	14	11	6
1937	72.9	109	40	2.56	1.11	0.88	1.52	0	5	18	10	3
1938	69.8	109	33	1.79	1.22	1.48	1.50	0	6	18	10	3
1939	68.6	105	32	1.94	2.37	1.98	2.10	0	7	18	9	4
Period	66.5	118	19	2.41	1.97	1.62	2.00	0	6	16	9	6

Climatological Data for August 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	43	71.9	+5.4	97	5	42	21	42	1.36	−1.23	0.44	0	9	22	5	4	nw.	James. H. Erickson.
Cavalier	Pembina	894	29	70.6	......	97	5	44	8	40	3.77	+1.41	1.28	0	7	21	5	5	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	42	70.2	+4.0	98	30	36	22	45	1.40	−1.23	0.95	0	7	23	4	4	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9	......	......	....	....	....	....	......	1.57	......	0.84	0	9	15	14	2	w.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	69.0	+4.2	98	6	44	9	40	2.76	+0.28	2.00	0	8	12	8	11	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	70.6	+3.7	99	13	42	11	50	1.37	−1.10	0.66	0	6	7	23	1	se.	O. A. Thompson.
Edmore	Ramsey	1,524	15	66.8	+3.1	98	5	36	9	47	2.25	−0.05	1.47	0	6	22	6	3	nw.	Mike Davis.
Ellendale	Dickey	1,457	44	70.6	+1.8	97	13	45	9	45	1.68	−1.04	0.60	0	7	20	6	5	s.	J. E. Demmer.
Fargo	Cass	895	3	70.4	+4.3	96	5†	40	21	44	1.36	−1.71	0.40	0	12	......	......	......	......	W. B. Aerological Sta.
Forman	Sargent	1,249	46	69.4	+1.2	95	15	40	21	44	1.14	−1.64	0.61	0	5	24	3	4	nw.	Helge Dyste.
Fullerton	Dickey	1,439	41	71.0	+3.9	97	5	42	21	46	1.78	−0.75	0.54	0	7	18	11	2	nw.	F. O. Alin.
Grafton	Walsh	827	47	71.9	+6.7	97	5	43	9	42	3.86	+1.28	1.36	0	10	12	14	5	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	48	70.2	+4.8	96	5†	44	9	42	1.95	−0.69	0.61	0	10	10	15	6	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	69.5	−1.6	99	20	38	25	50	1.49	−0.71	0.50	0	8	17	9	5	sw.	Joseph Rindt.
Hannah	Cavalier	1,568	47	67.3	+4.4	96	5	39	9	43	2.55	+0.43	1.28	0	7	20	7	4	nw.	M. J. Rockwell.
Hillsboro	Traill	901	39	......	......	....	....	....	....	......	......	......	......	......	......	......	......	......	......	Lyle George.
Jamestown	Stutsman	1,457	47	71.1	+4.7	98	18†	42	21	47	1.45	−1.24	0.70	0	4	15	11	5	se.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	69.2	+6.7	96	5	37	9	47	2.60	+0.14	1.00	0	9	15	10	6	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	71.2	+6.2	96	30	42	9	40	1.40	−1.38	0.51	0	7	17	5	9	nw.	Mabel Walsh.
Lisbon	Ransom	1,091	35	70.0	+3.0	96	6†	41	9	40	2.73	+0.05	1.08	0	10	20	7	4	se.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	67.6	+2.5	99	5	33	9	49	1.20	−1.71	0.75	0	6	17	11	3	nw.	C. E. Blasky.
McLeod	Ransom	1,075	28	70.0	+2.1	96	27	41	21	48	1.30	−1.12	0.49	0	7	20	5	6	sw.	J. G. Carlson.
Mayville	Traill	975	43	72.2	+5.2	98	28†	47	25	40	1.08	−1.55	0.48	0	3	11	15	5	s.	H. B. Addicott.
Oakes	Dickey	1,318	10	69.3	−1.8	95	16†	40	21†	47	1.54	−0.53	0.48	0	11	16	6	9	s.	F. H. Murray.
Park River	Walsh	998	35	69.6	+3.4	96	5	40	9	43	2,72	+0.30	0.98	0	8	13	12	6	nw.	E. J. Taintor.
Pembina	Pembina	789	65	68.2	+3.9	97	5	41	9	44	3.63	+1.44	1.05	0	9	20	6	5	nw.	E. N. Russell.
Petersburg	Nelson	1,520	9	......	......	....	....	....	....	......	1.74	......	1.28	0	5	16	8	7	nw.	T. M. Rykken.
Sharon	Steele	1,516	15	70.3	+3.0	97	5	43	9	41	1.52	−0.58	1.00	0	7	18	9	4	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	69.8	+3.0	96	5	41	23	46	1.38	−0.83	0.73	0	7	16	9	6	nw.	I. C. Robertson.
Wahpeton	Richland	962	47	72.2	+4.3	96	5†	41	21	40	2.00	−0.68	0.76	0	9	19	5	7	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	70.5	+4.4	94	5	44	21	37	1.49	−1.40	0.60	0	12	10	14	7	s.	U. S. Weather Bureau.
Average for Eastern Division		......	....	70.0	+4.0	99	5†	33	9	50	1.94	−0.47	2.00	0	8	17	9	5	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	43	68.0	+1.5	100	26	38	9†	49	4.33	+1.78	1.60	0	10	21	6	4	se.	Henry Doerr.
Bisbee	Towner	1,601	3	68.6	......	98	6	41	9	44	2.16	......	1.18	0	7	25	3	3	w.	I. K. Lund.
Bismarck	Burleigh	1,670	65	69.9	+2.6	99	26	43	9	44	1.81	−0.01	0.84	0	9	15	9	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	68.4	+4.3	97	6†	39	8	42	1.90	−0.51	0.85	0	9	14	16	1	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	69.8	+3.0	99	26	43	8†	50	1.81	−0.35	0.99	0	7	20	1	10	w.	Soo Line Agent.
Carson	Grant	2,500	27	70.6	+2.7	104	6	37	23	48	2.89	+1.09	1.17	0	7	15	12	4	nw.	J. W. Evens.
Center	Oliver	......	1	65.8	......	97	6†	35	9	51	2.26	......	1.50	0	4	18	6	7	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	69.0	+2.0	97	26	38	9	40	2.24	+0.32	1.33	0	6	17	11	3	nw.	R. L. Williams.
Drake	McHenry	1,634	10	68.5	......	99	7	41	8	39	2.83	......	1.47	0	7	15	7	9	nw.	Peter Anton.
Dunseith	Rolette	1,682	43	68.1	+4.2	99	26	38	8	46	1.86	−0.60	0.58	0	8	16	11	4	nw.	Geo. Gehres.
Eckman	Bottineau	1,500	34	67.6	+3.4	101	6	38	23	50	2.21	+0.24	0.95	0	11	16	13	2	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	67.4	+1.0	99	6†	39	9	49	2.79	+0.86	1.85	0	5	17	11	3	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	27	69.3	+3.4	101	6	39	25	57	1.79	−0.52	1.10	0	8	21	4	6	sw.	T. D. Monsen.
Fort Yates	Sioux	1,670	39	68.7	−0.6	101	26	38	23	50	2.06	−0.11	0.91	0	5	24	4	3	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	68.4	+2.2	100	26	41	8†	40	2.55	+0.81	1.30	0	11	13	9	9	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	68.6	......	96	26	42	8†	44	3.32	......	1.37	0	8	19	7	5	nw.	A. H. Haut.
Garrison	McLean	1,901	62	67.9	+1.8	69	6	40	8†	43	2.91	+0.90	1.69	0	7	12	17	2	nw.	E. L. Vorachek.
Granville	McHenry	1,504	32	67.8	+2.9	101	6	40	8†	49	3.14	+1.24	1.46	0	8	18	11	2	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	67.4	+5.0	100	6	38	9	45	1.60	−0.70	0.88	0	6	15	9	7	nw.	W. E. Disher.
Linton	Emmons	1,711	22	71.2	+2.0	102	5†	36	8†	51	1.80	−0.57	0.66	0	9	22	4	5	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	21	68.8	+2.0	98	26	39	8†	41	1.89	−0.05	1.03	0	4	11	10	10	nw.	F. W. Perry.
Maddock	Benson	1,604	24	66.8	+1.1	96	6†	38	8	45	1.62	−0.85	1.23	0	7	20	9	2	nw.	A. T. Felland.
Mandan	Morton	1,750	25	69.4	+1.3	101	26	40	23	42	2.19	+0.47	1.02	0	8	14	8	9	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36	......	......	....	....	....	....	......	1.43	−0.91	0.96	0	4	......	......	......	......	P. B. Anderson.
Max	McLean	2,093	10	66.6	......	99	6	37	9	45	4.37	......	2.12	0	7	16	8	7	nw.	A. W. Rice.
Minot	Ward	1,557	43	68.6	+3.6	100	6	39	23	43	3.06	+0.99	1.52	0	9	7	13	11	w.	Kenneth Chatfield.
Mohall	Renville	1,646	46	67.6	+3.7	102	26	37	23	48	2.16	+0.23	0.96	0	9	17	12	2	nw.	Iver Johnson.
Napoleon	Logan	1,955	47	69.6	+3.2	102	5†	38	8†	48	3.17	+0.77	0.90	0	10	23	4	4	nw.	C. J. Hoof.
New Salem	Morton	2,163	35	68.6	+1.4	102	6	36	9†	46	2.95	+1.13	1.52	0	5	21	9	1	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	68.9	+0.6	100	26	37	27	51	1.38	−0.90	0.98	0	6	16	7	8	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	67.6	......	98	6	41	20	43	2.11	......	0.92	0	8	16	9	6	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	10	......	......	....	....	....	....	......	1.48	+0.48	0.97	0	5	9	17	5	nw.	W. B. Paterson.
Ryder	Ward	2,108	10	......	......	....	....	....	....	......	3.45	+2.26	2.42	0	4	21	6	4	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3	......	......	....	....	....	....	......	3.61	......	1.60	0	8	13	12	6	nw.	J. B. Smith.
Steele	Kidder	1,857	45	68.0	+1.3	101	26	35	9	55	1.99	−0.40	0.87	0	8	22	6	3	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10	......	......	....	....	....	....	......	2.56	+1.44	1.81	0	10	21	6	4	nw.	G. N. Pilgard.
Timmer	Morton	......	2	......	......	....	....	....	....	......	2.04	......	0.54	0	7	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	37	67.6	+2.2	100	6	38	21†	49	2.45	+0.42	1.07	0	7	21	7	3	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	69.6	+3.2	102	6	38	9	52	2.24	+0.12	1.31	0	5	27	3	1	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	31	......	......	....	....	....	....	......	1.27	−0.65	0.73	0	6	17	9	5	nw.	Adam Leno.
Velva	McHenry	1,511	12	68.0	+0.1	98	6	40	9	43	3.46	+1.56	1.68	0	6	15	13	3	nw.	Oscar Anderson.
Washburn	McLean	1,731	38	70.9	+3.5	99	6	43	9	42	2.02	+0.35	1.34	0	6	22	5	4	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	......	......	....	....	....	....	......	......	......	......	......	......	......	......	......	......	D. A. Findlay.
Willow City	Bottineau	1,471	47	68.3	+4.7	100	6	35	20	49	1.49	−0.63	0.70	0	8	19	10	2	nw.	O. M. Sanderson.
Wilton	McLean	2,159	3	67.4	......	99	26	37	9	46	1.36	......	0.47	0	6	21	5	5	nw.	J. S. McGogy.
Wishek	McIntosh	2,010	18	67.0	+1.2	97	5†	36	24	51	2.84	+0.93	1.10	0	11	15	9	7	nw.	H. M. Larson.
Zap	Mercer	1,838	24	......	......	....	....	....	....	......	2.64	+0.73	1.75	0	3	20	8	3	w.	Fred Buechler.
Average for Middle Division		......	....	68.4	+2.3	104	6	35	9†	55	2.37	+0.40	2.42	0	7	18	9	4	nw.	....

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EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow.
‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for August 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	.01						.19	.31		.10									T			.04	.01			.44	.12	.14		T.		1.36
Cooperstown ²	Sheyenne	T.						T.	.15		.95	.05								.22			.04				.02	.02			T.		1.40
Courtenay ²	James						.03	.10			.84	.06								.11			.02				.13	.18		.10			1.57
Devils Lake ¹	Devils Lake	.01				T.		.10			2.00	T.				T.	.03		T.	.15		.04	.22				T.	T.		.21			2.76
Edgeley	James						.17	.05			.66							.02											.25		.22		1.37
Edmore	Devils Lake	T.					T.		.06		1.47	.07								.30	T.		.15							.20			2.25
Ellendale	James					.10	.04	.07			.27									.01								.59			.60		1.68
Fargo ¹	Red	T.				T.	.07	.33	.10		.08	T.	.01						T.	.22		T.	.12	.01			.18	.22	.01		.01		1.36
Forman	Sheyenne						.11	.08	.20		.14																	T.			.61		1.14
Fullerton	James	.36				T.	.54	.06	.02	T.	.30	T.								T.			T.				T.	.06			.44	T.	1.78
Grafton	Red	.45						.06	.18		.31	.47					.08			.32			.46	.17							1.36		3.86
Grand Forks ¹	do	T.					.12	.10	.18		.61	.12								.27		.16	.15	.01				T.		.23			1.95
Hankinson ²	do		.16				.02	.46		.02	.02												.01					.30			.50		1.49
Hannah	Pembina							.05		1.28	.06						.18			.16		.16								.66			2.55
Hillsboro	Red																																
Jamestown	James						.20	.33			.70									.22													1.45
Langdon ²	Pembina								.09		1.00	.41					.09			.22			.31	.08						.36	.04		2.60
Larimore	Red							.16	.17		.51	.04								.10			.30	.12									1.40
Lisbon	Sheyenne		.01			.03			.67		.03	.46									.05		.03	T.			.16		1.08		.21		2.73
McHenry	James	T.				T.		.04	.05		.75	.04								.23			.09							T.			1.20
McLeod	Sheyenne						.12	T.	.49		.06									T.			.05				.05		.20		.33		1.30
Mayville	Red						T.	T.	.25		.48												.35										1.08
Oakes	James		.18				.10	.02	.30		.12	.20									.06		.02						.02	.04	.48		1.54
Park River	Red							T.	.14		.98	.47								.12			.38	.32						.23	.08		2.72
Pembina	do	T.						.54	.17		.60	.25					.15			1.05			.34	.03						.50			3.63
Petersburg	do								T		1.28	.05								.17				.21						.03			1.74
Sharon	do	.12					T.	.07	.10		1.00	.01								.10			.12	T			T.	T.	T.	T.	T.		1.52
Valley City	Sheyenne							.07			.73	.03															.31	.10	.12		.02		1.38
Wahpeton	Red	.11					.06	.04	.76		.20									.06			T.				.02		.31		.44		2.00
Moorhead, Minn ¹	do	T.					.18	.35	.25		.11	.03	T.							.10			.15	.01			.18	.08	.01	T.	.04		1.49
Middle Division																																	
Ashley ²	Missouri	.02					.07	.34	.15		1.19	.10									.04							.12	.70		1.60		4.33
Bisbee	Devils Lake	.06						T.			1.18	.23					.18			.21			.13							.17			2.16
Bismarck ¹	Missouri	.01				T.		.33		.02	.82						.07		.03	.10							T	.05		T.		.38	1.81
Bottineau	Mouse	.05	.03			T.			.22	T.		.85	T.				.48	.03		.03			.13	.08					T		T.		1.90
Carrington ²	James								.18		.16	.99								.12	.13		T.					.20	.03		T.		1.81
Carson	Heart	.20						.65									.25			.12							1.17	.38		.12			2.89
Center	Missouri							.36			1.50	.07							.33									T.				T.	2.26
Dogden Butte	Mouse	T.				T.		.25		.06	1.33	.32					.07			.21													2.24
Drake ²	do		T.						.34	.03	.20	1.47					.01			.32									.46				2.83
Dunseith	do	.58						.17			.55	.03					.24					.02	.07							.20			1.86
Eckman	do	.27						.31		.05	.95	.48					.01		.02			.02	.07							.01		.02	2.21
Energy	Missouri	.04						.40			1.85	.08								.42									T.				2.79
Fessenden ²	James								.27		.20	1.10					.05			.04	.06			.03							.04		1.79
Fort Yates	Missouri							.26			.45																.91		.35	.09			2.06
Foxholm (near)	Mouse	.37				T.		.45	.02	.06	1.30	.15					.06		.03	.07		T.						T.		.03		.01	2.55
Gackle	James	T.				.47	.68	.22			1.37																	.37	.01	.14		.06	3.32
Garrison	Missouri	.07						.51		.06	1.69	.17					.01			.40													2.91
Granville	Mouse	.04						.26		.16	1.46	.57					.17		.02	.46		T	T.										3.14
Hansboro	Devils Lake	.24						T.			.88	.08					.05						.25							.10			1.60
Linton	Missouri	.12				T.		.28			.66	.02								.03								.19	.20	.08	.27		1.80
McClusky	do							.51		.02	1.03									.33								T.					1.89
Maddock	Sheyenne	.03				T.		.09			1.23	.04					.03			.19			.01										1.62
Mandan ²	Missouri						T.	.35		1.02	.02					.03			.08								.05	.02				.62	2.19
Max ²	do	.10						T.	.38	.06	.65	2.12					.38			.68													4.37
Minot	Mouse	.16					T.	.45		.05	1.52	.22					.06		.13	.45		.02						T.		T.		T	3.06
Mohall	do	.08						.45	.07	.35	.96	.10					T.		T.	T.		.02								.11		.02	2.16
Napoleon ²	Missouri	.08	.01				.06	.61	.22		.75	.13									.06								.35		.90		3.17
New Salem	Heart	T.						.50			1.52	.02					T.			.13								T.		T.		.78	2.95
Pettibone	James							.13			.98	.03								.05								.06		.13			1.38
Rolla	Devils Lake	.43						.09			.92	.05					.20			.01			.05							.36			2.11
Rugby (near)	Mouse	.05						.17			.97						.04			.25		T.								T.			1.48
Ryder ²	Missouri	.53									2.42						.45		T.			T.								.05		T.	3.45
Selfridge	do					.10	T.	.26		.28	.04									.03							1.60	1.20		.10			3.61
Steele	do						T.	.37			.87	.05								.08								.29	.01	.16	.16		1.99
Tagus	Mouse	.07				T.		.34	.15		1.81	.05					.02		.03	.06		T.	T.					T.		.02		.01	2.56
Towner	do	.03						.31	T.		1.07	.34					T.			.61		.03	.06					T.		T.			2.45
Turtle Lake	Missouri	T.						.31		.03	1.31	.12								.47													2.24
Tuttle	do					T.		.34			.73	.12															.04	.02		.02		T.	1.27
Velva	Mouse	T.						.23		.12	1.68	.33					.56			.54													3.46
Washburn ²	Missouri	.01						.31		.02	1.34	.03								.31								T.				T	2.02
Westhope	Mouse																																
Willow City	do	.10						.27			.70	.10					.04			.12		.04	T.							.12		T.	1.49
Wishek ²	Missouri	.03				.22	1.10	.13		.95	.07								T	.03							.05	.09		.15		.02	2.84
Zap	Knife							.42			1.75									.47													2.64
Western Division																																	
Alpha	Lit. Missouri				T.			.58	.03	.16	.11	.01								.26								T.		.26	T.		1.36
Amidon	do	.09						.55		.08	.38	.02							.06	.27										.04			1.59
Beach	do				.02	T.		.56	.03	.06	.73	.02								.33								T.		.06		.01	1.82
Berthold Agency	Missouri	.90						.68			1.23																			1.76			4.57
Bowman ²	Grand						.60	.07	T.	.36	.20	.01							.40									.01	.26				1.91
Crosby	Mouse							.20	.40										.02				.03								.23		0.88
Dickinson ²	Heart	.26						.35	.12	.05	.55	.78	T.				T.			.38								T					2.49
Dunn Center	Knife	.10						.22	.05		.38	1.41					.06			.50													2.72
Fairfield	Lit. Missouri	T.					.45	T	.04	.75									.26									T.					1.50
Fryburg	Heart	.03			T.			.55	.06	.20	.92									.46										.08			2.30
Hettinger	Grand	T.						.23		.21	.41					.02	.09		.71	.36										.03			2.06
Howard (near)	Missouri					T.		.47	.04	.07						T.	.23		T.			.02								.25		T.	1.08
Kenmare	Mouse	.06					.01	.16	.44	.17	.16	.87					.14			.11			.05								.09		2.26
Marmarth	Lit. Missouri						.60	.08	.02	.03	.04	T.							.61										.34	.04			1.76
Mary	do							.81	T.		1.15	.02				T				.41										.03	.04		2.46
Medora	do	T						.49	T.	.10	.80	T.					T.		.38									02					1.79
Mott	Cannon Ball							.33		T.	1.11	T								.20								.07	T	.01	T.		1.72
New England ²	do						.32			.41	.35								.32														1.40
Parshall	Missouri	.14				.04	T.	T.	.38	.05	.32	1.55					T			.50			.01								.06		3.05
Portal ²	Mouse							.31	.27	.20	T.	.20					.22					.05								.03	.05	.08	1.41
Powers Lake	Missouri							.50	.08		.91						.44																1.93
Richardton	Heart					T.		.27	.02		2.26	.03								.36							T.			T.		.03	2.97
Sanish ²	Missouri	.02				.02		.06	.30	.14	.18	.70								.12											.20		1.74
Stanley	do	.06						.45	.16		.93	T.					.15			.05										.16		T.	1.96
Tioga	do					T.		.35	.25		.60						.52			.18										.29		T.	2.19
Trotters	Lit. Missouri							.38		.16	.71						T.			.35										.02			1.62
Watford City	Missouri					.01		.68		.03	.73									.23										.05		.04	1.77
Wildrose	do							.46	.33	.01	.38						.30					.05								.11		.03	1.67
Williston ¹	do	T.			T.	.32	.01	.63		.08	.39					.63	.02		.04	.01		.02						T.		.16		T.	2.31

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ¹ First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. ² Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. •Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for August 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum...	88	88	86	94	96	95	73	64	70	67	76	83	98	90	95	96	94	97	66	77	88	72	78	87	90	100	95	89	87	88	86	85.6
	Minimum...	56	46	48	48	51	60	45	39	38	47	47	47	55	55	55	62	52	51	50	44	41	44	39	38	47	60	60	57	59	61	58	50.3
Beach	Maximum..	79	89	88	98	93	87	75	62	63	54	74	90	86	92	99	89	91	91	68	78	72	73	85	92	97	100	85	89	89	90	90	84.1
	Minimum..	60	46	51	50	65	58	47	38	43	47	45	49	55	52	58	56	52	57	50	43	44	44	40	53	60	58	61	55	65	61	63	52.1
Bismarck	Maximum...	84	88	86	92	92	98	74	70	71	63	76	84	93	91	94	90	88	96	70	77	81	73	78	88	94	99	77	90	78	91	89	84.4
	Minimum...	62	53	55	51	60	64	50	45	43	53	51	53	60	55	65	63	59	55	55	48	51	51	43	44	63	65	61	60	64	57	59	55.4
Bottineau	Maximum...	90	83	83	83	91	97	97	59	67	73	57	73	81	87	89	91	85	85	88	71	79	76	66	73	85	93	97	89	90	86	87	82.3
	Minimum...	65	48	46	50	63	62	59	39	45	54	52	51	52	55	60	65	61	64	55	43	52	43	45	48	58	60	55	63	62	54	57	54.4
Carson	Maximum...	84	91	90	98	99	104	81	71	74	61	78	88	93	94	99	92	94	98	85	80	80	74	84	94	101	103	88	86	79	92	91	87.9
	Minimum...	62	45	49	50	63	61	49	39	38	50	47	49	58	61	63	56	53	61	52	30	48	44	37	54	63	60	60	57	63	57	60	53.2
Crosby §	Maximum...	79	81	86	98	99	81	61	63	69	61	78	86	88	95	94	85	90	85	71	82	70	73	83	93	98	100	83	91	82	85	77	82.5
	Minimum...	57	37	49	54	55	55	50	40	48	44	44	45	48	53	57	57	51	54	48	41	53	38	42	45	51	62	57	49	58	52	54	49.9
Devils Lake	Maximum...	88	85	83	92	96	98	71	70	76	62	68	80	92	90	91	86	87	94	72	76	81	62	72	82	91	93	93	88	89	91	81	83.2
	Minimum...	61	51	51	52	60	63	52	45	44	49	47	52	57	56	58	68	62	63	52	44	50	51	50	46	54	64	66	60	59	60	53	54.8
Dickinson §	Maximum...	80	88	86	95	95	97	67	68	70	55	77	86	88	89	98	90	88	94	70	78	75	75	83	91	93	101	83	90	92	95	94	84.9
	Minimum...	59	42	42	44	50	55	48	39	38	43	46	44	53	49	53	54	50	48	50	40	38	35	35	43	58	52	56	51	55	46	49	47.3
Dunn Center §	Maximum...	78	87	85	94	97	98	68	61	68	53	79	82	79	90	94	78	79	85	68	75	66	67	72	84	89	98	75	84	82	90	85	80.2
	Minimum...	60	38	43	40	60	45	44	35	32	42	41	41	44	45	51	50	47	46	46	35	40	41	33	33	42	49	47	45	53	40	48	43.7
Fessenden §	Maximum...	88	89	85	94	99	101	70	71	74	68	76	84	94	93	95	90	90	96	71	77	84	70	75	88	96	100	93	93	90	96	86	86.3
	Minimum...	63	48	48	50	55	58	59	41	41	51	51	52	51	51	54	60	56	53	56	42	51	51	43	43	39	54	63	58	59	60	59	52.3
Fullerton	Maximum...	88	87	86	91	97	93	81	70	73	71	76	83	96	92	95	95	94	95	78	77	87	71	77	85	90	96	95	89	93	87	90	86.4
	Minimum...	61	53	51	56	52	65	58	46	61	55	53	49	50	56	57	63	57	59	63	47	42	51	45	43	50	63	69	63	63	65	55	55.5
Garrison §	Maximum...	82	87	85	92	93	99	66	68	71	58	76	82	86	90	91	89	86	94	80	78	74	72	77	86	92	98	87	89	83	92	86	83.5
	Minimum...	65	48	48	49	65	58	51	40	40	52	45	49	59	53	58	61	57	55	54	43	46	48	40	45	52	58	60	55	63	51	53	52.3
Grafton	Maximum...	90	87	84	92	97	96	92	72	76	73	70	83	96	94	92	90	88	94	93	76	85	83	73	81	89	92	96	93	89	92	89	87.0
	Minimum...	67	56	54	54	56	61	63	51	43	52	54	55	54	52	56	67	62	63	59	49	48	58	56	49	52	59	70	66	55	64	55	56.8
Grand Forks	Maximum...	87	89	85	91	96	91	89	65	74	64	69	84	95	90	92	93	88	94	72	73	83	66	73	79	88	88	96	89	88	94	79	84.0
	Minimum...	68	53	52	50	54	69	56	49	44	57	53	56	55	55	58	66	61	65	55	48	46	50	55	49	55	65	65	66	62	61	52	56.5
Jamestown §	Maximum...	92	90	86	94	96	97	78	72	78	72	79	87	98	93	97	96	93	98	71	77	89	69	77	88	92	98	93	91	89	93	90	87.5
	Minimum...	62	53	50	52	54	64	61	45	43	49	52	50	55	58	56	63	59	61	62	47	42	52	48	44	48	56	65	62	65	64	55	54.7
Kenmare	Maximum...	80	83	86	93	94	93	62	68	68	56	78	81	88	91	89	87	85	85	72	80	69	73	78	85	90	101	85	87	84	87	79	81.7
	Minimum...	62	54	54	53	62	62	53	43	43	50	50	50	57	60	57	60	56	61	52	46	57	50	43	52	56	60	58	50	52	56	52	53.9
Langdon §	Maximum...	94	95	86	94	96	94	86	78	79	70	69	83	92	90	88	84	85	91	81	70	82	62	68	82	90	92	95	87	88	89	87	85.0
	Minimum...	65	48	46	49	57	70	60	45	37	48	46	51	55	51	53	65	58	61	56	40	50	48	49	47	54	62	65	55	51	61	50	53.4
Marmarth	Maximum...	79	86	85	94	90	93	65	68	64	69	73	88	89	90	97	91	91	94	71	75	72	73	90	91	95	96	85	87	85	90	88	84.0
	Minimum...	41	46	45	55	55	48	39	43	43	45	46	52	56	58	54	49	53	50	39	55	42	39	55	52	51	51	51	51	51	54	51	49.0
Minot	Maximum...	90	87	85	92	96	100	93	70	72	70	75	82	86	91	91	89	87	90	73	79	74	72	77	87	91	97	92	89	87	92	83	85.1
	Minimum...	56	50	52	50	62	58	53	41	40	50	51	50	56	51	55	62	59	56	55	41	52	52	39	48	52	60	56	50	60	49	50	52.1
Mott	Maximum...	82	89	89	95	90	101	89	70	72	64	70	90	91	92	100	92	92	99	79	79	82	89	76	92	98	102	87	87	83	96	94	87.5
	Minimum...	66	43	49	47	61	55	49	38	36	49	43	46	51	49	59	55	51	52	46	40	46	38	41	48	57	57	58	51	61	49	59	50.0
Pembina	Maximum...	91	86	85	93	97	92	90	64	70	70	68	80	91	87	88	84	83	90	83	72	80	68	72	77	84	86	88	83	82	87	74	82.1
	Minimum..	69	51	47	49	54	59	64	51	41	43	42	56	55	53	53	64	57	59	57	45	49	52	54	47	63	63	65	59	51	58	49	54.2
Sharon	Maximum...	89	87	85	92	97	92	86	70	76	64	71	83	93	91	93	90	89	94	79	76	84	63	71	85	90	90	96	90	89	96	83	85.0
	Minimum...	65	52	47	51	56	67	56	47	43	53	49	50	55	62	56	69	62	61	57	56	46	48	51	45	53	62	65	61	57	66	55	55.6
Steele	Maximum...	88	89	85	92	97	99	79	69	75	67	78	84	98	93	95	96	90	96	80	77	82	72	76	91	99	101	88	90	84	92	89	86.8
	Minimum...	60	45	44	48	53	60	50	37	35	50	49	45	45	51	58	58	54	50	50	38	37	45	38	41	55	65	60	58	58	37	55	49.3
Valley City	Maximum...	88	86	86	89	96	90	90	69	76	72	75	80	92	92	90	89	89	90	88	72	84	80	73	82	87	90	90	90	86	89	88	85.1
	Minimum...	66	54	50	47	50	60	62	49	43	56	51	50	50	60	53	68	59	62	63	45	42	50	41	42	49	62	60	63	62	68	55	54.6
Wahpeton	Maximum...	90	87	87	90	96	93	86	81	75	72	77	82	90	92	92	91	91	94	91	76	81	80	77	82	86	87	96	88	89	88	88	86.3
	Minimum...	66	56	49	53	58	66	63	51	57	58	57	57	56	60	60	64	63	63	63	50	41	49	52	45	57	59	64	66	65	64	66	58.0
Williston	Maximum...	77	82	86	94	95	83	65	62	68	59	76	87	88	92	94	88	88	77	72	78	67	74	82	91	97	98	82	89	89	88	89	82.5
	Minimum...	61	51	54	52	70	57	50	44	48	53	50	50	57	56	59	59	56	59	53	47	53	46	43	56	63	62	55	52	65	53	59	54.6
Moorhead, Minn.	Maximum...	85	87	84	90	94	87	81	65	75	68	76	83	91	91	92	93	89	91	72	72	80	66	74	83	86	80	93	89	88	87	88	83.2
	Minimum..	68	60	54	53	57	67	55	51	49	57	52	54	55	60	59	66	63	65	61	52	44	52	54	50	54	62	64	67	64	65	57	57.8

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

Climatological Data for August 1939—Continued from page 30.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	12	......	......	....	....	.....	....	......	1.36	−0.35	0.58	0	7	15	12	4	nw.	H. A. Bury.
Amidon	Slope	......	16	68.8	+0.9	102	26	37	8	45	1.49	+0.27	0.55	0	8	20	7	4	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	68.1	+1.7	100	26	38	8	48	1.82	+0.13	0.73	0	9	12	15	4	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	68.0	+0.3	99	26	38	23	50	4.57	+2.65	1.76	0	4	26	2	3	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	65.1	......	99	26	32	22	54	1.94	+0.05	0.62	0	4	16	9	6	nw.	Charles Kaufman.
Bowman	Bowman	2,872	24	68.2	+0.5	100	15	37	7	53	1.91	+0.11	0.60	0	8	22	5	4	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	66.2	+1.6	100	26	37	2	48	0.88	−1.11	0.40	0	5	17	11	3	w.	J. H. Phelps.
Dickinson	Stark	2,543	46	66.1	−0.2	101	26	35	22†	51	2.49	+0.50	0.78	0	7	18	9	4	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	62.0	−4.2	98	6†	32	9	54	2.72	+1.01	1.41	0	7	20	9	2	nw.	O. T. Evenson.
Epping	Williams	2,224	28	66.9	+1.0	96	5†	39	8	41	1.85	+0.15	0.46	0	8	24	2	5	nw.	T. Beachler.
Fairfield	Billings	......	2	......	......	....	....	.....	....	......	1.50	....	0.75	0	4	20	9	2	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	20	68.6	......	99	26	40	8	49	2.30	+0.34	0.92	0	7	22	6	3	nw.	Verne King.
Hettinger	Adams	2,675	31	69.2	+0.4	104	15	39	8	48	2.06	+0.43	0.71	0	8	17	7	7	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	71.4	+6.5	99	26	49	21†	39	1.08	−0.56	0.47	0	6	21	4	6	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	67.8	......	101	26	43	8†	41	2.26	+0.32	0.87	0	11	14	12	5	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	29	66.5	−0.8	97	15	39	7	45	1.76	+0.02	0.61	0	8	12	10	9	nw.	S. P. Grane.
Mary	McKenzie	......	10	......	......	....	....	.....	....	......	2.46	+1.48	1.15	0	6	18	8	5	nw.	Fred Hartman.
Medora	Billings	2,271	23	......	......	....	....	.....	....	......	1.79	+0.08	0.80	0	5	20	9	2	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	68.8	+1.7	102	26	36	9	51	1.72	−0.21	1.11	0	5	19	7	5	nw.	W. M. Hendricks.
New England	Hettinger	2,400	44	69.3	+2.4	105	26	38	8	54	1.40	−0.30	0.41	0	4	18	6	7	se.	F. S. Sleight.
Parshall	Mountrail	1,929	23	64.6	......	99	6†	35	8†	51	3.05	+1.09	1.55	0	9	12	17	2	nw.	C. E. Shubert.
Portal	Burke	1,954	33	66.4	+2.2	100	26	39	8†	47	1.41	−0.48	0.31	0	9	23	4	4	s.	R. G. Wegener.
Powers Lake	Burke	2,205	33	68.2	+3.0	99	6	37	22	41	1.93	+0.16	0.91	0	4	20	10	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	22	69.2	+1.1	99	26	40	8	38	2.97	+1.02	2.26	0	6	15	10	6	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	67.0	−0.5	102	26	37	23	55	1.74	+0.43	0.70	0	9	14	15	2	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	66.0	......	99	26	36	23	47	1.96	....	0.93	0	7	21	8	2	nw.	Leroy Edwards.
Tioga	Williams	2,279	10	......	......	....	....	.....	....	......	2.19	+1.11	0.60	0	6	......	......	......	nw.	B. V. Olson.
Trotters	Golden Valley	......	13	......	......	....	....	.....	....	......	1.62	+0.11	0.71	0	5	19	8	4	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	69.2	+1.9	101	5	38	8	49	1.77	+0.06	0.73	0	7	21	7	3	w.	J. C. Zeller.
Wildrose	Williams	2,258	11	......	......	....	....	.....	....	......	1.67	....	0.46	0	8	19	6	6	nw.	L Holter.
Williston	Williams	1,878	59	68.6	+2.5	98	26	43	23	42	2.31	+0.84	0.65	0	11	21	7	3	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	67.5	+1.0	105	26	32	9†	55	1.98	+0.36	2.26	0	7	19	8	4	nw.	....
Average for the State		......	.....	68.6	+2.1	105	26	32	9†	55	2.10	+0.10	2.42	0	7	18	9	4	nw.	....

[WBO, Minneapolis, 9-25-39—1400]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

Vol. XLVIII Bismarck, N. D., September 1939 No. 9

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GENERAL SUMMARY

The month was characterized by above normal temperatures and deficient moisture. Temperatures were high at the beginning and near the middle of the month, but the nights were cool after the 23d, with freezing temperatures reported from all stations and a general killing frost on the 25th. Precipitation in the middle and western divisions averaged only about 50% of the normal and in the eastern division only 60%. The only dates with general precipitation were the 7th, 15th, and from the 26th to the 28th. Many stations reported snow on the 28th with the average fall 0.2 inch. This is twice the average fall for September. No high winds or severe storms were reported and sunshine was above average. Weather conditions throughout the month were favorable for harvesting and threshing, but fall plowing and seeding were delayed generally by the dry condition of the soil. Due to generous showers earlier in the season, there was enough feed for livestock and farm animals were generally in good condition.

TEMPERATURE

The mean temperature for the state was 58.9°, or 2.1° above the 1892-1939 average for September. The mean for the eastern division was 59.1°; for the middle division, 58.7°, and for the western division, 59.0°. The highest mean temperature was 63.4° at McLeod, and the lowest 55.2° at Parshall, making a range in mean temperature of 8.2°. The absolute range in temperature was 87°, from 98° at five stations on the 1, 5, 11, and 17, to 11° at Center on the 25th. The average daily excess in temperature since January 1, 1939, is 1.1°.

PRECIPITATION

The average precipitation for the state was 0.68 inch, or 0.83 inch less than the 1892-1939 average for September. In the eastern division the average amount was 1.12 inches; in the middle division, 0.47 inch; and in the western division, 0.45 inch. The greatest monthly amount reported was 3.08 inches at Mayville; there was none at Center and New England. The greatest amount recorded in any 24 consecutive hours was 1.70 inches at Mayville on the 8th. The accumulated deficiency in in precipitation since January 1, 1939, is 1.68 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	6	5	3	..	..	1	7	13	8	5	1	..	..	1	11	9	9	18	9	4	..	..	2	3	4	..	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	5	1	..	..	1	2	1	2	2	1	3	14	23	38	8	..	2	..	..	..	..	..	..	..	1	1	3	2	1	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	1	..	1	..	..	..	..	..	..
Solar halos	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	1	..	..	..	..	..
Sleet	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
Thund'rst'ms	5	1	..	..	4	3	1	..	3	..	1	1	1	4	4	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.95	30.54	20	29.46	11	7.8	28	nw.	24	78	42	36	60
Devils Lake	29.94	30.51	20	29.48	2	9.1	25	n.	24	82	47	44	65
Williston	29.92	30.52	19	29.41	11	7.5	26	n.	24	77	44	39	66
Fargo	29.93	30.51	20	29.47	3	.....	....	......	....	78	45	48	....
Moorhead, Minn	......	......	....	......	....	8.7	26	nw.	24	....	....	....	61

† And other dates.

COMPARATIVE DATA FOR SEPTEMBER

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Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	59.2	101	24	1.08	1.05	0.40	0.84	0	4	16	7	7
1893	57.1	102	8	0.75	0.75	0.94	0.81	0.1	4	18	7	5
1894	58.2	104	18	1.06	1.67	1.42	1.38	0	5	15	7	8
1895	56.6	100	12	1.29	0.61	0.42	0.77	0	4	12	12	6
1896	53.0	98	11	2.25	2.00	0.57	1.61	0	6	12	8	10
1897	64.1	109	18	0.24	0.25	0.35	0.28	0	2	20	7	3
1898	56.8	98	10	1.85	1.00	0.90	1.25	0	4	14	9	7
1899	55.0	101	11	0.60	0.57	0.57	0.58	T.	3	17	9	4
1900	54.6	98	17	5.15	5.26	4.44	4.95	T.	8	12	7	11
1901	53.6	100	12	2.41	1.80	1.82	2.01	T.	7	10	8	12
1902	53.6	95	15	1.24	0.54	0.44	0.74	0	4	16	8	6
1903	51.6	90	18	3.36	2.85	2.77	2.99	0.7	7	12	6	12
1904	54.7	96	18	2.12	1.18	1.00	1.43	0	5	14	7	9
1905	59.8	104	23	1.62	1.65	1.74	1.67	0	5	16	8	6
1906	62.8	109	20	1.54	0.73	1.07	1.11	0	4	19	6	5
1907	52.1	96	9	2.39	1.11	0.68	1.39	T.	6	14	8	8
1908	60.7	104	16	0.87	0.89	1.97	1.24	0.2	4	17	7	6
1909	59.0	93	24	1.03	0.77	1.04	0.95	0	4	16	8	6
1910	55.3	99	18	2.38	1.88	1.10	1.79	0.1	4	14	7	9
1911	54.9	95	21	2.32	2.41	2.38	2.37	T.	8	12	8	10
1912	51.5	124	18	3.54	2.50	1.82	2.62	0	10	11	6	13
1913	57.2	108	8	2.39	1.47	1.37	1.74	0.4	6	16	8	6
1914	59.3	98	25	1.24	1.00	0.84	1.03	0	5	16	8	6
1915	54.6	104	23	2.42	2.60	1.94	2.32	0	9	10	8	12
1916	55.1	99	15	2.12	1.07	1.10	1.43	T.	6	14	9	7
1917	56.4	97	16	1.53	0.93	0.65	1.04	0	5	12	9	9
1918	51.9	93	11	0.46	0.40	0.33	0.40	T.	3	15	9	6
1919	58.6	100	20	0.92	1.05	0.86	0.94	0.3	5	12	10	8
1920	59.0	99	19	3.94	1.19	1.49	2.21	T.	8	15	9	6
1921	57.0	101	25	3.91	3.37	2.34	3.21	T.	12	12	10	8
1922	59.8	104	23	2.42	2.00	1.89	2.10	0	6	16	8	6
1923	60.1	99	15	2.04	2.25	3.25	2.51	0	6	14	8	8
1924	55.0	98	20	3.68	1.91	0.68	2.09	T.	7	15	7	8
1925	58.1	103	20	4.18	2.23	1.61	2.67	T.	8	12	8	10
1926	52.3	95	9	2.80	2.44	1.66	2.30	0.5	9	11	9	10
1927	56.8	101	10	1.06	0.47	1.48	1.00	T.	3	16	9	5
1928	53.9	95	12	1.50	0.75	0.74	1.00	T.	5	17	7	6
1929	52.7	105	12	1.65	1.82	1.47	1.65	0	5	11	9	10
1930	56.2	98	10	1.02	0.88	1.17	1.02	0	4	16	9	5
1931	61.4	107	27	1.97	2.38	2.06	2.14	T.	6	18	7	5
1932	56.8	102	22	1.10	0.56	0.23	0.63	0	3	18	8	4
1933	60.9	101	22	1.03	0.71	0.70	0.81	0	4	16	8	6
1934	52.4	95	9	1.28	0.86	0.74	0.96	2.0	7	11	9	10
1935	57.2	105	16	0.73	0.44	0.12	0.43	0	3	15	9	6
1936	60.3	112	12	1.47	1.29	0.68	1.15	T.	5	15	10	5
1937	58.6	104	20	1.21	1.60	1.61	1.47	0.1	6	13	9	8
1938	61.9	99	21	0.95	0.34	0.61	0.63	0	4	17	7	6
1939	58.9	98	11	1.12	0.47	0.45	0.68	0.2	5	15	8	7
Period	56.8	124	8	1.86	1.42	1.25	1.51	0.1	6	14	8	8

Climatological Data for September 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	43	60.9	+3.6	96	14	24	29	43	0.67	−1.45	0.29	0	6	20	9	1	nw.	James. H. Erickson.
Cavalier	Pembina	894	29	57.6		92	3	25	24†	43	0.92	−1.34	0.40	1.0	5	17	1	12	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	42	57.9	+1.6	95	2	17	25	48	1.88	+0.06	0.89	0	5	21	2	7	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9								1.38		0.71	T.	5	16	8	6	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	57.2	+1.3	93	18	20	25	42	0.50	−1.13	0.15	0.3	10	10	10	10	s.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	61.8	+4.2	95	14†	21	29	58	0.39	−1.40	0.13	0	5	9	19	2	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	15	56.4	+0.9	93	18	14	25	52	0.71	−1.09	0.28	0.1	4	18	7	5	nw.	Mike Davis.
Ellendale	Dickey	1,457	44	59.9	+1.5	92	12	19	26	45	0.69	−1.07	0.33	0	5	15	8	7	s.	J. E. Demmer.
Fargo	Cass	895	3	60.2	+2.0	97	14	23	29	43	0.61	−1.29	0.26	0	6					W. B. Aerological Sta.
Forman	Sargent	1,249	46	59.0	+0.3	96	2	18	29	58	1.38	−0.79	0.67	0	5				sw.	Helge Dyste.
Fullerton	Dickey	1,439	41	60.7	+3.5	93	2	21	26†	46	0.69	−1.41	0.34	0	5	15	9	6	nw.	F. O. Alin.
Grafton	Walsh	827	47	59.6	+3.3	93	2	25	25	49	2.05	−0.29	0.68	0.5	8	9	9	12	nw.	F. W. Deason, M. D.
Grand Forks ‡‡	Grand Forks	831	48	57.7	+1.3	96	2	24	25	43	2.32	+0.28	1.06	0.2	10	8	12	10	n.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	59.4	−0.9	96	14	22	29	49	1.23	−0.82	0.35	0	8	14	11	5	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	47	56.8	+2.8	93	18	17	25	50	0.87	−1.33	0.36	0.5	4	12	12	6	nw.	M. J. Rockwell.
Hillsboro	Traill	901	39																	Lyle George.
Jamestown	Stutsman	1,457	47	58.4	+1.9	94	18	23	25	57	1.01	−0.83	0.48	0	5	15	5	10	sw.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	56.7	+4.4	93	18	17	25	50	0.99	−1.33	0.25	T.	7	11	12	7	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	59.8	+4.5	95	2	24	25	44	1.23	−1.06	0.60	T.	6	13	6	11	s.	Mabel Walsh.
Lisbon	Ransom	1,091	35	58.6	+1.1	94	2	20	29	48	0.77	−1.37	0.22	0	10	15	6	9	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	56.4	+1.3	93	11†	12	25	54	0.68	−1.22	0.25	T.	6	13	11	6	s.	C. E. Blasky.
McLeod	Ransom	1,075	28	63.4	+4.4	96	2†	19	29	45	0.96	−1.25	0.39	0	4	21	5	4	w.	J. G. Carlson.
Mayville	Traill	975	43	61.0	+3.6	97	2	26	25	46	3.08	+0.89	1.70	0	8	8	14	8	s.	H. B. Addicott.
Oakes	Dickey	1,318	10	59.2	−0.9	94	2	15	29	66	0.69	−0.24	0.19	T.	9	17	4	9	n.	F. H. Murray.
Park River	Walsh	998	35	56.4	−0.2	90	2	19	25	49	1.89	−0.35	0.71	0.2	6	13	6	11	nw.	E. J. Taintor.
Pembina	Pembina	789	65	57.7	+3.6	90	2	23	25	44	1.28	−0.94	0.35	T.	11	13	4	13	nw.	E. N. Russell.
Petersburg	Nelson	1,520	9								0.94		0.43	T.	5	14	10	6	sw.	T. M. Rykken.
Sharon	Steele	1,516	15	58.3	+1.7	96	2	18	25	47	1.11	−0.74	0.58	T	8	12	6	12	sw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	59.4	+1.2	92	2	22	29†	47	1.12	−0.76	0.65	0	7	18	10	2	sw.	I. C. Robertson.
Wahpeton	Richland	962	47	62.5	+3.3	96	14	19	29	45	1.03	−1.35	0.29	0	7	15	7	8	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	61.0	+2.8	95	14	24	26	39	0.59	−1.63	0.24	0	7	12	8	10	s.	U. S. Weather Bureau.
Average for Eastern Division				59.1	+2.4	97	2†	12	25	66	1.12	−0.74	1.70	0.1	7	14	8	8	nw.	
Middle Division																				
Ashley	McIntosh	2,001	43	58.6	+1.3	92	12†	20	29	59	0.62	−0.98	0.30	0	6	14	5	11	se.	Henry Doerr.
Bisbee	Towner	1,601	3	59.9		95	18	20	25	47	0.58		0.26	T.	4	17	6	7	nw.	I. K. Lund.
Bismarck	Burleigh	1,670	65	60.2	+2.1	93	18	26	25	47	0.24	−0.99	0.14	T	5	12	8	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	57.9	+3.0	92	18	16	25	51	0.58	−1.05	0.35	T.	5	13	16	1	n.	N. D. School of Forestry
Carrington	Foster	1,579	41	56.5	−0.1	95	11	19	25	58	0.42	−1.09	0.20	0	4	16	4	10		Soo Line Agent.
Carson	Grant	2,500	27	61.9	+5.5	98	5	21	29	50	0.22	−1.38	0.22	0	1	14	10	6	nw.	J. W. Evens.
Center	Oliver		1	56.9		91	11	11	25	54	0.00		0.00	0	0	6	18	6	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	60.4	+4.1	91	18	20	25	46	0.36	−0.80	0.12	T.	5	13	9	8	nw.	R. L. Williams.
Drake	McHenry	1,634	10	57.5		93	18	20	25	51	0.45		0.15	T	6	12	8	10	nw.	Peter Anton.
Dunseith	Rolette	1,682	43	57.4	+3.0	94	18	16	25	55	0.53	−1.21	0.38	1.0	4	13	11	6	n.	Geo. Gehres.
Eckman	Bottineau	1,500	34	57.8	+2.6	95	5	17	25	56	0.75	−0.71	0.31	1.0	13	12	15	3	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	59.2	+1.8	93	11†	17	25	54	T.	−1.47	T.	T.	0	18	11	1	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	27	58.0	+2.3	97	18	18	25	50	0.30	−1.34	0.11	0.5	6	17	1	12	nw.	T. D. Monsen.
Fort Yates	Sioux	1,670	39	58.4	−1.4	93	18	26	29	46	0.24	−1.28	0.13	0	3	15	9	6	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	58.8	+3.8	94	5	21	25	49	0.64	−0.86	0.39	0.1	8	13	6	11	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	59.3		92	12	22	28	49	0.51		0.31	T.	5	14	9	7	nw.	A. H. Haut.
Garrison	McLean	1,901	62	58.4	+3.5	96	11	20	25	48	0.23	−1.32	0.11	T.	4	15	8	7	se.	E. L. Vorachek.
Granville	McHenry	1,504	32	58.6	+3.8	95	11†	16	25	55	0.56	−1.05	0.24	0.5	5	16	8	6	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	56.9	+3.4	93	18	18	25	49	0.76	−1.22	0.35	0.5	4	12	12	6	nw.	W. E. Disher.
Linton	Emmons	1,711	22	62.6	+4.1	97	11	20	29	52	1.60	0.00	1.25	0	4	16	10	4	n.	Wm. Heyerman.
McClusky	Sheridan	1,943	21	58.8	+2.6	94	11	17	25	59	0.34	−1.09	0.22	T.	2	13	7	10	nw.	F. W. Perry.
Maddock	Benson	1,604	24	58.4	+2.7	95	18	14	25	54	0.29	−1.52	0.07	T	7	14	7	9	nw.	A. T. Felland.
Mandan	Morton	1,750	25	60.0	+2.6	93	18	24	25	48	0.17	−1.32	0.10	0	4	13	5	12	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36								0.36	−1.19	0.18	T.	5					P. B. Anderson.
Max	McLean	2,093	10	56.6		94	11	16	25	47	0.36		0.18	T.	3	12	8	10	nw.	A. W. Rice.
Minot	Ward	1,557	43	59.5	+3.6	96	11	18	25	55	0.61	−1.05	0.21	0.3	7	10	3	17	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	46	57.8	+3.8	95	5†	17	25	51	0.86	−0.70	0.63	0.2	7	15	10	5	nw.	Iver Johnson.
Napoleon	Logan	1,955	47	60.0	+3.3	94	12	20	25†	52	1.27	−0.21	0.70	0	7	15	9	6	s.	C. J. Hoof.
New Salem	Morton	2,163	35	59.3	+1.8	95	18	20	25	47	0.20	−1.16	0.13	0	4	15	11	4	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	59.2	+4.0	94	11	16	25	47	0.42	−0.90	0.24	0	2	13	5	12	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	56.8		93	18	20	25	46	0.67		0.38	1.0	3	13	10	7	n.	A. A. Jacobsen.
Rugby	Pierce	1,562	10								0.54	−0.46	0.30	0.5	6	8	13	9	sw.	W. B. Paterson.
Ryder	Ward	2,108	10								0.35	−0.69								S. C. Schellenbaum.
Selfridge	Sioux	2,183	3								0.55		0.45	0	2	12	7	11	nw.	J. B. Smith.
Steele	Kidder	1,857	45	58.9	+2.0	95	2†	15	25	55	0.38	−1.14	0.20	T.	4	13	10	7	sw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10								0.67	−0.23	0.33	0.5	6	16	6	8	w.	G. N. Pilgard.
Timmer	Morton		2								0.32		0.18	0	3					Geo. M. Sinclair.
Towner	McHenry	1,482	37	58.6	+2.4	96	18	16	25	59	0.55	−1.21	0.20	0.5	5	10	17	3	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	59.6	+3.3	95	18	17	25	53	0.21	−1.17	0.15	0	2	19	8	3	n.	Albert H. Slettum.
Tuttle	Kidder	1,936	31								0.53	−0.93	0.23	T.	4	13	10	7	nw.	Adam Leno.
Velva	McHenry	1,511	12	59.1	+2.0	93	18	21	25	53	0.64	−0.40	0.18	0.5	7	11	12	7	sw.	Oscar Anderson.
Washburn	McLean	1,731	38	61.7	+3.2	93	18	21	25	51	0.28	−1.06	0.12	0	4	16	6	8	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33																	D. A. Findlay.
Willow City	Bottineau	1,471	47	56.8	+2.6	94	18	15	25	59	0.39	−1.34	0.24	T.	3	15	14	1	nw.	O. M. Sanderson.
Wilton	McLean	2,159	3	57.3		92	11†	20	26	59	0.33		0.13	0	6	13	7	10	nw.	J. S. McGogy.
Wishek	McIntosh	2,010	18	56.6	+1.0	94	10	18	28†	52	0.76	−0.43	0.27	0	6	18	4	8	sw.	H. M. Larson.
Zap	Mercer	1,838	24								0.10	−1.52	0.10	0	1	17	7	6	w.	Fred Buechler.
Average for Middle Division				58.7	+2.6	98	5	11	25	59	0.47	−0.95	1.25	0.2	4	14	9	7	nw.	

Continued on page 36

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for September 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red			T.				.29		.06				T.		.16								T.			.05	.01	.10				0.67
Cooperstown[2]	Sheyenne							.60						.28		.89											T.	.08	.03				1.88
Courtenay[2]	James							.71					.10		T.	.45											.04		.08				1.38
Devils Lake[1]	Devils Lake					T.	.06	.09		T.			.03	T.	T.	.07							T.		.01		.05	.13	.04	.01	.01		0.50
Edgeley	James							.13		.05					.08	.12											.01						0.39
Edmore	Devils Lake							.28					T.			.08											T.	.27	.08				0.71
Ellendale	James	.06						.09		.19						.33													.02				0.69
Fargo[1]	Red			T.		T.		.26		T.			T.	T.	T.	.21							T.		.01		.05	.01	.07				0.61
Forman	Sheyenne	.06						.28	T	.27						.67												.10					1.38
Fullerton	James		T.	T.				.14	.06	.05		.10				.34											T.		T.				0.69
Grafton	Red							.47		.02				.68		.37									.02		.05	.23	.21				2.05
Grand Forks[1]	do							1.06					.09	.02	.09	.63									.01		.13	.23	.05		.01		2.32
Hankinson[2]	do	.10	.19					.26	.35	.06	.01				.01	.25																	1.23
Hannah	Pembina							.36								.06							T.					.35	.10				0.87
Hillsboro	Red																																....
Jamestown	James	.13						.48						.09		.25														.06			1.01
Langdon[2]	Pembina					.05		.14								.25									.03		.05	.24	.23				0.99
Larimore	Red							.60						.02		.45											.03	.09	.04				1.23
Lisbon	Sheyenne	.12			.01			.02	.22		.05					.09	.15							.01				.06		.04			0.77
McHenry	James							.24		.01						.25									T.		.02	.12	.04				0.68
McLeod	Sheyenne	.32						.22		T.						.39												.03					0.96
Mayville	Red								1.70					.43	.56	.11							T.		.04		.06	.01	.17				3.08
Oakes	James	.05			T.			T.	.12	.14	.05		.03			.05	.19											.02		.04			0.69
Park River	Red							.41		T.				.71		.31											.07	.21	.18				1.89
Pembina	do					.02		.35		.12			.01	.01		.24							.05		.03		.06	.26	.13				1.28
Petersburg	do							.43								.34									.03		.01	.13					0.94
Sharon	do		T.					.58		T.				.05	.02	.21							T.		.01		.06	.15	.03				1.11
Valley City	Sheyenne						.12	.20						T.	.65	.05									T.		.02	.03	.05				1.12
Wahpeton	Red	.28		.01				.29	.01	.15						.28										T.		T.	.01				1.03
Moorhead, Minn[1]	do	T.		T.		T.		.24		.01				T.	T.	.24							T.		.01		.03	.01	.05				0.59
Middle Division																																	
Ashley[2]	Missouri	.04	.05					T.	.04	.12					.30	.07																	0.62
Bisbee	Devils Lake							.26					T.												T.		.04	.18	.10				0.58
Bismarck[1]	Missouri						T.	.02		.05			T.	T.	.09	.05							T.				T	T.	.03				0.24
Bottineau	Mouse	T.					T.	.35							T.	T.	.02									T.		.05	.12	.04			0.58
Carrington[2]	James							.17	.03						.02	.20																	0.42
Carson	Heart															.22																	0.22
Center	Missouri																																0.00
Dogden Butte	Mouse							.11						T.		.03											.05	.05	.12	T			0.36
Drake[2]	do							.09	.05		.08				T.													.05	.15	.03			0.45
Dunseith	do							.38		T.			T.			T.							T.		T.		.01	.07	.07	T			0.53
Eckman	do					.01	.01	.31		.03		.01	T.	.01	.14	.05									.01		.07	.02	.06	.02			0.75
Energy	Missouri																										T.	T.					T.
Fessenden[2]	James							.08	.05						.01	.04												.01	.11				0.30
Fort Yates	Missouri														.05	.13													.06				0.24
Foxholm (near)	Mouse					T		.39		T.				.01	.01	.05									T.		.01	.03	.11	.03			0.64
Gackle	James		.05					.31		T.				.03	.04	.08							T.				T.	T.					0.51
Garrison	Missouri							.11						T.													.02	.03	.07	T.			0.23
Granville	Mouse						T.	.24						T.	.03												T.	.07	.17	.05			0.56
Hansboro	Devils Lake							.25								.06							T.					.35	.10				0.76
Linton	Missouri	1.25						.10		T.				T.		.15													.10				1.60
McClusky	do							.22															T.			T.	.12						0.34
Maddock	Sheyenne							.07		.02						.05											.04	.06	.04	.01			0.29
Mandan[2]	Missouri						.03			.02			T.	T.	.10	T.							T.				T.	.02					0.17
Max[2]	do						.08	.10																					.18				0.36
Minot	Mouse					T.	.10	.21				T.	T.	T.	T.	.08											.02	.04	.11	.05			0.61
Mohall	do					T	.03	.63		T.				.02	.02												.05	.03	.08				0.86
Napoleon[2]	Missouri	.70							.31		.10				.03	.06												.01	.06				1.27
New Salem	Heart							.13		.03			T.			.02							T						.02				0.20
Pettibone	James							.18								.24																	0.42
Rolla	Devils Lake							.38		T.					T.												T.	.18	.11				0.67
Rugby (near)	Mouse					T.		.30		.04			T.														.02	.05	.10	.03			0.54
Ryder[2]	Missouri																																0.35
Selfridge	do							T.						T.	.45													.10					0.55
Steele	do	.05						.20		.02				T.		.11								T.			T.		T.				0.38
Tagus	Mouse					.09	T.	.33		T.				T.	T.	T.									T.		.02	.06	.15	.02			0.67
Towner	do							.20		T						T.									T.		.02	.09	.20	.04			0.55
Turtle Lake	Missouri							.15		T.				T.	T.	T.											T.	T.	.06				0.21
Tuttle	do							.23		.04						.10											T.	T.	.16				0.53
Velva	Mouse							.18		.06						.02											.04	.13	.15	.06			0.64
Washburn[2]	Missouri							.10		.04						.02											T.	T.	.12				0.28
Westhope	Mouse																																....
Willow City	do						T.	.24	T.	T.						T.									T.		T.	.04	.11	T.			0.39
Wishek[2]	Missouri	.17					T.		.05			.05		.17	.27												T.	.05					0.76
Zap	Knife							.10																			T.	T.					0.10
Western Division																																	
Alpha	Lit. Missouri							.06				.01																	T.	T.			0.07
Amidon	do			.01				.02																.02					.03				0.08
Beach	do							.12		.07		T.				.02							T.				T.		.01				0.22
Berthold Agency	Missouri					T.		.05																									0.05
Bowman[2]	Grand		.09				T.																			T.		.07	T.				0.16
Crosby	Mouse	T.	.12					.10						T.	.02														.12	.07			0.43
Dickinson[2]	Heart	T.				T.	T.	.04			.05				T.									.02				T.	T.	T.			0.11
Dunn Center	Knife							.10																					.15				0.25
Fairfield	Lit. Missouri	T.					T.		.07																				.13				0.20
Fryburg	Heart							.14		.08													.03						.01				0.26
Hettinger	Grand							.05																					T.	T.			0.05
Howard (near)	Missouri						.01	.03		.02				T.		.01										T.	T.		.13				0.20
Kenmare	Mouse	T.					.01	1.16							.12	.02												.03	.18	.04			1.56
Marmarth	Lit. Missouri					.02																						.05	T	T.			0.07
Mary	do							.24		.02				T																			0.26
Medora	do						.01	.08		.04													.05				T.	T.	.02				0.20
Mott	Cannon Ball							.06							T.														T				0.06
New England[2]	do																																0.00
Parshall	Missouri	.03			T.		T.	.08							T													T.	.09	.03			0.23
Portal[2]	Mouse		.05					.25							.11													.05	.05				0.51
Powers Lake	Missouri						1.10																						.16	.28			1.54
Richardton	Heart					.02		.07		.02				T.									.01				T.		.01				0.13
Sanish[2]	Missouri						T.	.37																				T.	.07				0.44
Stanley	do							.60						.05	T.													.05	.15	.09			0.94
Tioga	do						.10	.86						.09	T.													.10	.18				1.33
Trotters	Lit. Missouri							.38		.06				T	T.	.03							T.					.08					0.55
Watford City	Missouri					T.		.58						.09	.10														T				0.77
Wildrose	do						.07	.21		.05				.08	.02	.07											.04	T	.12	.07			0.73
Williston[1]	do						.57	.13		T.				.08	.09	.02											.01	.08	.01				0.99

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for September 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	88	91	84	85	90	89	57	63	63	88	91	92	84	92	75	79	84	92	78	78	89	84	67	78	64	47	74	40	47	70	....	76.8
	Minimum	58	61	60	59	45	49	40	33	38	30	32	54	55	56	55	42	39	49	40	28	35	44	31	33	26	22	28	28	20	23	....	40.4
Beach	Maximum	93	86	76	89	91	85	65	75	67	85	91	87	64	64	72	78	87	88	72	85	87	76	73	66	44	63	74	59	47	71	....	75.5
	Minimum	50	62	50	46	58	54	46	41	44	36	50	50	48	53	49	43	47	45	47	42	41	49	36	37	27	28	38	31	25	30	....	43.4
Bismarck	Maximum	89	81	78	85	88	88	64	64	65	76	91	85	73	88	74	79	85	93	73	81	85	72	67	70	48	58	65	45	49	75	....	74.5
	Minimum	59	63	56	46	62	59	51	39	43	35	54	62	58	62	56	50	42	54	46	34	44	44	32	39	26	29	36	32	30	30	....	45.8
Bottineau	Maximum	85	85	76	75	91	74	65	72	66	75	90	88	67	81	74	77	86	92	69	82	85	56	69	59	53	50	53	47	73	68	....	72.8
	Minimum	55	60	50	41	49	56	48	41	43	34	44	53	56	55	58	44	53	52	55	31	47	53	29	36	16	23	32	29	25	22	....	43.0
Carson	Maximum	87	84	78	90	98	88	79	66	68	80	95	94	75	90	73	83	87	92	78	86	90	80	70	75	60	62	79	60	53	74	....	79.1
	Minimum	54	63	50	45	59	58	47	41	41	37	55	63	54	58	51	44	50	46	48	40	43	54	30	41	26	24	36	31	21	24	....	44.7
Crosby §	Maximum	89	84	74	90	91	65	69	77	64	82	93	76	62	64	75	81	89	89	68	83	88	54	73	50	59	63	51	46	49	75	....	72.4
	Minimum	45	47	55	41	49	51	46	41	38	32	48	51	52	50	53	50	51	48	43	38	41	43	32	35	25	29	33	28	23	26	....	41.5
Devils Lake	Maximum	83	86	79	77	75	80	65	67	67	73	90	80	67	86	74	79	85	93	71	78	84	56	67	68	52	48	50	36	45	73	....	71.1
	Minimum	59	60	53	43	59	56	47	41	44	33	50	51	59	59	51	41	44	53	45	37	46	35	30	33	20	30	35	30	26	31	....	43.4
Dickinson §	Maximum	90	87	80	90	93	89	64	77	68	87	95	94	69	74	74	80	90	91	74	81	88	73	74	69	50	62	72	35	50	74	....	76.5
	Minimum	49	52	50	42	47	51	49	38	45	32	46	50	52	54	51	43	45	37	43	39	35	37	29	30	32	25	32	32	23	23	....	40.4
Dunn Center §	Maximum	87	78	79	89	84	70	61	65	62	86	83	86	58	70	71	83	88	81	67	83	88	62	68	60	46	58	53	32	46	74	....	70.6
	Minimum	41	50	45	35	41	47	42	30	37	25	37	38	42	47	47	39	32	33	38	26	33	36	22	25	19	21	27	26	15	17	....	33.8
Fessenden §	Maximum	87	88	80	86	79	86	65	71	68	77	96	85	73	90	72	82	88	97	73	80	88	64	70	71	54	50	53	39	55	74	....	74.7
	Minimum	59	56	54	40	42	55	46	33	42	29	46	47	57	57	59	41	40	58	49	32	40	51	28	30	18	20	30	30	24	28	....	41.4
Fullerton	Maximum	90	93	85	82	90	90	75	65	71	73	87	91	86	92	80	81	82	90	78	74	85	81	63	81	47	42	67	58	65	69	....	77.1
	Minimum	63	62	63	47	59	59	52	37	48	35	51	58	62	63	33	48	42	45	49	34	42	53	32	36	25	21	35	30	21	23	....	44.3
Garrison §	Maximum	86	85	78	88	87	79	65	70	67	80	96	86	67	72	74	80	88	92	72	84	83	68	70	69	52	61	53	43	49	75	....	74.0
	Minimum	49	58	53	42	57	53	37	37	46	32	49	53	55	57	56	47	45	47	48	33	43	50	28	44	20	29	31	31	21	29	....	42.7
Grafton	Maximum	82	93	89	79	76	79	75	66	67	69	87	86	75	83	82	77	81	88	87	77	77	77	67	70	52	50	49	44	45	76	....	73.5
	Minimum	56	55	56	49	55	54	52	39	46	37	47	58	61	59	62	45	45	52	54	37	50	50	30	44	25	26	37	30	30	27	....	45.6
Grand Forks	Maximum	85	96	85	71	77	82	63	65	70	68	87	79	73	83	70	73	81	89	72	75	78	62	65	76	53	47	52	40	46	69	....	71.1
	Minimum	63	59	54	45	57	54	46	42	45	38	50	58	62	61	52	45	49	53	42	37	45	36	27	33	24	28	38	29	29	29	....	44.3
Jamestown §	Maximum	87	93	85	87	88	90	62	64	66	75	93	78	69	88	76	82	87	94	76	79	86	70	69	76	50	46	58	39	48	73	....	74.5
	Minimum	57	60	51	46	49	59	50	38	43	33	36	50	58	61	62	48	43	45	47	33	35	48	32	33	23	24	30	33	23	28	....	42.4
Kenmare	Maximum	80	84	85	76	85	91	69	65	70	65	78	93	80	89	62	73	79	85	68	70	83	88	55	69	58	53	61	44	46	49	....	72.4
	Minimum	49	54	56	43	48	52	47	43	46	39	54	56	53	54	55	49	47	56	45	40	49	51	39	43	24	32	34	29	23	28	....	44.6
Langdon §	Maximum	83	89	82	75	74	75	68	68	70	70	85	84	72	70	71	89	84	93	84	78	85	72	67	70	54	48	45	37	46	70	....	71.9
	Minimum	52	56	48	40	52	51	46	38	44	30	47	55	55	57	58	40	46	53	46	35	35	45	26	39	17	26	32	26	25	24	....	41.5
Marmarth	Maximum	90	82	76	90	85	68	75	80	85	87	91	85	76	80	75	80	83	88	74	84	85	84	80	70	43	70	75	50	45	71	....	76.9
	Minimum	53	50	43	52	50	36	38	31	43	50	50	48	50	50	35	37	35	40	34	34	40	39	42	34	32	35	35	25	27	25	....	39.8
Minot	Maximum	85	87	83	87	91	80	66	73	67	80	96	86	82	70	75	80	89	93	85	85	89	81	71	68	56	62	58	46	50	71	....	76.4
	Minimum	50	58	50	39	63	52	49	39	48	31	46	53	54	54	52	42	39	52	49	30	39	52	30	44	18	31	29	30	22	32	....	42.6
Mott	Maximum	92	87	80	91	94	92	82	69	67	87	94	95	80	85	78	81	87	92	83	87	89	81	70	73	46	63	80	64	50	75	....	79.8
	Minimum	50	51	49	43	55	56	48	39	42	31	42	60	54	55	48	40	45	40	44	37	40	45	30	32	34	27	35	29	21	21	....	41.4
Pembina	Maximum	77	90	78	66	73	73	66	65	66	58	83	77	76	84	83	77	77	88	78	76	75	65	66	67	50	50	48	40	46	70	....	69.6
	Minimum	57	54	54	58	55	52	55	42	47	36	49	59	65	59	61	46	63	50	50	35	44	41	32	39	23	26	38	30	28	26	....	45.8
Sharon	Maximum	86	96	84	75	82	83	68	62	65	71	89	78	73	84	72	78	83	88	74	77	85	65	65	75	49	45	55	42	43	72	....	72.1
	Minimum	60	57	57	44	55	58	50	39	46	34	47	55	61	59	58	42	51	57	53	36	45	45	30	42	18	23	33	30	24	25	....	44.5
Steele	Maximum	89	95	81	88	91	94	81	64	65	76	95	88	81	90	77	80	88	92	84	82	87	88	63	83	52	54	64	50	49	75	....	78.1
	Minimum	57	58	54	42	43	42	46	35	35	29	45	56	56	58	58	42	39	53	41	30	40	38	25	42	15	20	28	28	16	20	....	39.7
Valley City	Maximum	87	92	90	82	83	85	84	60	66	73	87	84	73	83	83	72	81	86	84	71	80	77	61	71	54	46	54	54	46	69	....	73.8
	Minimum	63	60	56	61	61	59	53	37	43	32	53	57	60	63	64	48	46	48	48	32	40	40	31	31	25	28	34	33	22	22	....	45.0
Wahpeton	Maximum	89	92	90	79	79	89	87	63	74	70	79	83	89	96	94	79	83	88	87	73	85	81	68	80	57	50	65	62	50	65	....	77.5
	Minimum	65	67	63	56	59	55	54	37	52	37	56	57	68	68	66	57	46	54	54	33	40	50	32	37	26	23	36	36	19	23	....	47.5
Williston	Maximum	88	86	76	89	91	69	64	75	65	82	94	80	61	64	73	77	87	88	69	83	86	64	73	62	51	63	61	45	51	74	....	73.0
	Minimum	51	61	56	50	61	50	48	47	46	43	52	52	54	56	54	49	54	48	47	43	46	46	38	38	25	36	36	31	23	34	....	45.8
Moorhead, Minn.	Maximum	91	94	85	77	80	89	71	65	68	70	82	82	82	95	75	77	81	89	74	73	82	72	70	79	51	47	58	45	45	66	....	73.8
	Minimum	67	67	61	49	61	58	50	40	51	40	57	57	66	70	58	47	49	54	53	41	44	50	34	40	29	24	39	34	26	28	....	48.1

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for September 1939—Continued from page 34.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	12	......	......	....	....	....	....	......	0.07	−1.20	0.06	0	2	15	9	6	w.	H. A. Bury.
Amidon	Slope	......	16	61.8	+4.7	95	1	23	29	47	0.08	−1.42	0.03	T.	4	16	9	5	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	59.4	+3.0	93	1	25	29	49	0.22	−1.07	0.12	T.	4	12	13	5	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	59.1	+2.2	95	11	20	25†	55	0.05	−1.54	0.05	0	1	20	9	1	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	55.4	+1.0	98	17	18	24	53	0.67	−0.92	0.53	0.1	5	11	5	14	w.	Charles Kaufman.
Bowman	Bowman	2,872	24	59.2	+2.4	95	1	22	28	45	0.16	−1.12	0.09	T.	2	23	3	4	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	57.0	+2.9	93	11	23	29	50	0.43	−0.96	0.12	T	5	15	6	9	w.	J. H. Phelps.
Dickinson	Stark	2,543	46	58.4	+2.4	95	11	23	29†	55	0.11	−1.21	0.05	0	3	17	8	5	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	......	......	89	4	15	29	61	0.25	−1.19	0.15	1.0	2	19	3	8	nw.	O. T. Evenson.
Epping	Williams	2,224	28	58.6	+3.2	91	11†	17	25†	45	0.89	−0.50	0.57	T.	6	17	6	7	nw.	T. Beachler.
Fairfield	Billings	......	2	......	......	....	....	....	....	......	0.20	....	0.13	T.	2	16	10	4	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	20	60.6	......	96	1	24	29	53	0.26	−1.11	0.14	0	4	17	9	4	w.	Verne King.
Hettinger	Adams	2,675	31	62.5	+4.9	98	1†	24	29	53	0.05	−1.35	0.05	0	1	13	13	4	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	59.4	+5.1	93	11	17	29	46	0.20	−1.18	0.13	T.	5	20	1	9	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	58.5	......	93	12	23	29	43	1.56	−0.05	1.16	0.5	7	12	8	10	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	29	58.4	+1.9	91	11	25	28†	50	0.07	−1.22	0.05	T.	2	13	6	11	nw.	S. P. Grane.
Mary	McKenzie	......	10	......	......	....	....	....	....	......	0.26	−0.51	0.24	0	2	16	8	6	nw.	Fred Hartman.
Medora	Billings	2,271	23	......	......	....	....	....	....	......	0.20	−0.95	0.08	T.	5	18	9	3	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	60.6	+4.0	95	12	21	29†	56	0.06	−1.35	0.06	0	1	21	8	1	nw.	W. M. Hendricks.
New England	Hettinger	2,400	44	59.0	+2.6	98	11	25	28	49	0.00	−1.38	0.00	0	0	11	14	5	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	55.2	......	95	11	15	25	57	0.23	−1.31	0.09	0.5	4	13	12	5	se.	C. E. Shubert.
Portal	Burke	1,954	33	56.4	+2.0	94	11	17	25	50	0.51	−1.08	0.25	0.5	5	19	2	9	w.	R. G. Wegener.
Powers Lake	Burke	2,205	33	60.4	+5.4	94	18	26	28	45	1.54	+0.03	1.10	2.0	3	19	9	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	22	60.8	+4.0	92	12	26	26†	48	0.13	−1.23	0.07	0	5	14	11	5	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	59.0	+2.4	98	5	15	29	57	0.44	−0.36	0.37	0	2	16	8	6	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	56.3	......	93	5	17	29	49	0.94	....	0.60	1.0	5	11	12	7	nw.	Leroy Edwards.
Tioga	Williams	2,279	10	......	......	....	....	....	....	......	1.33	+0.52	0.86	0	5	......	......	......	......	B. V. Olson.
Trotters	Golden Valley	......	13	......	......	....	....	....	....	......	0.55	−0.70	0.38	0	4	17	3	10	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	60.4	+4.1	96	5	21	29	46	0.77	−0.55	0.58	0	3	19	6	5	w.	J. C. Zeller.
Wildrose	Williams	2,258	11	......	......	....	....	....	....	......	0.73	....	0.21	T.	9	19	4	7	nw.	L. Holter.
Williston	Williams	1,878	59	59.4	+2.8	94	11	23	29	42	0.99	−0.10	0.70	0.1	8	18	7	5	sw.	U. S. Weather Bureau.
Average for Western Division		......	.....	59.0	+3.0	98	1†	15	25†	61	0.45	−0.80	1.16	0.2	4	16	8	6	nw.	....
Average for the State		......	.....	58.9	+2.1	98	1†	11	25	66	0.68	−0.83	1.70	0.2	5	15	8	7	nw.	....

[WBO, Minneapolis, 10-23-39—1400]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

Vol. XLVIII Bismarck, N. D., October 1939 No. 10

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GENERAL SUMMARY

The month averaged deficient in both temperature and precipitation as compared with the 48 year average. This October was the coolest since 1930. The 1st and 2nd and the period from the 18th to 24th averaged well above normal, except for these periods the rest of the month was cool. The highest temperatures occurred on the 1st and 19th, while most of the minima occurred on the 28th with some on the 16th. The noteworthy departure of this month's weather was sunshine, which was 13% below the normal, with only 4 other years having as few clear days.

This is the second month with precipitation averaging below normal, with only 57% of the normal amount in September and October. The east averaged 94% of normal while the middle only 67% and the west 54% for October. There were general showers on the 3rd, 4th, and 5th, but for the remainder of the month, precipitation was very light and scattered. The snowfall occurred from the 26th to the 29th and was mostly light. The heaviest reported was from Gackle with 5.5 inches. The snow melted rapidly and was gone at most stations in 48 hours.

October was an excellent month for outdoor work, but the ground was too dry and less fall plowing was done than usual. The weather was favorable for corn husking and most of the fall farm work was completed. M.S.C.

TEMPERATURE

The mean temperature for the state was 41.3°, or 2.5° below the 1892-1939 average for October. The mean for the eastern division was 41.5°; for the middle division, 41.2°, and for the western division, 41.3°. The highest mean temperature was 45.0° at Linton, and the lowest, 36.1° at Hannah, making a range in mean temperature of 8.9°. The absolute range in temperature was 90°, from 84° at Oakes on the 1st, to -6° at Parshall on the 28th. The average daily excess in temperature for the State since January 1, 1939, is 0.7°.

PRECIPITATION

The average precipitation for the state was 0.75 inch, or 0.26 inch less than the 1892-1939 average for October. In the eastern division the average amount was 1.17 inches; in the middle division, 0.64 inch; and in the western division, 0.44 inch. The greatest monthly amount reported was 2.36 inches at Casselton; the least was trace at Berthold Agency. The greatest amount recorded in any 24 consecutive hours was 0.98 inch at Hettinger on the 4th. The accumulated deficiency in precipitation since January 1, 1939, is 1.94 inches. The average snowfall was 1.2 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	2	..	6	6	..	2	2	..	1	1	9	22	18	7	7	4	10	..	1	..	..	..	1	1	..	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	2	1	..	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	3	14	14	15	4	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	8	8	1	1	..	1	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..
Solar halos	1	2	..	1	..	..	..	..	1	..	1	..	..	..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Sleet	..	..	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..	1	..	..	..	..	1	..	12	3	..	1	1	..	..
Thund'rst'ms	..	7	1	5	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

ERRATA

September 1939, p. 33— Devils Lake, average hourly wind velocity should be 9.2; p. 34, mean temperature and departure should be 57.4 and +1.5; p. 36, maximum temperature on the 22d should be 62 and mean maximum 71.3, minimum temperature on the 12th should be 57 and mean minimum 43.6.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level): Mean	Highest	Date	Lowest	Date	Wind (true velocities): Average hourly velocity	Maximum velocity	Direction	Date	Relative humidity: 6:30 a. m.	12:30 p. m.	6:30 p. m.	Percentage of sunshine
Bismarck	29.98	30.59	16	29.53	2	8.8	32	nw.	11	78	53	54	44
Devils Lake	29.95	30.57	16	29.51	15	10.0	33	nw.	15	83	64	66	40
Williston	29.98	30.55	16	29.54	24	8.9	32	nw.	10	77	54	55	51
Fargo	29.94	30.55	16	29.48	5	.....	.....	.....	....	77	58	66	....
Moorhead, Minn	......	......	....	......	....	9.3	26	nw.	11	....	....	....	35

† And other dates.

COMPARATIVE DATA FOR OCTOBER

Year	Temperature: Mean	Highest	Lowest	Precipitation Averages: Eastern division	Middle division	Western division	State	Snowfall	Number of days: Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	47.2	95	7	0.25	1.20	0.30	0.58	T.	3	15	8	8
1893	40.6	79	0	1.17	1.08	0.89	1.05	0.9	5	11	11	9
1894	43.0	77	16	2.28	1.76	0.94	1.66	0.0	6	14	8	9
1895	40.5	85	−12	0.31	0.15	0.27	0.24	0.0	2	16	8	7
1896	40.2	88	5	1.25	0.43	0.40	0.69	0.0	3	14	8	9
1897	45.9	93	6	1.01	0.75	0.56	0.77	0.8	4	13	9	9
1898	38.8	84	8	2.60	2.42	1.67	2.23	4.7	6	8	8	15
1899	42.1	86	7	1.16	1.21	1.15	1.17	1.3	5	11	8	12
1900	48.2	87	14	2.34	1.30	0.98	1.54	T.	6	15	4	12
1901	47.5	88	11	2.96	1.22	0.65	1.61	T	5	17	7	7
1902	43.7	87	10	1.70	1.20	0.95	1.28	0.7	4	16	6	9
1903	47.0	81	11	1.42	0.80	0.60	0.94	0.2	3	19	5	7
1904	46.6	87	10	1.55	0.60	0.46	0.90	T.	5	12	7	12
1905	40.3	93	0	0.59	0.22	0.28	0.36	1.2	5	8	12	11
1906	45.0	89	0	0.75	0.45	0.27	0.49	1.4	4	14	9	8
1907	44.4	88	4	1.02	0.66	0.16	0.61	0.2	3	21	5	5
1908	43.0	86	8	1.46	1.36	2.07	1.63	0.7	6	11	7	13
1909	43.1	97	0	0.88	0.63	0.45	0.65	0.9	3	14	8	9
1910	48.2	95	0	0.49	0.66	0.38	0.51	0.1	3	16	8	7
1911	42.5	86	−10	1.25	1.27	1.20	1.24	0.5	6	11	8	12
1912	44.4	90	0	0.68	1.09	1.44	1.07	3.5	4	16	6	9
1913	39.3	90	− 2	2.40	1.34	1.03	1.59	0.7	4	12	9	10
1914	50.0	97	0	1.20	0.93	0.65	0.93	T.	4	16	8	7
1915	46.6	87	10	1.22	0.91	1.14	1.09	0.2	4	17	8	6
1916	40.0	85	− 2	0.49	0.88	0.73	0.70	2.0	4	12	8	11
1917	34.7	82	− 4	0.87	0.76	0.71	0.78	6.4	5	8	11	12
1918	46.2	90	4	0.80	0.45	0.35	0.53	0.8	4	14	8	9
1919	33.5	84	−18	0.93	1.14	1.35	1.14	9.3	6	11	9	11
1920	49.3	95	6	0.53	0.28	0.83	0.55	0.1	3	16	8	7
1921	47.3	88	16	0.80	1.09	0.10	0.66	T.	4	16	8	7
1922	45.7	98	8	0.37	0.65	0.73	0.58	2.3	3	15	7	9
1923	44.0	84	− 8	0.56	1.02	1.08	0.89	0.5	4	14	7	10
1924	50.3	86	19	2.31	2.14	2.82	2.42	0.3	7	17	5	9
1925	33.3	66	−16	0.83	0.64	0.96	0.81	3.7	6	8	9	14
1926	42.6	85	4	2.54	0.86	0.68	1.36	1.0	6	10	10	11
1927	47.0	88	12	1.53	1.49	0.96	1.33	1.0	5	14	8	9
1928	43.5	85	3	0.69	0.18	0.51	0.46	0.6	2	15	8	8
1929	46.8	88	10	2.87	1.63	1.05	1.85	5.1	6	17	5	9
1930	40.8	86	0	2.04	1.90	1.48	1.81	0.3	7	10	9	12
1931	47.7	90	10	2.63	0.93	0.60	1.39	0.2	6	15	6	10
1932	38.3	90	− 3	2.33	2.41	2.06	2.27	9.1	8	9	7	15
1933	41.5	88	5	0.39	0.48	0.74	0.54	1.7	4	14	8	9
1934	49.0	94	5	2.11	0.83	0.08	1.01	0.1	3	14	8	9
1935	43.5	86	−10	0.29	0.08	0.12	0.16	0.7	2	15	9	7
1936	42.3	90	− 5	0.23	0.16	0.24	0.21	1.1	3	14	9	8
1937	43.9	94	1	0.40	0.92	1.08	0.80	0.2	4	12	9	10
1938	50.9	95	4	0.27	0.44	0.95	0.55	1.1	4	16	7	8
1939	41.3	84	− 6	1.17	0.64	0.44	0.75	1.2	7	8	10	13
Period	43.8	98	−18	1.25	0.95	0.82	1.01	1.4	4	14	8	9

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Climatological Data for October 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	43	43.8	−0.8	80	1	14	28	48	2.36	+0.89	0.80	2.0	8	13	6	12	nw.	James. H. Erickson.
Cavalier	Pembina	894	29	39.6	......	72	19	16	16†	38	0.49	−0.92	0.35	0.2	4	7	9	15	n.	City Light &Power Co.
Cooperstown	Griggs	1,428	42	41.3	−2.1	72	19†	7	28	42	1.25	+0.13	0.53	1.5	5	13	6	12	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9	......	......	......	......	......	......	......	1.35	......	0.39	5.0	6	10	5	16	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	39.2	−3.2	71	19	11	28	43	0.68	−0.57	0.43	1.3	8	4	7	20	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	43.4	−1.9	74	1†	0	28	41	1.03	−0.06	0.30	0.4	9	6	19	6	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	15	38.6	−3.6	71	19	13	27†	52	0.68	−0.37	0.52	1.0	5	13	4	14	nw.	Mike Davis.
Ellendale	Dickey	1,457	44	44.0	−1.6	82	1	9	28	48	2.02	+0.91	0.67	1.6	9	9	12	10	nw.	J. E. Demmer.
Fargo	Cass	895	3	42.5	−2.0	80	1	16	28	43	1.31	−0.58	0.36	1.0	9	......	......	......	......	W. B. Aerological Sta.
Forman	Sargent	1,249	46	43.2	−2.9	80	1	7	28	48	1.42	−0.03	0.55	1.7	6	11	8	12	nw.	Helge Dyste.
Fullerton	Dickey	1,439	41	44.4	−0.4	81	1	8	28	46	1.84	+0.41	0.45	3.1	10	9	7	15	nw.	F. O. Alin.
Grafton	Walsh	827	47	42.4	+0.3	72	19	17	17	48	0.74	−0.48	0.43	T.	5	1	13	17	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	48	40.2	−3.4	70	19	19	28	44	1.73	+0.33	0.88	2.3	8	1	9	21	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	43.3	−3.1	83	1	11	30	46	1.38	+0.43	0.57	0.2	9	10	15	6	w.	Joseph Rindt.
Hannah	Cavalier	1,568	47	36.1	−4.5	69	19	11	28	48	0.18	−0.96	0.12	0.2	3	7	9	15	nw.	Charles McAdams
Hillsboro	Traill	901	39	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Lyle George.
Jamestown	Stutsman	1,457	47	41.6	−2.9	74	1†	2	28	47	1.18	−0.10	0.42	4.2	5	6	8	17	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	38.3	−2.6	70	19	8	28	42	0.43	−0.71	0.22	1.5	9	5	9	17	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	41.2	−2.7	73	19	13	28	46	1.17	−0.39	0.75	1.5	7	5	3	23	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	35	44.4	+0.6	76	1	8	28	48	1.75	+0.42	0.62	0.5	11	6	6	19	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	39.0	−3.9	71	19	5	28	50	1.00	+0.01	0.73	1.3	9	4	11	16	nw.	C. E. Blasky.
McLeod	Ransom	1,075	28	44.2	−2.0	82	1	9	29	44	1.61	+0.13	0.62	3.9	6	8	5	18	sw.	J. G. Carlson.
Mayville	Traill	975	43	40.8	−5.1	69	17	15	25	40	0.97	−0.37	0.65	1.8	6	3	19	9	ne.	H. B. Addicott.
Oakes	Dickey	1,318	10	43.6	−2.8	84	1	8	28	55	1.50	+0.24	0.42	1.5	8	9	6	16	nw.	F. H. Murray.
Park River	Walsh	998	35	40.2	−3.6	72	19	15	17	47	0.88	−0.40	0.64	0.2	7	7	1	23	nw.	E. J. Taintor.
Pembina	Pembina	789	65	41.2	−0.2	68	8	18	28†	41	0.65	−0.66	0.37	0.1	5	12	0	19	n.	Harry A Gordon.
Petersburg	Nelson	1,520	9	......	......	......	......	......	......	......	0.72	......	0.43	0.7	9	7	11	13	nw.	T. M. Rykken.
Sharon	Steele	1,516	15	40.2	−2.7	72	19	6	28	47	1.41	−0.65	0.77	2.5	8	1	9	21	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	42.6	−2.0	73	1	6	28	46	1.33	+0.15	0.46	2.5	9	13	5	13	nw.	I. C. Robertson.
Wahpeton	Richland	962	47	44.1	−2.5	82	1	13	28	44	1.40	−0.17	0.59	0.1	11	6	11	14	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	42.6	−1.9	79	1	13	28	40	1.43	−0.26	0.62	1.4	8	4	7	20	nw.	U. S. Weather Bureau.
Average for Eastern Division		......	......	41.5	−2.4	84	1	0	28	55	1.17	−0.08	0.88	1.5	7	7	8	16	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	43	41.4	−2.7	80	1	2	28	50	1.33	+0.17	0.58	1.0	6	11	10	10	se.	Henry Doerr.
Bisbee	Towner	1,601	3	38.8	......	71	19	6	28	50	0.10	......	0.08	T.	2	11	3	17	nw.	I. K. Lund.
Bismarck	Burleigh	1,670	65	43.0	−1.9	76	1	8	28	46	0.81	−0.13	0.68	0.7	6	2	19	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	38.8	−2.2	72	19	1	28	47	0.33	−0.75	0.17	T.	5	6	12	13	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	39.6	−4.2	71	2†	2	28	41	1.16	+0.18	0.92	0.5	6	6	0	25	......	Soo Line Agent.
Carson	Grant	2,500	27	44.1	+0.8	80	1	6	28	48	0.90	−0.07	0.42	0.5	6	3	15	13	nw.	J. W. Evens.
Center	Oliver	......	1	43.1	......	75	1	−1	16†	56	0.83	......	0.63	T.	2	9	14	8	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	41.2	−2.8	71	19	0	28	42	0.50	−0.63	0.28	1.5	4	9	7	15	nw.	R. L. Williams.
Drake	McHenry	1,634	10	40.1	......	72	19	3	28	38	0.45	......	0.25	0.4	5	9	8	14	nw.	Peter Anton.
Dunseith	Rolette	1,682	43	39.0	−2.4	70	19	4	28	48	0.17	−0.78	0.04	0.2	6	7	12	12	nw.	Geo. Gehres.
Eckman	Bottineau	1,500	34	39.8	−2.0	73	19	0	28	50	0.40	−0.53	0.15	2.0	8	5	17	9	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	43.4	−0.8	77	1	−1	28	51	0.12	−0.82	0.10	1.0	2	7	16	8	n.	H. S. Solenberger.
Fessenden	Wells	1,610	27	41.2	−1.8	77	2	4	28	36	0.72	−0.37	0.46	0.6	9	7	8	16	nw.	John V. Zuber.
Fort Yates	Sioux	1,670	39	44.8	−1.6	79	1	10	28	48	0.94	−0.18	0.65	2.0	3	14	8	9	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	41.0	−0.8	70	5†	2	28	43	0.52	−0.58	0.23	1.8	7	7	8	16	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	43.6	......	74	1	11	27	49	1.13	......	0.60	5.5	6	5	13	13	nw.	A. H. Haut.
Garrison	McLean	1,901	62	41.2	−1.5	72	1†	2	28	44†	0.44	−0.50	0.12	2.0	9	3	16	12	nw.	E. L. Vorachek.
Granville	McHenry	1,504	32	41.4	−1.9	74	19	−1	28	49	0.59	−0.34	0.14	1.0	7	10	10	11	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	38.6	−2.1	74	19	9	27†	51	0.08	−1.03	0.05	T.	2	9	8	14	nw.	W. E. Disher.
Linton	Emmons	1,711	22	45.0	+0.3	79	1	3	28	49	1.08	−0.03	0.50	2.0	5	17	5	9	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	21	40.6	+1.8	69	1†	1	28	43	0.62	−0.41	0.40	T.	4	8	2	21	nw.	F. W. Perry.
Maddock	Benson	1,604	24	41.6	−1.3	75	19	6	28	51	0.48	−0.61	0.32	0.6	6	7	7	17	nw.	A. T. Felland.
Mandan	Morton	1,750	25	43.0	−1.0	77	1	6	28	49	0.54	−0.45	0.48	0.2	4	11	8	12	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36	......	......	......	......	......	......	......	0.58	−0.55	0.46	0.5	5	8	9	14	nw.	P. B. Anderson.
Max	McLean	2,093	10	38.4	......	72	19	−4	27	48	0.32	......	0.15	1.5	4	6	9	16	nw.	A. W. Rice.
Minot	Ward	1,557	43	42.0	−1.3	72	5†	−2	28	49	0.46	−0.55	0.10	2.4	9	2	6	23	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	46	40.0	−1.7	72	5	0	28	50	0.38	−0.79	0.10	1.0	6	12	7	12	nw.	Iver Johnson.
Napoleon	Logan	1,955	47	43.4	−0.3	80	2	−3	28	44	1.59	+0.49	0.65	4.2	7	14	2	15	n.	C. J. Hoof.
New Salem	Morton	2,163	35	42.1	−2.7	78	1	0	28	55	0.81	−0.15	0.45	0.4	6	11	8	12	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	41.3	−0.5	73	2	−1	28	44	1.45	+0.52	0.50	1.7	5	5	14	12	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	38.1	......	69	19	7	28†	41	0.30	......	0.08	0.7	8	4	10	17	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	10	......	......	......	......	......	......	......	0.30	−0.64	0.11	1.8	6	6	9	16	nw.	W. B. Paterson.
Ryder	Ward	2,108	10	......	......	......	......	......	......	......	0.12	−0.49	0.10	1.0	2	18	6	7	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3	......	......	......	......	......	......	......	0.65	......	0.20	1.0	5	7	15	9	nw.	J. B. Smith.
Steele	Kidder	1,857	45	41.9	−1.9	83	2	−5	28	46	1.43	+0.26	0.52	1.0	7	11	6	14	nw.	R. S. Armstrong.
Tagus (near)	Ward	2,179	10	......	......	......	......	......	......	......	0.41	−0.13	0.20	1.2	8	10	10	11	nw.	G. N. Pilgard.
Timmer	Morton	......	2	......	......	......	......	......	......	......	0.82	......	0.51	2.0	4	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	37	41.2	−2.2	72	19	3	27†	23	0.59	−0.40	0.20	1.5	7	8	10	13	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	43.0	−0.3	73	1†	12	16†	44	0.49	−0.42	0.21	1.5	4	14	6	11	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	31	......	......	......	......	......	......	......	1.01	+0.25	0.34	2.2	6	13	9	9	nw.	Adam Leno.
Velva	McHenry	1,511	12	41.8	−2.1	73	19	0	28	45	0.39	−0.66	0.16	1.5	7	4	14	13	nw.	Oscar Anderson.
Washburn	McLean	1,731	38	43.4	−1.1	77	1	7	28	48	0.70	−0.35	0.39	0.5	5	10	4	17	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	39.2	−2.9	77	21	−4	29	44	0.18	−0.68	0.08	0.5	5	8	9	14	nw.	D. A. Findlay.
Willow City	Bottineau	1,471	47	39.1	−2.3	73	19	1	27†	57	0.18	−0.70	0.08	T.	3	6	17	8	nw.	O. M. Sanderson.
Wilton	McLean	2,159	3	42.4	......	73	1	0	28	49	0.40	......	0.36	0.2	3	10	8	13	nw.	Soo Line Agent.
Wishek	McIntosh	2,018	18	40.2	−3.7	77	1	−1	27	45	1.36	+0.58	0.73	2.5	7	8	8	15	nw.	H. M. Larson.
Zap	Mercer	1,838	24	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Fred Buechler.
Average for Middle Division		......	......	41.2	−2.0	83	2	−5	28	57	0.64	−0.31	0.92	1.2	5	9	9	13	nw.	......

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EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for October 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red		T.	.80	.20	.68				.28			T.										.03	.22			.12	.03	T.	T.			2.36
Cooperstown 2	Sheyenne			.32	.20	.53															.05					T.	T.	.15		T.			1.25
Courtenay 2	James			.25	.28	.39							.03													.32	.08						1.35
Devils Lake 1	Devils Lake		.01	T.	.22	.21	.08				T		.02	T.			T.				T.		.03		T.	T.	T.	T.	.10	.01	T.		0.68
Edgeley	James			.23	.30	.18				.14		.05		.07					.01								.04	.01					1.03
Edmore	Devils Lake			.03		.52	.04																.01			T.			T.	.08			0.68
Ellendale	James			.33	.31	.67				.44		.09	.05														.09	.03		.01			2.02
Fargo 1	Red		T.	.22	.36	.13				.26	T.		.01	T.							T.	T.	.17	.03		T.	.12	T	T.	.01	T.		1.31
Forman	Sheyenne	T.	.35	.20	.10				.55			T	T	.05										T.				.17	T.				1.42
Fullerton	James		T.	.45	.28	.30				.24		.20	.08	.04							T.						.17	.04		.04			1.84
Grafton	Red			.14		.43	.06					.02	T										.09			T.		T.	T.	T			0.74
Grand Forks 1	do	T		.37	.16	.88					T.	T.	.09								T.		.03		T.	T.	.03		.13	.04			1.73
Hankinson 2	do		.02			.57	.02			.45	.22		.05											.01				.02	.02				1.38
Hannah	Pembina		T.																	.04			.12			T.		T.		.02			0.18
Hillsboro	Red																																.....
Jamestown	James			.31	.36								.05											.04				.42					1.18
Langdon 2	Pembina	.02		.02		.22	.02				.01											.01	.04				.05			.04			0.43
Larimore	Red			.13	.02	.75							T.	.02									T.			.05		.15	.05	T.			1.17
Lisbon	Sheyenne		.04	.62	.25	.18				.12	.21			.05										.08	.01		.17	.02					1.75
McHenry	James			.08	.01	.73							.03											T.		.01	.02	.05	.06	.01			1.00
McLeod	Sheyenne		T.		.62	.11				.45		T.	T.								T.			.04				.35	.04				1.61
Mayville	Red		T.	.65	.05	.02		T.		T.									T	T.			T.	.04	.04	T.	T.	.17					0.97
Oakes	James		T.	.42	.36	.10				.36		.05	.07								T.						.09	.05					1.50
Park River	Red			.03	.03	.64	.05						.03	.06												T.		T.	.04	T.			0.88
Pembina	do			.06		.37	T.	.02				T.	.15																.05				0.65
Petersburg	do			.04		.43	.01						.01										.05		T.	.02		.04	.08	.04			0.72
Sharon	do			.29	.10	.77						T.	.02	T.									T.	T.		T.	.09	.04	.06	.04	T.		1.41
Valley City	Sheyenne			.46	.14	.19				.06			.02										.04	.14			.24	.04	T.	T.			1.33
Wahpeton	Red		.03	.04	.01	.39				.59		T.	.01	.03							T.	T.	T	.18			T.	.06	.02	.04			1.40
Moorhead, Minn 1	do		T.	.20	.37	.25				.28			T.	T.							T.	T.	.17	.05		T.	.10	T	T.	.01	T		1.43
Middle Division																																	
Ashley 2	Missouri			T.	.58	.34				.13		.03	.03															.22			T.		1.33
Bisbee	Devils Lake						.02				T.		T.	.08														T.	T.	T.			0.10
Bismarck 1	Missouri			.02	.53	.15	T						.02									T.	T.	T.		T.	.07	.02		T.			0.81
Bottineau	Mouse		.03	.10	T.			.17			.01		T.	.02	T.								T.	T.		T.		T.	T.	T.			0.33
Carrington 2	James				.11	.92								.05										.02		.02	T.	.04					1.16
Carson	Heart				.42	.06						.02	.07										.20				.13						0.90
Center	Missouri			T.	.63	.20																					T.	T.		T.			0.83
Dogden Butte	Mouse		T.		T.	.28	.04						.03										T.			T.	T.	.15		T.			0.50
Drake 2	do				.08	.25	.05						.03										T.	T.		T.	T.	.04	T.	T.	T.		0.45
Dunseith	do		.04	.04		.01		.04					.01	T.									.03	T.		T.		T.					0.17
Eckman	do		.06	.04				.15			.01		.05	.03												.01		.05	T.				0.40
Energy	Missouri			T	T.								T.													.02	.10						0.12
Fessenden 2	James			.04	.01	.46	.10						.03	.01											.01		.01	.05					0.72
Fort Yates	Missouri			.05	.65							T.	T														.24						0.94
Foxholm (near)	Mouse		.05	T.				.23			.01		.05	T.									T.	T.		.01	T.	.12	.05				0.52
Gackle	James			.60	.27								T.											.02	T.	.17	.04	.03					1.13
Garrison	Missouri		.01	.04	T.	.12	.03		.03				.05										T.			.06	.04	.06		T.			0.44
Granville	Mouse			.09	.03	.10	.09		.03					.11										T.		T.			.14				0.59
Hansboro	Devils Lake		.03										.05													T.				T			0.08
Linton	Missouri			.50	.20	.14							.04														.20	T.					1.08
McClusky	do				.11	.40							.07									T.	T		.04	T.	T.			T			0.62
Maddock	Sheyenne				T.	.32	.07	T					.02	T												T		.02	.04	.01			0.48
Mandan 2	Missouri		T.	.02	.48	T.							.02										T.	T.	T.	T.	.02	T.					0.54
Max 2	do			.05										.10									.02		T			.15	T.				0.32
Minot	Mouse		.10	.04	.08		.02	.03					.08									T.	T.	T.		.01		.08	.02	T.			0.46
Mohall	do		.07	.02			.09				T.		.06															.10	.04				0.38
Napoleon 2	Missouri				.65	.50								.05											.01		.01	.35			.02		1.59
New Salem	Heart			.03	.45	.24							.06													T.	.01	.02					0.81
Pettibone	James			.35	.45	.50							.06														T.		.09				1.45
Rolla	Devils Lake		.03	.01		.08		.05					.01	.05														.02		.05			0.30
Rugby (near)	Mouse				T.	.11	.02				T.		.05	.02												T.		.05	.05				0.30
Ryder 2	Missouri												.02														T	.10		T.			0.12
Selfridge	do	T.	.15	.05	.20							T	.10									T.				T.	.15	T.		T.			0.65
Steele	do		T.	.30	.42	.52		.02					.04													T.	.11	.02		T.			1.43
Tagus	Mouse		.01	.03				.20			T.		.04									T.	.01			.02	T.	.06	.04	T.			0.41
Towner	do		.05	.02	.02	.20					T.	T.	.15						T.				T	T.		T.		.10	.05	T.			0.59
Turtle Lake	Missouri				.19	.21							T										T.				.03	.06		T.			0.49
Tuttle	do		T.	.21	.34	.22							.04														.08	.12		T.			1.01
Velva	Mouse		T.	T.	.03	.12	.01	.02					.03													T.		.16	.02				0.39
Washburn 2	Missouri				.22	.39							.04													T.	.02	.03		T.			0.70
Westhope	Mouse		.03								T.		.04	.08												T		.02	.01				0.18
Willow City	do		.08										.08	.02												T.		T.					0.18
Wishek 2	Missouri		T.	.73	.31	.01			T.			.01	.05											T			.21			.04			1.36
Zap	Knife																																......
Western Division																																	
Alpha	Lit. Missouri							T.	.08				.08													.01	.14			T.			0.31
Amidon	do			.08	.05			.10					.08										.02			.09	.11	.04					0.57
Beach	do						T.	T					.03	T.												.05	.05	.03	T.				0.16
Berthold Agency	Missouri																										T.	T.					T.
Bowman 2	Grand		.13	T	.27		.04						.03													.20	T.		.01				0.68
Crosby	Mouse			.12			.02						.05													.01	.01	.02	.04				0.27
Dickinson 2	Heart				.07	T.	.02	.04					T.	.13									.02			.03	.05	.11		T.	T		0.47
Dunn Center	Knife			T.										.08									.06				.09	.05					0.28
Fairfield	Lit. Missouri											T.	.10								T			T.		.08							0.18
Fryburg	Heart											T.													T.	.16	.08	T	.01	T.			0.25
Hettinger	Grand			.04	.98	.11							.20													.02	.12	.02	T.				1.49
Howard (near)	Missouri				T.			T.						T.												.10							0.10
Kenmare	Mouse			.04				.05					.06										T.			.01		.08	.06				0.30
Marmarth	Lit. Missouri							.15						.03												.03	.07	T.	.07				0.35
Mary	do			.10				.13					.06										.06		.05		T.						0.40
Medora	do			T.			T.						.06									T.	.01		T	.06	.12	.01	.02	T.			0.28
Mott	Cannon Ball			.06	.69	.09		T	.01				.04										.05			T.	.06	T					1.00
New England 2	do				.31		.07						.07												.07		.01						0.53
Parshall	Missouri		.05	.08	.01		.03	.08					.02										T.			T.		.02		T.			0.29
Portal 2	Mouse			.69			.05						T.	T.													T.		.10				0.84
Powers Lake	Missouri					.22				.24		.31																.21					0.98
Richardton	Heart			.02	.01	.10						.04	.08										T.	T.		.02	.09	.03					0.39
Sanish 2	Missouri			T.	.09			.14																				.10					0.33
Stanley	do		T.	.03	T.		.21	.15															.06			.09	T.	.06					0.60
Tioga	do		.03				.18						T.																				0.21
Trotters	Lit. Missouri			.03				.02					.08													.07	T.						0.20
Watford City	Missouri			.24				.12					.07										.12			T.	.02						0.57
Wildrose	do		T.	10			.05				.02		.05													T.		.02	T.				0.24
Williston 1	do		T.	T		.01	.22				T.		T.									.04	T.	T.	T.	.03	T.	.01					0.31

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement.
T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for October 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Ashley	Maximum	80	75	48	47	66	72	57	65	52	67	48	53	37	57	59	41	51	64	71	61	65	59	50	56	38	35	32	43	42	44	47	54.
	Minimum	30	45	41	33	38	40	34	33	34	33	35	29	23	22	27	17	17	23	28	37	42	34	31	29	30	29	15	2	12	20	22	28.
Beach	Maximum	77	64	47	52	73	63	56	58	62	62	48	54	40	74	53	44	71	62	70	65	65	61	52	48	32	33	31	49	43	65	53	55.
	Minimum	33	38	33	38	33	39	35	32	27	35	35	32	28	26	33	17	28	41	35	30	46	31	29	28	27	26	21	18	30	26	26	30.
Bismarck	Maximum	76	73	45	47	69	60	56	62	59	65	50	49	38	62	54	37	56	63	74	62	62	51	45	55	40	32	32	54	42	54	48	53.
	Minimum	36	44	42	39	39	43	36	40	40	36	37	35	30	27	27	17	26	37	30	44	47	39	34	34	31	23	9	8	22	15	25	32.
Bottineau	Maximum	68	53	48	54	60	54	53	61	58	64	58	44	38	63	54	35	53	59	72	61	59	43	39	53	35	29	26	33	41	53	56	50.
	Minimum	44	39	40	39	40	39	27	26	29	30	29	26	24	24	27	11	20	27	25	37	39	27	29	26	25	11	10	1	22	17	24	26.
Carson	Maximum	80	76	75	64	71	62	53	62	62	70	57	50	41	66	54	42	60	65	76	64	65	61	49	58	40	36	33	54	43	61	53	58.
	Minimum	40	36	39	32	34	39	34	31	34	31	28	28	26	23	34	17	23	40	32	38	44	39	31	32	29	23	16	6	29	13	30	30.
Crosby §	Maximum	65	53	44	64	70	63	55	55	64	58	51	44	44	71	59	45	65	61	63	61	61	51	44	38	38	33	29	44	62	49	65	53.
	Minimum	42	36	38	38	32	32	21	34	26	31	30	29	26	27	35	5	20	38	42	33	41	36	32	21	24	9	11	5	14	29	24	27.
Devils Lake	Maximum	62	70	44	47	56	59	54	64	52	64	47	41	36	55	52	34	49	62	71	56	59	40	36	41	34	29	25	33	36	42	42	48.
	Minimum	39	46	40	40	40	43	34	41	34	32	30	30	26	26	24	25	20	35	28	43	37	25	30	32	25	18	13	11	27	25	28	30.
Dickinson §	Maximum	75	65	46	49	73	59	55	59	62	65	49	48	40	74	48	43	72	62	73	65	62	56	47	44	33	31	32	52	42	65	50	54.
	Minimum	27	27	36	35	31	38	31	28	26	26	33	31	28	23	32	18	22	28	26	33	37	38	29	27	29	26	23	7	30	20	26	28.
Dunn Center §	Maximum	71	51	44	46	67	46	58	54	65	59	49	38	45	65	44	40	71	57	67	56	59	49	45	40	30	32	32	53	40	59	48	51.
	Minimum	22	32	34	35	21	38	22	22	21	22	29	28	20	16	19	−1	9	22	20	30	30	34	25	19	23	18	18	0	17	8	19	21.
Fessenden §	Maximum	66	77	60	47	60	59	53	52	53	61	61	47	37	52	50	46	51	61	62	55	57	56	43	53	42	29	28	40	40	40	45	51.
	Minimum	31	41	40	41	30	41	42	36	35	34	36	31	24	34	32	13	34	40	34	36	35	39	33	32	26	23	10	4	28	23	29	31.
Fullerton	Maximum	81	76	67	48	66	74	59	65	55	69	56	50	37	52	63	43	51	66	71	61	65	59	47	53	40	38	31	43	43	39	47	55.
	Minimum	35	57	45	42	42	39	37	34	38	31	38	31	28	23	39	19	21	31	32	43	46	47	36	26	32	31	17	8	32	27	33	33.
Garrison §	Maximum	72	62	44	51	70	60	58	58	63	64	49	41	39	66	54	39	60	65	72	59	58	45	40	54	31	28	30	40	40	56	48	52.
	Minimum	35	40	41	41	37	36	30	36	30	30	36	34	26	22	39	10	21	39	28	41	41	39	35	30	28	22	16	2	30	12	28	30.
Grafton	Maximum	71	68	63	46	51	59	60	68	62	66	63	44	40	59	59	44	45	62	72	69	62	51	41	42	42	34	34	28	38	36	44	52.
	Minimum	41	46	43	42	42	36	36	36	36	29	41	29	28	26	36	22	17	34	24	48	39	34	28	29	29	26	22	19	20	25	33	32.
Grand Forks	Maximum	66	69	52	45	52	60	54	66	45	63	52	44	33	49	53	35	46	61	70	62	62	42	40	41	35	32	28	31	37	37	44	48.
	Minimum	42	52	43	42	39	38	38	36	32	30	39	29	28	27	26	23	20	34	26	48	32	30	31	39	29	25	22	19	26	22	28	31.
Jamestown §	Maximum	74	74	45	47	64	66	57	70	50	68	55	49	38	53	56	40	51	63	73	61	69	57	44	53	36	37	32	42	43	49	50	53.
	Minimum	34	42	42	43	41	41	37	37	37	31	35	31	26	25	26	18	18	23	26	29	47	38	27	31	32	28	9	2	8	27	27	29.
Kenmare	Maximum	73	62	45	50	69	66	55	56	64	62	55	45	38	70	69	39	58	62	68	64	63	60	38	42	40	29	26	41	43	58	45	53.
	Minimum	35	36	37	41	31	35	27	37	74	38	33	32	24	28	35	12	22	41	34	40	36	37	32	30	24	15	16	4	33	16	31	29.
Langdon	Maximum	64	59	54	47	49	60	57	65	55	66	53	41	37	53	42	37	50	60	70	60	60	46	40	38	37	30	29	27	36	34	44	48.
	Minimum	37	39	38	39	38	37	29	34	29	29	34	25	24	22	25	13	18	35	28	45	39	26	25	27	22	23	16	8	24	21	26	28.
Marmarth	Maximum	70	66	50	55	72	60	50	61	76	60	65	55	63	47	62	44	73	64	73	66	70	70	55	42	40	35	38	56	44	66	50	57.
	Minimum	38	38	37	31	24	89	33	24	28	30	37	83	34	29	43	25	26	32	24	33	44	26	27	22	28	27	20	18	30	25	32	30.
Minot	Maximum	69	57	45	50	72	63	58	56	64	64	54	44	39	67	62	40	60	62	72	61	60	56	42	50	50	32	24	47	46	58	53	54.
	Minimum	32	38	40	41	38	40	28	40	25	36	33	33	26	27	33	10	21	45	27	40	40	36	32	30	27	18	14	−2	31	14	31	29.
Mott	Maximum	77	72	49	47	72	65	50	61	62	72	55	55	40	69	64	41	67	64	75	65	64	63	50	51	42	39	47	42	62	64	58	58.
	Minimum	29	38	39	32	34	35	35	32	36	31	30	29	29	25	25	23	24	36	30	34	42	36	29	27	31	67	22	23	13	19	27	29.
Pembina	Maximum	59	67	60	58	50	58	63	68	52	65	61	42	38	50	54	38	40	61	65	60	57	40	55	43	42	33	43	35	38	35	49	50.
	Minimum	48	46	43	35	35	38	33	35	33	29	38	32	26	26	28	25	20	37	24	46	37	32	25	33	28	25	24	18	18	25	30	31.
Sharon	Maximum	67	69	57	44	48	62	56	69	51	69	54	46	34	49	56	36	48	63	72	59	59	51	39	40	38	33	28	33	36	35	38	49.
	Minimum	42	47	42	40	41	43	36	34	37	30	38	28	23	24	33	21	22	35	25	45	45	25	30	27	26	24	13	6	26	24	24	30.
Steele	Maximum	78	83	61	46	70	60	56	67	60	70	59	52	35	60	54	42	45	65	72	65	62	68	42	58	48	32	29	41	40	42	49	55.
	Minimum	32	48	40	38	38	43	32	33	36	27	32	30	24	23	36	13	19	29	27	40	34	40	34	30	28	22	12	−5	29	14	30	29.
Valley City	Maximum	73	72	65	46	58	57	57	66	59	68	51	47	47	51	50	44	50	63	70	66	61	56	41	43	47	35	29	36	35	38	42	52.
	Minimum	35	53	45	43	42	37	38	36	39	29	39	31	27	23	41	19	19	37	24	45	47	31	35	32	28	29	17	6	32	27	33	32.
Wahpeton	Maximum	82	76	75	49	57	80	77	67	62	68	63	50	40	49	67	46	50	70	72	70	63	58	45	51	51	41	33	38	46	36	49	57.
	Minimum	40	56	47	44	45	38	39	32	40	30	38	32	25	24	40	23	20	35	28	47	47	27	36	32	30	28	24	13	31	27	31	33.
Williston	Maximum	73	52	44	61	70	54	53	57	63	58	48	44	41	72	55	40	68	61	70	64	57	47	46	42	33	34	31	49	42	65	49	53.
	Minimum	40	38	41	42	31	37	31	35	30	37	37	30	30	31	20	10	31	41	35	37	46	36	35	28	27	16	14	17	26	25	24	30.
Moorhead, Minn.	Maximum	79	72	63	47	51	71	54	65	52	69	53	46	33	47	59	35	49	66	70	60	60	47	42	46	39	37	29	35	49	37	44	51.
	Minimum	41	59	44	44	41	39	41	39	35	32	39	33	26	26	30	25	22	35	30	48	39	31	35	34	30	28	21	13	30	26	29	33.

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

Climatological Data for October 1939—Continued from page 38.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	....	12	.....	....	....	...	.....	....	.....	0.31	−0.67	0.14	1.5	4	13	9	9	nw.	H. A. Bury.
Amidon	Slope	....	16	43.0	−0.6	75	1	13	28	49	0.57	−0.57	0.11	0.5	8	11	9	11	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	43.2	−0.4	77	1	17	16	48	0.16	−0.78	0.05	0.8	4	6	14	11	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	42.8	−1.8	75	19	7	16	62	T.	−0.89	T.	T.	0	17	8	6	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	36.8	−4.6	72	4	−2	28	45	0.14	−0.75	0.09	0.5	2	4	18	9	w.	Charles Kaufman.
Bowman	Bowman	2,872	24	42.4	−1.6	76	1	11	31	46	0.68	−0.30	0.27	T.	6	20	0	11	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	40.8	−1.0	71	14	5	16†	48	0.27	−0.57	0.12	0.3	7	3	15	13	nw.	J. H. Phelps.
Dickinson	Stark	2,543	46	41.4	−2.2	75	1	7	28	51	0.47	−0.51	0.13	1.5	8	11	13	7	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	36.4	−8.0	71	1†	−1	16	62	0.28	−0.63	0.09	1.4	4	9	11	11	nw.	O. T. Evenson.
Epping	Williams	2,224	28	40.4	−3.0	74	1	8	16†	47	0.26	−0.53	0.18	0.1	4	12	9	10	nw.	T. Beachler.
Fairfield	Billings	....	2	.....	....	....	...	.....	....	.....	0.18	....	0.10	0.5	2	15	10	6	nw.	W. M. Geesȧman.
Fryburg	Billings	2,790	20	43.2	....	78	1	10	28	45	0.25	−0.80	0.16	1.1	3	11	9	11	nw.	Verne King.
Hettinger	Adams	2,675	31	44.6	−1.0	77	1	17	28	47	1.49	+0.72	0.98	T	7	10	9	12	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	39.4	−2.2	75	2	1	27†	48	0.10	−0.69	0.10	1.0	1	6	8	17	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	41.4	....	73	1	4	28	42	0.30	−0.76	0.08	2.0	6	13	7	11	nw.	Synthia M. Costello.
Marmarth	Slope	2,714	29	44.0	−1.5	76	9	18	28	49	0.35	−0.50	0.15	0.6	5	10	10	11	nw.	S. P. Crane.
Mary	McKenzie	....	10	.....	....	....	...	.....	....	.....	0.40	−0.30	0.13	T.	5	8	12	11	nw.	Fred Hartman.
Medora	Billings	2,271	23	.....	....	....	...	.....	....	.....	0.28	−0.45	0.12	0.5	6	8	14	9	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	44.0	+0.7	77	1	13	29	49	1.00	+0.06	0.69	0.1	7	10	12	9	nw.	W. M. Hendricks.
New England	Hettinger	2,400	44	42.4	−1.0	76	1	12	27	40	0.53	−0.31	0.31	0.5	5	9	10	12	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	39.8	....	74	14	−6	28	58	0.29	−0.52	0.08	0.5	7	1	23	7	nw.	C. E. Shubert.
Portal	Burke	1,954	33	37.8	−3.6	71	5†	0	28	61	0.84	−0.05	0.69	1.0	3	11	3	17	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	33	38.6	−5.0	74	5	3	27	44	0.98	−0.24	0.31	5.0	4	15	13	3	e.	Geo. B. Gee.
Richardton	Stark	2,467	22	43.5	+0.1	73	1	8	28	43	0.39	−0.49	0.10	1.2	8	8	14	9	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	42.0	−1.3	74	14	2	28	54	0.33	−0.29	0.14	1.0	3	9	14	8	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	38.8	....	71	14	−3	28	49	0.60	....	0.21	0.6	6	6	15	10	nw.	Leroy Edwards.
Tioga	Williams	2,279	10	.....	....	....	...	.....	....	.....	0.21	−0.58	0.18	......	2	......	.....	......	......	B. V. Olson.
Trotters	Golden Valley	....	13	.....	....	....	...	.....	....	.....	0.20	−0.63	0.08	0.7	4	10	13	8	......	A. J. Nellermoe.
Watford City	McKenzie	2,084	25	42.9	0.0	75	1†	9	16	43	0.57	−.30	0.24	0.2	5	9	15	7	w.	J. C. Zeller.
Wildrose	Williams	2,258	11	.....	....	....	...	.....	....	.....	0.24	....	0.10	T.	5	8	9	14	nw.	L. Holter.
Williston	Williams	1,878	59	42.0	−1.4	73	1	10	16	41	0.31	−0.55	0.23	0.1	5	9	14	8	nw. nw.	U. S. Weather Bureau.
Average for Western Division		....	.....	41.3	−2.2	77	1	−6	28	58	0.44	−0.38	0.98	0.8	8	9	12	10	nw.	....
Average for the State		....	.....	41.3	−2.5	84	1	−6	28	58	0.75	−0.26	0.98	1.2	7	8	10	13	nw.	....

[WBO, Minneapolis, 11-20-39—1400]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

F. J. BAVENDICK

Vol. XLVIII   Bismarck, N. D., November 1939   No. 11

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GENERAL SUMMARY

Unusually warm, dry weather prevailed. It was the warmest November since 1923 and the fifth warmest of record. Only a few scattered stations reported sub-zero temperatures. The sunshine was above normal and there were more clear days during the month than in any other November.

This was the third consecutive month with precipitation below normal, the total amount from September to November being less than 50% of the 48 year average. It was the driest month of any name since state-wide records began in 1892 and there was an average of only one day with measurable precipitation. Not a station in the state had as much as 35% of the normal November moisture. Light snow fell on several dates and in most instances melted as it fell.

November was an excellent month for outdoor work, but less than the average fall plowing was accomplished in some sections due to dry ground. There was plenty of feed and livestock grazed in the open all month. No unusually high winds occurred so only a few dust storms were reported.

TEMPERATURE

The mean temperature for the state was 34.9° or 8.2° above the 1892-1939 average for November. The mean for the eastern division was 34.7°; for the middle division, 34.5°; and for the western division, 35.6°. The highest mean temperature was 37.8° at Amidon and Hettinger, and the lowest, 31.6° at Willow City, making a range in mean temperature of 6.2°. The absolute range in temperature was 78°, from 74° at Wahpeton on the 13th, to −4° at Parshall on the 10th. The average daily excess in temperature for the state since January 1, 1939, is 1.4°.

PRECIPITATION

The average precipitation for the state was 0.03 inch, or 0.56 inch less than the 1892-1939 average for November. In the eastern division the average amount was 0.04 inch; in the middle division, 0.02 inch; and in the western division, 0.02 inch. The greatest monthly amount reported was 0.14 inch at Sanish and Willow City; there was none at 18 stations, mostly in the middle and western sections. The greatest amount recorded in any 24 consecutive hours was 0.12 inch at Casselton on the 19th. The accumulated deficiency in precipitation since January 1, 1939, is 2.50 inches. The average snowfall was a trace.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	2	1	1	..	1	..	..	..	4	8	7	5	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	18	1	..	..	..	..	..	..	..	..	..	..	..	3	1	..	..	..	..	..	..	..	..
Fogs	..	..	..	..	..	..	..	4	2	..	..	..	..	..	..	..	..	..	..	10	1	..	..	9	21	13	3	8	1	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	1	..	..
Solar halos	..	..	1	..	..	..	1	..	..	2	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Sleet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	1	2	1	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	Percentage of sunshine
Bismarck	30.21	30.74	2	29.49	9	7.6	28	w.	9	77	54	53	75
Devils Lake	30.17	30.72	2	29.51	30	8.8	31	nw.	9	80	56	61	70
Williston	30.16	30.66	2	29.46	8	6.5	39	nw.	9	78	52	52	82
Fargo	30.20	30.76	2	29.59	9	....	....	....	....	79	52	59	....
Moorhead, Minn	....	....	....	....	....	7.9	26	nw.	9	....	....	....	64

† And other dates.

COMPARATIVE DATA FOR NOVEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	22.3	75	−26	0.80	0.95	0.61	0.79	7.4	4	8	9	13
1893	22.4	74	−27	0.72	0.75	0.24	0.57	4.6	3	9	10	11
1894	23.1	71	−25	0.44	0.54	0.43	0.47	2.6	4	10	8	12
1895	20.6	76	−25	1.18	1.01	1.08	1.09	8.2	5	8	9	13
1896	8.1	62	−32	2.06	2.47	2.17	2.23	21.7	9	8	7	15
1897	20.0	86	−28	0.27	0.33	0.36	0.32	2.8	3	12	9	9
1898	23.0	69	−30	0.42	0.30	0.30	0.34	3.1	3	13	8	9
1899	36.0	68	2	0.26	0.51	0.16	0.31	1.0	2	15	4	11
1900	20.4	64	−29	0.28	0.29	0.40	0.32	5.2	5	14	7	9
1901	26.8	70	−7	0.10	0.09	0.19	0.13	1.6	1	15	8	7
1902	29.6	69	−12	0.25	0.11	0.36	0.24	1.9	3	11	6	13
1903	25.3	78	−20	0.27	0.22	0.28	0.26	2.5	2	13	4	13
1904	35.7	80	−10	0.10	0.09	0.07	0.09	0.7	1	18	5	7
1905	31.6	88	−38	1.66	1.54	0.89	1.36	11.0	9	7	13	10
1906	23.8	68	−16	1.90	1.34	1.23	1.49	10.2	7	10	7	13
1907	30.2	85	−15	0.08	0.10	0.05	0.08	0.7	1	16	8	6
1908	31.1	75	−15	1.10	0.91	0.80	0.94	8.2	4	12	8	10
1909	29.4	88	−23	0.68	0.31	0.44	0.48	4.6	3	11	9	10
1910	23.9	68	−23	0.34	0.44	0 43	0.40	3.2	2	8	10	12
1911	16.7	58	−33	0.70	0.60	0.63	0.64	7.1	6	12	8	10
1912	31.8	70	1	0.09	0.06	0.06	0.07	0.5	1	14	9	7
1913	34.1	77	−2	0.21	0.23	0.21	0.22	1.6	2	15	8	7
1914	30.7	83	−30	0.45	0.31	0.23	0.33	2.6	2	13	10	7
1915	28.1	71	−10	0.81	0.83	1.21	0.95	3.7	4	10	10	10
1916	28.8	75	−18	0.10	0.25	0.46	0.27	1.7	2	16	8	6
1917	36.8	77	−7	0.20	0.13	0.05	0.13	1.4	1	16	6	8
1918	28.9	71	−18	1.31	1.09	0.49	0.96	5.3	4	13	6	11
1919	15.6	57	−36	1.88	0.96	0.62	1.15	11.8	5	11	8	11
1920	28.0	65	−14	0.55	0.33	0.14	0.34	2.1	3	10	9	11
1921	21.0	69	−30	0.52	0.71	0.83	0.69	6.3	5	7	8	15
1922	31.8	65	−8	2.97	2.26	1.50	2.24	6.3	6	7	7	16
1923	36.5	72	−5	0.58	0.45	0.39	0.47	0.6	3	13	8	9
1924	27.6	69	−15	0.19	0.17	0.17	0.18	1.9	2	11	9	10
1925	28.8	69	−17	0.42	0.17	0.13	0.24	1.3	2	14	8	8
1926	21.5	68	−23	0.72	0.54	0.60	0.62	6.2	5	6	7	17
1927	20.7	59	−24	0.71	0.72	0.65	0.69	7.1	6	7	8	15
1928	31.0	70	−11	1.08	0.28	0.09	0.48	0.2	1	15	8	7
1929	24.8	70	−21	0.57	0.46	0.56	0.53	5.2	5	9	8	13
1930	29.4	72	−21	1.56	0.62	0.43	0.87	6.2	5	13	7	10
1931	30.3	78	−10	0.98	0.40	0.27	0.55	5.0	3	13	7	10
1932	25.2	70	−17	0.70	0.38	0.45	0.51	4.6	4	10	10	10
1933	28.3	78	−15	0.81	0.58	0.56	0.65	6.6	5	9	8	13
1934	33.9	73	−1	0.51	0.22	0.10	0.28	1.0	3	13	7	10
1935	17.2	57	−25	0.70	0.79	0.69	0.73	8.1	6	8	8	14
1936	28.0	69	−28	0.37	0.33	0.31	0.34	4.0	4	13	8	9
1937	25.2	73	−25	0.51	0.40	0.33	0.41	3.5	4	10	7	13
1938	23.8	75	−21	0.63	0.94	1.04	0.87	7.9	6	8	10	12
1939	34.9	74	−4	0.04	0.02	0.02	0.03	T.	1	19	6	5
Period	26.7	88	−38	0.70	0.57	0.49	0.59	4.6	4	11	8	11

Climatological Data for November 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	43	36.4	+8.4	69	15	10	10	41	0.12	−0.51	0.12	T.	1	23	3	4	sw.	James. H. Erickson.
Cavalier	Pembina	894	29	33.9	......	70	14	6	10	46	T.	−0.79	T.	0.0	0	18	5	7	s.	City Light &Power Co.
Cooperstown	Griggs	1,428	42	33.5	+5.9	70	15	6	10	46	0.02	−0.66	0.02	T.	1	23	1	6	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9	......	......	...	...	...	...	.....	0.00	....	0.00	0.0	0	25	1	4	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	34.0	+9.5	69	14	5	10	41	0.09	−0.63	0.05	T.	3	9	10	11	s.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	32.9	+3.1	71	13	9	10	38	0.01	−0.45	0.01	T.	1	13	15	2	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	15	32.0	+7.2	63	14†	3	10	43	0.02	−0.68	0.02	0.0	1	22	1	7	s.	Mike Davis.
Ellendale	Dickey	1,457	44	33.4	+7.3	58	22	13	10	36	0.02	−0.60	0.02	0.0	1	20	6	4	s.	J. E. Demmer.
Fargo	Cass	895	3	34.6	+7.5	66	14	9	10	42	0.12	−0.41	0.07	0.2	3	.....	.....	.....	.....	W. B. Aerological Sta.
Forman	Sargent	1,249	46	34.8	+4.8	66	14	9	10	44	T.	−0.62	T.	0.0	0	26	3	1	s.	Helge Dyste.
Fullerton	Dickey	1,439	41	36.4	+7.2	67	13	12	10	43	T.	−0.86	T.	0.0	0	18	8	4	s.	F. O. Alin.
Grafton	Walsh	827	47	35.0	+10.3	68	14	8	10	49	T.	−0.74	T.	0.0	0	14	9	7	se.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	48	33.4	+7.4	66	15	7	10	39	0.12	−0.70	0.09	0.1	2	9	12	9	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	35.4	+7.5	68	13†	10	10	46	0.04	−0.91	0.03	T.	2	25	3	2	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	47	.....	......	...	...	.....	...	.....	T.	−0.75	T.	0.0	0	.....	.....	.....	.....	Charles McAdams
Hillsboro	Traill	901	39	.....	......	...	...	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	Lyle George.
Jamestown	Stutsman	1,457	47	37.6	+10.3	72	13	9	10	51	T.	−0.68	T.	0.0	0	23	2	5	s.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	32.7	+8.7	68	14	2	10	45	0.07	−0.75	0.04	0.0	3	13	11	6	sw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	35.6	+9.8	70	14	6	10	42	T.	−0.91	T.	T.	0	18	1	11	sw.	W. L. Goodison.
Lisbon	Ransom	1,091	35	36.5	+7.6	67	14	11	2†	52	T.	−0.66	T.	T.	0	19	5	6	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	33.4	+6.0	71	14	4	10	49	T.	−0.62	T.	T.	0	20	3	7	s.	C. E. Blasky.
McLeod	Ransom	1,075	28	35.8	+5.5	67	14	12	7†	45	0.12	−0.54	0.09	0.0	3	23	3	4	s.	J. G. Carlson.
Mayville	Traill	975	43	35.9	+7.7	64	15	8	10	45	T.	−0.69	T.	0.0	0	12	14	4	s.	H. B. Addicott.
Oakes	Dickey	1,318	10	34.4	+6.2	66	15	9	3	47	T.	−0.58	T.	0.0	0	21	4	5	sw.	F. H. Murray.
Park River	Walsh	998	35	35.0	+7.2	72	14	7	10	45	T.	−0.69	T.	0.0	0	18	1	11	nw.	E. J. Taintor.
Pembina	Pembina	789	65	33.4	+10.1	67	14	1	10	42	0.01	−0.80	0.01	T.	1	19	5	6	s.	Harry A Gordon.
Petersburg	Nelson	1,520	9	.....	......	...	...	.....	...	.....	0.04	....	0.02	0.2	2	15	10	5	sw.	T. M. Rykken.
Sharon	Steele	1,516	15	34.7	+10.2	68	14	6	10	44	0.05	−0.82	0.02	0.1	4	16	9	5	sw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	34.6	+6.6	64	15	10	10	42	0.11	−0.58	0.11	0.0	1	20	5	5	sw.	I. C. Robertson.
Wahpeton	Richland	962	47	36.4	+7.6	74	13	8	10	49	0.03	−0.73	0.02	T.	2	19	7	4	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	34.9	+7.8	66	14	9	10	39	0.09	−0.81	0.06	0.1	4	16	5	9	s.	U. S. Weather Bureau.
Average for Eastern Division		......	....	34.7	+8.0	74	13	1	10	52	0.04	−0.66	0.12	T.	1	18	6	6	s.	....
Middle Division																				
Ashley	McIntosh	2,001	43	35.1	+7.1	70	14	9	9†	48	0.00	−0.62	0.00	0.0	0	16	8	6	w.	Henry Doerr.
Bisbee	Towner	1,601	3	32.4	......	66	14	1	10	47	0.00	....	0.00	0.0	0	23	2	5	s.	I. K. Lund.
Bismarck	Burleigh	1,670	65	36.4	+7.9	69	13	10	10	43	0.01	−0.56	0.01	0.1	1	12	11	7	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	32.4	+8.8	64	15	−3	10	43	0.09	−0.40	0.07	T.	2	17	10	3	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	37.4	+9.6	76	15	7	10	44	0.00	−0.58	0.00	0.0	0	17	0	13	se.	Soo Line Agent.
Carson	Grant	2,500	27	37.6	+7.6	72	13	4	10	44	0.00	−0.57	0.00	0.0	0	15	11	4	nw.	J. W. Evens.
Center	Oliver	......	1	33.3	......	68	13	5	9	53	T.	....	T.	T.	0	18	11	1	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	36.3	+9.9	63	13†	5	10	40	0.05	−0.46	0.05	T.	1	18	7	5	nw.	R. L. Williams.
Drake	McHenry	1,634	10	35.2	......	67	14	3	10	42	0.03	....	0.03	T.	1	13	12	5	sw.	Peter Anton.
Dunseith	Rolette	1,682	43	32.8	+8.4	60	14	−1	10	40	0.04	−0.51	0.02	0.0	2	16	10	4	s.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	34	33.3	+7.5	67	14	2	10	51	0.08	−0.39	0.05	T.	3	21	7	2	s.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	35.2	+6.7	68	13†	5	2	47	0.00	−0.44	0.00	0.0	0	22	6	2	s.	H. S. Solenberger.
Fessenden	Wells	1,610	27	34.2	+7.1	66	15	5	10	40	0.02	−0.67	0.02	T.	1	16	5	9	e.	John V. Zuber.
Fort Yates	Sioux	1,670	39	35.5	+5.7	68	13	10	29	47	T.	−0.50	T.	0.0	0	23	4	3	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	37.6	+11.4	68	13†	3	10	39	0.09	−0.58	0.06	0.0	3	17	8	5	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	36.8	......	71	14	11	8	48	T.	....	T.	T.	0	10	10	10	nw.	A. H. Haut.
Garrison	McLean	1,901	62	34.6	+8.3	66	13†	4	10	46	T.	−0.45	T.	T.	0	18	9	3	sw.	E. L. Vorachek.
Granville	McHenry	1,504	32	34.9	+8.2	69	14	3	10	47	0.11	−0.45	0.07	T.	2	20	8	2	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	32.0	+8.5	65	14	3	10	44	T.	−0.59	T.	0.0	0	17	7	6	sw.	W. E. Disher.
Linton	Emmons	1,711	22	35.8	+6.8	68	13	8	29	47	T.	−0.50	T.	T	0	22	5	3	sw.	Wm. Heyerman.
McClusky	Sheridan	1,943	21	33.2	+7.7	64	4†	3	10	44	0.00	−0.57	0.00	0.0	0	20	7	3	sw.	F. W. Perry.
Maddock	Benson	1,604	24	33.4	+6.8	66	15	5	10	43	T.	−0.46	T.	T.	0	21	4	5	sw.	A. T. Felland.
Mandan	Morton	1,750	25	35.5	+6.3	69	13†	8	10	46	T	−0.51	T.	T.	0	19	4	7	w.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36	.....	......	...	...	.....	...	.....	0.06	−0.57	0.06	T.	1	20	5	5	nw.	P. B. Anderson.
Max	McLean	2,093	10	32.8	......	72	13	2	10	56	0.00	....	0.00	0.0	0	10	12	8	.....	A. W. Rice.
Minot	Ward	1,557	43	36.8	+9.3	69	13†	4	10	43	0.09	−0.58	0.07	0.0	3	15	3	12	w.	Kenneth Chatfield.
Mohall	Renville	1,646	46	34.6	+9.8	69	13	1	10	46	0.06	−0.48	0.06	0.0	1	17	11	2	sw.	Iver Johnson.
Napoleon	Logan	1,955	47	36.2	+9.5	71	14	7	10	43	0.00	−0.57	0.00	0.0	0	21	5	4	s.	C. J. Hoof.
New Salem	Morton	2,163	35	36.4	+6.6	69	13†	4	10	44	0.01	−0.48	0.01	0.0	1	19	7	4	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	35.0	+8.6	67	12†	5	10	53	0.00	−0.58	0.00	0.0	0	18	3	9	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	32.5	......	61	14	3	10	42	0.06	....	0.03	0.0	2	17	8	5	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	10	.....	......	...	...	.....	..	.....	0.01	−0.37	0.01	T.	1	15	11	4	sw.	W. B. Paterson.
Ryder	Ward	2,108	10	.....	......	...	...	.....	...	.....	0.03	−0.45	0.02	0.2	2	27	2	1	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3	.....	......	...	...	.....	...	.....	T.	....	T.	T	0	18	8	4	nw.	J. B. Smith.
Steele	Kidder	1,857	45	35.0	+8.7	69	14	5	10	44	T	−0.53	T.	T.	0	17	8	5	sw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	10	.....	......	...	...	.....	...	.....	0.04	−0.31	0.03	T	2	22	5	3	sw.	G. N. Pilgard.
Timmer	Morton	......	2	.....	......	...	...	.....	...	.....	0.00	....	0.00	0.0	0	.....	.....	.....	.....	Geo. M. Sinclair.
Towner	McHenry	1,482	37	.....	......	...	...	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Gilje.
Turtle Lake	McLean	1,899	25	36.0	+7.8	67	13	4	10	43	T.	−0.42	T.	0.0	0	22	1	7	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	31	.....	......	...	...	.....	...	.....	T.	−0.42	0.00	0.0	0	22	4	4	sw.	Adam Leno.
Velva	McHenry	1,511	12	35.8	+8.2	70	13	4	10	47	T.	−0.46	T.	T.	0	16	11	3	nw.	Oscar Anderson.
Washburn	McLean	1,731	38	36.5	+6.2	70	13	14	29	42	T.	−0.46	T.	0.0	0	19	5	6	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	33.7	+8.1	68	14	−1	10	46	0.01	−0.51	0.01	T.	1	20	6	4	sw.	John J. Egger.
Willow City	Bottineau	1,471	47	31.6	+9.0	67	15	0	8†	54	0.14	−0.42	0.08	0.0	2	19	8	3	sw.	O. M. Sanderson.
Wilton	McLean	2,159	3	34.4	......	69	13	10	10†	50	0.00	....	0.00	0.0	0	13	13	4	nw.	Soo Line Agent.
Wishek	McIntosh	2,018	18	33.6	+3.8	70	13	7	28	45	T.	−0.35	T.	0.0	0	18	4	8	sw.	H. M. Larson.
Zap	Mercer	1,838	24	.....	......	...	...	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fred Buechler.
Average for Middle Division		......	.....	34.5	+7.5	72	13	−3	10	56	0.02	−0.55	0.08	T.	1	18	7	5	sw.	....

Continued on page 44

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ᵇ represents two days, etc. † Also on other dates. *T.* Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for November 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	T.				T.														.12				T.									0.12
Cooperstown[2]	Sheyenne					.02															T	T			T	T.			T.				0.02
Courtenay[2]	James																																0.00
Devils Lake[1]	Devils Lake	T.			.05					T.										.02				.02	T.	T.							0.09
Edgeley	James																			.01													0.01
Edmore	Devils Lake				.02															T.													0.02
Ellendale	James																								.02								0.02
Fargo[1]	Red	T.			T.			T.												.07			T.	.04	.01								0.12
Forman	Sheyenne																								T.								T.
Fullerton	James																			T.				T.	T.								T.
Grafton	Red																							T.									T.
Grand Forks[1]	do	T.			T.															.03				.09									0.12
Hankinson[2]	do																							.01	.03								0.04
Hannah	Pembina																							T	T.	T							T.
Hillsboro	Red																																......
Jamestown	James																						T.	T.									T.
Langdon[2]	Pembina				.04																			.02	.01								0.07
Larimore	Red	T																		T.				T	T.								T.
Lisbon	Sheyenne	T.																		T.	T.				T.	T							T.
McHenry	James	T.			T.															T.					T.								T.
McLeod	Sheyenne	T.																			.09			.01	.02								0.12
Mayville	Red																						T.										T.
Oakes	James																							T.	T.								T
Park River	Red																			T.				T.									T.
Pembina	do																							.01									0.01
Petersburg	do				.02															T				T	.02								0.04
Sharon	do	T.			.01															.01				.02	.01	T.							0.05
Valley City	Sheyenne	T.																		.11					T.	T.							0.11
Wahpeton	Red	T.																						.02	.01								0.03
Moorhead, Minn[1]	do	T.			.01															.06			T.	.01	.01								0.09
Middle Division																																	
Ashley[2]	Missouri																																0.00
Bisbee	Devils Lake																																0.00
Bismarck[1]	Missouri	T.						.01																T.	T.								0.01
Bottineau	Mouse				.02															T.				.07	T								0.09
Carrington[2]	James																																0.00
Carson	Heart																																0.00
Center	Missouri																								T.								T.
Dogden Butte	Mouse				T.																			.05		T.							0.05
Drake[2]	do				T.																			.03		T.							0.03
Dunseith	do				.02															T.				.02	T.	T.							0.04
Eckman	do				.05																			.01	.02								0.08
Energy	Missouri																																0.00
Fessenden[2]	James				T.																			.02	T								0.02
Fort Yates	Missouri							T																									T
Foxholm (near)	Mouse				.06																			.02	.01								0.09
Gackle	James				T.																				T.	T							T
Garrison	Missouri				T.																			T.									T.
Granville	Mouse				.04																			.07									0.11
Hansboro	Devils Lake				T.																												T.
Linton	Missouri							T.																									T.
McClusky	do																																0.00
Maddock	Sheyenne				T.															T				T.	T.								T.
Mandan[2]	Missouri							T.															T		T.						T.		T.
Max[2]	do																																0.00
Minot	Mouse				.07																			.01	.01								0.09
Mohall	do				.06																			T.	T.								0.06
Napoleon[2]	Missouri																																0.00
New Salem	Heart							.01																	T.								0.01
Pettibone	James																																0.00
Rolla	Devils Lake				.03																			.03									0.06
Rugby (near)	Mouse				.01															T.				T.	T.								0.01
Ryder[2]	Missouri				.02																		.01										0.03
Selfridge	do							T.																	T.								T.
Steele	do	T																						T.	T.								T.
Tagus	Mouse	T.			.03			T.																.01	T.								0.04
Towner	do																																......
Turtle Lake	Missouri																							T									T.
Tuttle	do	T.																						T.									T.
Velva	Mouse				T.																			T.	T.								T.
Washburn[2]	Missouri							T																									T.
Westhope	Mouse				.01																			T.	T.								0.01
Willow City	do				.08															T.				.06									0.14
Wishek[2]	Missouri							T.																									T.
Zap	Knife																																......
Western Division																																	
Alpha	Lit. Missouri																																0.00
Amidon	do																																0.00
Beach	do				T																												T.
Berthold Agency	Missouri				T.			T.																									T.
Bowman[2]	Grand																														T.		T
Crosby	Mouse																																0.00
Dickinson[2]	Heart					T.			T.																						T.		T.
Dunn Center	Knife							T.																									T
Fairfield	Lit. Missouri																																......
Fryburg	Heart																																0.00
Hettinger	Grand																																0.00
Howard (near)	Missouri							.01																									0.01
Kenmare	Mouse				T.																			T.	T.								T.
Marmarth	Lit. Missouri																																0.00
Mary	do				.02		T.																										0.02
Medora	do						T																								.02		0.02
Mott	Cannon Ball																																0.00
New England[2]	do																																0.00
Parshall	Missouri				.03			T.																T.									0.03
Portal[2]	Mouse					.01																		.01									0.02
Powers Lake	Missouri																						.07										0.07
Richardton	Heart							.02																									0.02
Sanish[2]	Missouri				.11			*	.03																								0.14
Stanley	do				.04																												0.04
Tioga	do								T.																								T.
Trotters	Lit. Missouri																														T.		T.
Watford City	Missouri																																0.00
Wildrose	do				.09			T.																									0.09
Williston[1]	do				.04			T.															T.								T.		0.04

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for November 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	30	35	46	47	54	54	44	42	50	34	55	59	68	70	62	65	56	54	49	50	54	59	39	42	41	45	43	48	57	57	....	50.3
	Minimum	19	17	17	20	22	24	13	22	9	19	15	21	25	27	24	27	17	19	16	19	19	29	20	20	22	23	19	19	9	24	....	19.9
Beach	Maximum	41	42	60	53	59	49	45	54	49	51	52	61	62	64	61	62	57	58	48	51	57	60	53	39	37	43	38	42	53	55	....	51.9
	Minimum	11	10	21	30	21	24	24	24	25	6	21	23	27	30	30	28	29	29	25	22	25	28	30	23	27	19	14	12	24	28	....	23.0
Bismarck	Maximum	31	36	50	51	57	53	39	48	50	35	48	60	69	68	67	65	56	51	41	49	53	58	46	37	36	42	46	42	55	56	....	49.8
	Minimum	22	23	21	27	23	23	25	18	23	10	24	19	27	25	27	22	27	17	22	15	23	25	34	29	25	27	26	20	14	28	....	23.0
Bottineau	Maximum	33	35	54	47	54	44	46	40	49	23	30	48	58	61	64	55	54	49	40	42	51	61	53	39	33	43	42	37	40	42	....	45.6
	Minimum	19	18	18	25	13	11	23	10	19	−3	13	12	18	26	21	25	28	27	15	12	15	31	35	29	25	21	21	19	9	20	....	19.2
Carson	Maximum	40	35	52	53	58	53	43	52	50	45	52	64	72	70	69	69	59	53	48	54	59	63	53	39	45	41	44	42	58	60	....	52.8
	Minimum	14	8	17	25	22	23	22	19	28	4	22	25	32	29	30	30	25	22	22	19	22	27	33	26	27	22	22	15	14	27	....	22.4
Crosby §	Maximum	39	43	54	50	51	47	44	44	47	34	38	55	63	65	62	63	54	55	42	52	52	61	54	33	36	45	42	40	53	55	....	49.2
	Minimum	20	8	22	28	18	15	24	24	15	−2	18	21	27	28	27	27	26	20	26	16	22	26	30	30	29	20	17	10	16	22	....	21.0
Devils Lake	Maximum	30	37	48	42	53	52	44	35	48	24	34	56	61	69	64	57	51	49	36	38	51	58	47	32	32	43	46	39	45	53	....	45.8
	Minimum	19	22	19	23	24	28	21	16	11	5	18	15	32	30	29	26	25	22	20	14	24	27	32	26	27	27	20	22	15	27	....	22.2
Dickinson §	Maximum	30	38	55	51	59	50	44	54	48	52	50	62	70	65	66	66	57	58	47	51	59	61	48	35	33	43	41	41	56	38	....	50.9
	Minimum	11	2	8	17	13	14	23	15	21	2	3	19	21	19	19	17	18	21	22	15	19	18	30	27	29	23	20	10	12	25	....	17.1
Dunn Center §	Maximum	39	38	50	51	53	45	43	46	40	50	44	53	63	66	63	64	47	68	43	48	54	56	54	32	34	34	42	42	54	54	....	49.0
	Minimum	9	0	8	14	10	17	20	15	22	0	18	11	19	16	15	17	15	14	20	17	13	14	24	24	25	14	19	8	8	24	....	15.0
Fessenden §	Maximum	40	33	46	38	55	53	44	44	42	25	34	55	65	62	66	60	53	51	40	43	51	57	52	40	32	42	44	38	46	49	....	46.7
	Minimum	21	24	19	22	22	25	19	12	23	5	18	15	30	30	26	26	24	20	28	13	20	25	30	27	25	25	20	18	12	24	....	21.6
Fullerton	Maximum	38	36	45	45	55	56	45	42	51	44	47	53	67	57	65	65	53	49	49	46	53	59	58	40	36	43	45	44	47	51	....	49.5
	Minimum	24	22	17	25	22	22	24	18	33	12	19	17	24	27	31	23	33	23	26	19	21	22	35	28	27	25	15	26	17	21	....	23.3
Garrison §	Maximum	32	36	53	50	59	51	45	43	47	32	44	59	66	66	65	64	54	54	42	48	56	58	43	35	39	42	42	39	54	54	...	49.1
	Minimum	21	8	12	23	17	22	20	11	27	4	22	19	20	21	22	22	30	18	29	11	19	24	33	32	28	23	19	13	11	20	....	20.0
Grafton	Maximum	38	39	48	44	55	57	52	40	51	36	38	53	61	68	65	61	52	51	44	39	51	53	53	40	35	41	46	41	45	48	....	48.2
	Minimum	20	14	18	25	23	22	32	17	31	8	17	12	20	19	28	27	25	22	21	11	19	21	36	25	28	30	19	24	15	26	....	21.8
Grand Forks	Maximum	32	37	47	43	56	54	44	40	51	24	39	53	58	62	66	46	48	48	44	38	48	54	49	30	36	42	43	41	41	46	....	45.3
	Minimum	21	16	19	25	23	25	20	16	15	7	15	14	22	27	27	22	22	18	27	19	21	24	27	25	30	27	21	23	17	27	....	21.4
Jamestown §	Maximum	49	40	46	49	56	56	47	39	52	37	44	66	72	68	67	65	55	54	45	46	58	64	59	45	34	44	45	48	49	56	....	52.0
	Minimum	24	24	18	24	21	27	27	15	32	9	20	15	27	25	28	24	29	20	26	17	19	22	36	27	26	31	19	25	14	27	...	23.3
Kenmare	Maximum	40	37	50	50	54	50	46	42	52	28	40	56	65	68	62	63	56	53	47	49	57	60	54	36	36	42	41	41	51	55	....	49.4
	Minimum	20	12	22	32	27	30	27	20	17	3	19	24	35	38	35	32	25	26	27	18	28	34	34	31	31	25	20	15	23	26	....	25.2
Langdon	Maximum	36	37	48	43	53	55	48	35	37	23	36	51	60	68	63	54	55	49	43	39	57	58	49	37	34	43	45	40	41	50	....	46.2
	Minimum	15	9	18	22	18	22	25	12	21	2	7	11	24	29	21	20	21	18	28	9	12	25	35	22	24	29	22	24	10	20	....	19.2
Marmarth	Maximum	40	42	59	52	60	52	52	55	49	53	53	65	67	66	66	64	56	60	51	53	57	60	53	43	38	42	42	43	54	58	...	53.5
	Minimum	8	8	15	2	15	15	22	30	20	20	20	14	15	15	12	14	12	10	15	15	15	20	30	12	27	16	8	4	10	16	....	15.2
Minot	Maximum	36	39	55	50	60	50	47	45	47	32	36	61	69	69	67	56	55	56	45	49	60	61	55	39	41	45	45	44	55	57	....	50.9
	Minimum	22	12	22	30	24	29	23	8	20	4	22	18	30	30	29	25	26	20	28	14	24	27	34	33	30	23	21	10	15	25	....	22.6
Mott	Maximum	46	36	38	58	58	54	48	53	61	52	52	62	71	67	69	69	56	55	54	53	61	62	56	52	35	41	35	44	58	60	....	53.9
	Minimum	18	6	22	17	15	19	22	19	24	8	22	18	21	19	21	20	21	17	21	14	18	20	27	24	29	20	16	13	12	22	....	18.8
Pembina	Maximum	36	39	48	44	56	56	43	36	51	31	35	49	57	67	66	53	50	41	43	35	51	51	52	31	35	41	47	40	46	50	....	46.0
	Minimum	10	11	18	34	20	24	25	11	22	1	13	10	21	27	24	19	24	22	24	15	16	24	29	24	27	32	22	25	23	22	....	20.7
Sharon	Maximum	30	35	46	43	56	53	44	35	50	28	36	57	65	68	65	56	52	49	41	40	56	55	47	35	35	42	44	41	44	53	....	46.7
	Minimum	18	17	21	22	20	25	27	16	28	6	17	13	26	32	29	27	27	22	30	14	20	24	35	24	24	30	24	24	14	25	....	22.7
Steele	Maximum	43	36	52	49	56	53	45	42	55	30	45	59	67	69	65	65	54	55	42	52	55	58	52	37	40	45	47	42	50	55	....	50.5
	Minimum	20	18	20	23	15	20	17	12	18	5	16	17	23	28	21	21	24	18	20	12	17	22	32	27	23	23	22	20	9	22	....	19.5
Valley City	Maximum	37	31	41	44	53	52	47	40	49	47	37	52	60	58	64	57	50	45	43	40	48	60	52	42	36	41	40	38	43	47	....	46.5
	Minimum	22	20	20	26	17	25	29	15	33	10	16	12	22	24	25	23	30	19	26	19	18	18	38	27	27	28	20	28	15	26	....	22.6
Wahpeton	Maximum	40	39	46	52	55	58	51	41	48	45	46	54	74	69	65	61	54	48	50	48	52	57	54	41	42	42	45	46	45	54	....	50.7
	Minimum	22	20	17	24	20	28	26	14	35	8	19	13	25	28	25	21	28	17	24	22	19	22	22	25	27	34	17	26	15	23	....	22.2
Williston	Maximum	31	43	56	50	57	48	45	52	51	40	48	54	62	63	58	59	53	57	44	52	51	62	45	33	39	45	42	38	51	53	....	49.4
	Minimum	17	15	27	31	25	30	24	21	16	6	26	22	30	27	28	29	25	28	27	20	24	28	30	31	32	29	19	13	20	27	....	24.2
Moorhead, Minn.	Maximum	29	38	46	48	55	56	44	40	49	27	43	52	61	66	64	53	51	47	48	39	48	55	51	32	41	43	45	44	43	50	....	46.9
	Minimum	22	18	19	26	23	28	25	19	19	9	21	13	24	29	30	26	28	21	24	26	20	23	28	25	30	26	19	24	19	24	....	22.9

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for November 1939—Continued from page 42.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	12	......	......	...	...	....	...	......	0.00	−0.39	0.00	0.0	0	23	4	3	w.	H. A. Bury.
Amidon	Slope	......	16	37.8	+6.9	69	13	5	10	45	0.00	−0.47	0.00	0.0	0	22	4	4	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	37.4	+6.4	64	14	6	10	45	T.	−0.48	T.	0.0	0	18	10	2	sw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	35.4	+6.9	72	13	0	5	62	T	−0.37	T.	T.	0	26	2	2	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	35.4	+10.0	68	13†	1	10	45	T.	−0.55	T.	0.0	0	11	14	5	n.	Charles Kaufman.
Bowman	Bowman	2,872	24	37.3	+6.7	69	13	7	9	49	T.	−0.39	T.	0.0	0	25	2	3	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	35.1	+8.4	65	14	−2	10	37	0.00	−0.60	0.00	0.0	0	21	3	6	s.	J. H. Phelps.
Dickinson	Stark	2,543	46	34.0	+5.7	70	13	2	2†	50	T.	−0.47	T	T.	0	19	9	2	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	32.0	+4.1	68	18	0	2†	54	T.	−0.46	T.	T.	0	22	4	4	nw.	O. T. Evenson.
Epping	Williams	2,224	28	35.9	+8.0	65	13	6	10	41	0.04	−0.40	0.04	T.	1	21	5	4	sw.	T. Beachler.
Fairfield	Billings	......	2	......	......	...	...	....	...	......	......	......	......	......	......	......	......	......	......	W. M. Geesaman.
Fryburg	Billings	2,790	20	38.2	......	68	13	5	2†	42	0.00	−0.49	0.00	0.0	0	25	3	2	sw.	Verne King.
Hettinger	Adams	2,675	31	37.8	+6.2	70	13	11	10	43	0.00	−0.42	0.00	0.0	0	20	5	5	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	34.8	+8.5	65	13	−1	10	41	0.01	−0.54	0.01	0.1	1	21	3	6	sw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	37.3	......	68	14	3	10	35	T.	−0.55	T.	0.0	0	14	9	7	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	29	34.4	+3.0	67	13	2	4	54	0.00	−0.39	0.00	0.0	0	22	4	4	nw.	S. P. Crane.
Mary	McKenzie	......	10	......	......	...	...	....	...	......	0.02	−0.37	0.02	0.0	1	21	7	2	sw.	Fred Hartman.
Medora	Billings	2,271	23	......	......	...	...	....	...	......	0.02	−0.44	0.02	0.0	1	23	5	2	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	36.4	+7.2	71	13	6	2	50	0.00	−0.48	0.00	0.0	0	13	11	6	w.	P. G. Wick.
New England	Hettinger	2,400	44	35.6	+6.5	71	13†	2	1	51	0.00	−0.44	0.00	0.0	0	17	9	4	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	32.4	......	65	13	−4	10	52	0.03	−0.34	0.03	T.	1	16	13	1	sw.	C. E. Shubert.
Portal	Burke	1,954	33	34.4	+9.0	66	16	0	10	44	0.02	−0.53	0.01	0.0	2	23	3	4	w.	R. G. Wegener.
Powers Lake	Burke	2,205	33	35.8	+10.8	71	13	3	8	42	0.07	−0.42	0.07	1.0	1	20	8	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	22	37.6	+9.3	69	13	7	3	45	0.02	−0.46	0.02	T.	1	16	8	6	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	33.8	+5.2	65	13	2	10	50	0.14	−0.33	0.11	T.	2	16	11	3	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	33.3	......	64	13	0	10	44	0.04	......	0.04	0.0	1	19	7	4	w.	Leroy Edwards.
Tioga	Williams	2,279	10	......	......	...	...	....	...	......	T.	−0.38	T	0.0	0	21	4	5	nw.	B. V. Olson.
Trotters	Golden Valley	......	13	......	......	...	...	....	...	......	T.	−0.44	T.	0.0	0	23	5	2	sw.	Walter Gunewald
Watford City	McKenzie	2,084	25	37.6	+9.3	65	15†	4	10	42	0.00	−0.50	0.00	0.0	0	22	6	2	sw.	J. C. Zeller.
Wildrose	Williams	2,258	11	......	......	...	...	....	...	......	0.09	......	0.09	0.0	1	16	9	5	sw.	L. Holter.
Williston	Williams	1,878	59	38.6	+9.6	63	14	6	10	36	0.04	−0.54	0.04	T.	1	21	7	2	s.	U. S. Weather Bureau.
Average for Western Division		......	.....	35.6	+7.2	72	13	−4	10	54	0.02	−0.47	0.09	T	1	20	6	4	nw.	....
Average for the State		......	.....	34.9	+8.2	74	13	−4	10	56	0.03	−0.56	0.12	T.	1	19	6	5	sw.	....

[WBO, Minneapolis, 12-19-39—1400]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

F. J. BAVENDICK

VOL. XLVIII BISMARCK, N. D., DECEMBER 1939 No. 12

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GENERAL SUMMARY

Unusually warm weather prevailed over the entire state from the 1st through the 18th, above normal temperatures being reported by all stations without exception. It is the warmest December on record, exceeding the previous warmest which was in 1913, by 4.0°, and sub-zero readings did not occur at most stations until the 27th. Maximum temperatures for December occurred on the 5th and 6th in all sections. These high readings broke most all-time records of 50 years standing. Sunshine averaged almost normal.

Nearly all statations had deficiencies of precipitation. The average deficiency for the year is 1.13 inches greater than 1938. There was general light to moderate precipitation on the 18th, with light scattered amounts to the close of the month. The snowfall occurred from the 18th to the close of the month with most stations reporting light amounts, with Gackle reporting 10 inches.

Winds were light and no severe storms were reported. December was an excellent month for outdoor work. The warm weather without a snow cover until near the close of the month was particularly favorable for livestock. Major rivers were abnormally late in freezing over, therefore the ice harvest has been delayed.

M. S. C.

TEMPERATURE

The mean temperature for the state was 26.7° or 8.5° above the 1892-1939 average for December. The mean for the eastern division was 25.9°; for the middle division, 26.4°; and for the western division, 27.8°. The highest mean temperature was 31.0° at Hettinger, and the lowest, 22.4° at Willow City, making a range in mean temperature of 8.6°. The absolute range in temperature was 90°, from 70° at New England on the 5th, to −20° at Marmarth on the 28th and Maddock on the 30th. The average daily excess in temperature for the state since January 1, 1939, is 2.0°.

PRECIPITATION

The average precipitation for the state was 0.28 inch, or 0.21 inch less than the 1892-1939 average for December. In the eastern division the average amount was 0.27 inch; in the middle division, 0.30 inch; and in the western division, 0.27 inch. The greatest monthly amount reported was 0.78 inch at Carson; the least was a trace at four stations. The greatest amount recorded in any 24 consecutive hours was 0.60 inch at Manfred on the 13th. The accumulated deficiency in precipitation since January 1,1939, is 2.71 inches. The average snowfall for the state was 2.3 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	.	3	4	10	17	8	1	..	2	..	1	4	2	1	1	..	..	1	2	..	..	..	..	..	..	..	..	1	..
Dust storms	3	1	..	..	..	2	..	..	..	..	11	4	..	..	..	6	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
Fogs	4	8	..	1	..	..	4	..	1	19	1	1	..	..	1	..		7	15	28	17	6	8	11	23	11	8	..	5	4	1
Lunar halos	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	3	1	..	1	4	2	1	1	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	2	..	..	..	1	3
Sleet	2	2	3	..	..	..	..	..	1	1	..	..	..	..	..	..	..	7	3	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.03	30.48	24	29.43	11	7.4	38	nw.	1	78	64	64	47
Devils Lake	29.98	30.47	24	29.30	11	8.5	35	nw.	16	88	78	80	52
Williston	30.00	30.44	25	29.33	11	7.2	34	nw.	11	78	66	66	52
Fargo	30.00	30.47	24	29.40	11	.....	.....	......	....	82	70	74	....
Moorhead, Minn	......	....	....	....	....	8.3	29	nw.	1	....	....	....	36

† And other dates.

COMPARATIVE DATA FOR DECEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	7.1	60	−39	0.44	0.49	0.78	0.57	7.7	4	13	8	10
1893	4.7	55	−36	0.71	0.83	1.02	0.85	8.4	6	11	9	11
1894	19.1	70	−32	0.38	0.17	0.32	0.29	1.6	2	18	7	6
1895	13.8	62	−32	0.24	0.29	0.39	0.31	2.6	3	12	9	10
1896	16.4	53	−35	0.50	0.46	0.13	0.36	2.6	3	13	9	9
1897	10.8	69	−35	0.24	0.21	0.21	0.22	2.2	3	12	8	11
1898	12.1	51	−38	0.24	0.24	0.24	0.24	2.1	3	14	9	8
1899	12.8	60	−26	0.31	0.31	0.34	0.32	3.3	3	13	7	11
1900	17.3	58	−29	0.35	0.29	0.29	0.31	3.0	4	13	8	10
1901	12.4	61	−43	0.72	0.74	0.75	0.74	7.2	5	10	7	14
1902	7.8	49	−35	0.50	0.30	0.72	0.51	4.2	4	14	7	10
1903	11.6	57	−33	0.63	0.74	0.93	0.77	7.2	6	11	7	13
1904	14.2	55	−43	0.60	0.62	0.73	0.65	6.2	5	7	8	16
1905	15.3	55	−34	0.21	0.16	0.12	0.16	1.6	4	16	2	13
1906	8.4	48	−40	1.09	0.91	1.27	1.09	10.7	6	11	7	13
1907	20.1	68	−26	0.36	0.23	0.31	0.30	3.1	3	15	7	9
1908	14.4	62	−37	0.53	0.26	0.28	0.36	3.7	3	13	10	8
1909	5.2	54	−42	1.88	1.10	0.86	1.28	12.1	7	9	8	14
1910	12.9	56	−34	0.45	0.42	0.42	0.43	4.6	4	12	8	11
1911	14.9	61	−33	0.45	0.26	0.34	0.35	4.5	4	10	8	13
1912	18.9	72	−28	0.62	0.55	0.13	0.43	4.0	4	14	8	9
1913	22.7	61	−21	0.05	0.12	0.01	0.06	0.3	1	18	6	7
1914	5.4	57	−42	0.58	0.40	0.42	0.47	5.7	4	12	9	10
1915	15.8	57	−27	0.56	0.56	0.44	0.52	5.4	5	11	9	11
1916	2.7	61	−50	1.39	1.34	0.81	1.18	13.9	5	15	8	8
1917	0.7	58	−44	0.51	0.64	0.61	0.59	7.4	6	9	9	13
1918	18.5	65	−41	0.97	0.92	0.76	0.88	9.9	5	9	8	14
1919	7.4	49	−38	0.65	0.48	0.28	0.47	4.8	3	14	9	8
1920	15.2	59	−32	0.48	0.33	0.16	0.32	3.2	3	11	9	11
1921	16.5	59	−33	0.52	0.33	0.38	0.41	3.9	4	14	7	10
1922	8.5	55	−34	0.75	0.76	0.53	0.68	7.4	5	11	8	12
1923	22.2	62	−36	0.38	0.35	0.23	0.32	3.6	3	16	8	7
1924	2.9	58	−46	0.40	0.39	0.54	0.44	5.3	4	12	7	12
1925	16.5	67	−38	0.24	0.30	0.30	0.28	2.6	3	12	8	11
1926	9.2	55	−36	0.60	0.50	0.59	0.56	5.5	3	14	8	9
1927	− 1.8	43	−38	0.96	0.52	0.91	0.80	8.7	5	14	7	10
1928	20.7	57	−30	0.47	0.23	0.27	0.32	3.2	3	14	7	10
1929	12.5	59	−38	0.68	0.88	0.88	0.81	9.9	5	12	8	11
1930	19.9	53	−30	0.21	0.16	0.21	0.19	2.0	3	12	8	11
1931	21.0	58	−21	0.25	0.15	0.29	0.23	2.7	2	13	8	10
1932	12.4	60	−31	0.17	0.14	0.28	0.20	1.7	3	14	10	7
1933	8.6	62	−38	1.09	0.79	0.83	0.90	9.7	6	9	8	14
1934	12.6	53	−44	0.40	0.22	0.29	0.30	3.9	5	9	8	14
1935	12.6	51	−34	0.65	0.52	0.34	0.50	5.6	5	10	7	14
1936	15.0	59	−36	0.50	0.32	0.46	0.43	5.5	4	11	8	12
1937	11.4	51	−33	0.62	0.51	0.49	0.54	6.5	6	10	9	12
1938	18.2	55	−41	0.40	0.30	0.26	0.32	4.1	4	11	10	10
1939	26.7	70	−20	0.27	0.30	0.27	0.28	2.3	4	10	10	11
Period	13.0	72	−50	0.55	0.46	0.47	0.49	5.2	4	12	8	11

Climatological Data for December 1939

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	43	28.0	+15.8	67	6	− 9	31	42	0.22	−0.32	0.18	2.0	2	15	8	8	nw.	James. H. Erickson.
Cavalier	Pembina	894	29	23.6	......	63	6	−12	29	36	T.	−0.84	T.	T.	0	11	6	14	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	42	25.0	+12.7	65	7	−12	30†	43	0.62	+0.06	0.40	2.0	2	14	4	13	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	9	......	......	....	....	....	....	......	0.62	....	0.58	3.8	2	7	14	10	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	42	24.5	+15.0	64	6	−13	30	32	0.35	−0.19	0.26	2.0	6	5	7	19	w.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	38	25.2	+10.6	67	6	−10	30	40	0.18	−0.22	0.15	3.5	3	5	18	8	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	15	24.0	+15.1	63	12	−15	30	45	0.04	−0.54	0.02	1.4	3	9	11	11	w.	Mike Davis.
Ellendale	Dickey	1,457	44	27.3	+10.5	63	9	−10	29	37	0.19	−0.27	0.08	2.1	5	12	6	13	nw.	J. E. Demmer.
Fargo	Cass	895	3	24.9	+13.4	63	6	− 9	30	36	0.48	+0.21	0.40	2.0	5	......	....	......	......	W. B. Aerological Sta.
Forman	Sargent	1,249	46	25.2	+ 9.9	63	6	−11	29	35	0.24	−0.32	0.07	2.8	4	16	8	7	s.	Helge Dyste.
Fullerton	Dickey	1,439	41	28.8	+14.4	68	6	− 9	30	46	0.30	−0.55	0.16	2.5	4	4	18	9	nw.	F. O. Alin.
Grafton	Walsh	827	47	26.0	+17.1	63	6	−10	30	39	T.	−0.54	T.	T.	0	7	13	11	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	48	23.4	+12.8	58	6	−10	30	35	0.40	−0.20	0.32	1.3	7	2	14	15	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	10	26.4	+ 9.9	67	6	− 7	30	39	0.12	−0.40	0.11	0.5	2	3	19	9	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	47	25.2	+18.4	64	6	−15	30	37	0.10	−0.52	0.10	T.	1	6	12	13	nw.	Charles McAdams
Hillsboro	Traill	901	39	.....	....	....	....	.....	....	......	.....	....	......	....	......	......	......	......	......	Lyle George.
Jamestown	Stutsman	1,457	47	28.8	+15.4	67	6	−12	29	43	0.43	−0.23	0.28	2.8	3	16	5	10	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	43	24.1	+15.8	64	6	−16	30	39	0.14	−0.49	0.04	1.0	8	3	15	13	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	46	26.6	+15.6	63	6	−11	30	37	0.30	−0.27	0.30	0.5	1	7	11	13	w.	W. L. Goodison.
Lisbon	Ransom	1,091	35	27.6	+13.5	67	6	− 9	29†	45	0.34	−0.14	0.26	1.0	3	10	9	12	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	17	24.7	+15.2	66	6	−13	30	41	0.54	−0.29	0.48	1.6	4	8	11	12	w.	C. E. Blasky.
McLeod	Ransom	1,075	28	28.4	+14.0	68	5	−10	30	40	0.30	−0.18	0.21	0.2	3	9	12	10	sw.	J. G. Carlson.
Mayville	Traill	975	43	27.6	+14.7	57	6†	− 8	30	39	0.02	−0.52	0.02	0.1	1	4	19	8	n.	H. B. Addicott.
Oakes	Dickey	1,318	10	27.3	+11.8	68	6	−16	29	46	0.08	−0.34	0.03	1.6	4	13	6	12	nw.	F. H. Murray.
Park River	Walsh	998	35	26.6	+16.1	63	6	−10	30	36	0.02	−0.41	0.02	0.5	1	11	7	13	nw.	E. J. Taintor.
Pembina	Pembina	789	65	24.8	+18.5	62	6	−12	30	38	0.06	−0.58	0.06	0.2	1	8	14	9	s.	Harry A Gordon.
Petersburg	Nelson	1,520	9	.....	....	....	....	. .	..	.....	0.33	....	0.33	T.	1	11	8	12	sw.	T. M. Rykken.
Sharon	Steele	1,516	15	25.1	+14.5	64	6	−12	30	36	0.55	+0.10	0.46	3.9	6	5	14	12	w.	Nels O. Grefsheim.
Valley City	Barnes	1,245	33	27.8	+14.1	64	6	−10	30	42	0.38	−0.10	0.22	4.8	3	15	5	11	nw.	I. C. Robertson.
Wahpeton	Richland	962	47	27.4	+12.1	66	6	− 8	30	43	0.28	−0.18	0.22	0.6	4	5	12	14	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	58	25.2	+13.7	65	6	− 8	30	41	0.39	−0.33	0.34	2.2	4	6	9	16	nw.	U. S. Weather Bureau.
Average for Eastern Division		....	....	25.9	+14.2	68	5†	−16	29†	46	0.27	−0.28	0.58	1.6	3	8	11	12	nw.	....
Middle Division																				
Ashley	McIntosh	2,001	43	24.3	+10.1	64	6	−13	29	38	0.38	−0.18	0.17	4.6	4	13	6	12	nw.	Henry Doerr.
Bisbee	Towner	1,601	3	24.6	....	61	6	−15	30	36	0.05	....	0.03	0.7	2	18	4	9	sw.	I. K. Lund.
Bismarck	Burleigh	1,670	65	27.7	+13.0	66	6	− 9	29	41	0.26	−0.31	0.13	3.9	6	9	9	13	w.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	47	24.1	+16.7	63	6	−12	30	40	0.06	−0.41	0.02	0.6	3	8	11	12	nw.	N. D. School of Forestry
Carrington	Foster	1,579	41	27.4	+15.7	67	6	−14	30	42	0.49	+0.10	0.34	3.2	2	10	2	19	sw.	Soo Line Agent.
Carson	Grant	2,500	27	29.2	+14.5	68	6	−11	28	41	0.78	+0.27	0.30	6.7	5	6	16	9	nw.	J. W. Evens.
Center	Oliver	....	1	27.0	....	65	6	−12	29	43	0.29	....	0.25	3.6	3	10	15	6	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	13	28.0	+14.9	66	6	−12	30	39	0.49	+0.07	0.43	2.0	2	10	5	16	sw.	R. L. Williams.
Drake	McHenry	1,634	10	25.7	....	65	6	−13	30	35	0.66	.. ....	0.45	2.2	7	2	12	17	sw.	Peter Anton.
Dunseith	Rolette	1,682	43	24.4	+15.3	64	6	−15	30	37	0.07	−0.35	0.03	1.7	4	6	15	10	sw.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	34	25.0	+15.7	66	6	−18	30	49	0.15	−0.33	0.04	1.5	7	9	12	10	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	27	28.1	+13.7	67	6	−10	28	43	0.36	−0.09	0.20	1.7	3	11	12	8	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	27	26.4	+15.8	67	6	−11	30	40	0.42	−0.18	0.41	0.1	2	11	11	9	w.	John V. Zuber.
Fort Yates	Sioux	1,670	39	27.5	+ 9.1	67	11	−10	28	42	0.21	−0.21	0.18	4.0	3	15	5	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	18	28.5	+16.1	64	6	−14	30	36	0.05	−0.38	0.02	0.5	3	7	11	13	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	9	26.6	....	58	10	−10	31	35	0.34	....	0.22	10.0	5	11	13	7	nw.	A. H. Haut.
Garrison	McLean	1,901	62	26.8	+13.1	66	6	− 9	28†	42	0.38	−0.11	0.28	3.0	5	8	9	14	nw.	E. L. Vorachek.
Granville	McHenry	1,504	32	26.8	+14.8	64	6	−14	30	44	0.17	−0.30	0.12	T.	2	5	16	10	nw.	W. A. Christianson.
Hansboro	Towner	1,597	31	24.6	+16.6	65	6	−15	30	34	T.	−0.59	T.	T.	0	10	9	12	nw.	W. E. Disher.
Linton	Emmons	1,711	22	27.9	+14.0	69	6	−13	29	50	0.25	−0.13	0.08	3.2	4	13	11	6	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	21	26.0	+14.0	62	9	−14	30	41	0.55	+0.03	0.25	2.2	6	14	4	13	nw.	F. W. Perry.
Maddock	Benson	1,604	24	25.5	+15.5	62	6	−20	30	40	0.35	+0.01	0.27	3.8	2	12	6	13	nw.	A. T. Felland.
Mandan	Morton	1,750	25	26.8	+13.1	66	6	−11	29	39	0.31	−0.16	0.07	3.7	7	13	6	12	w.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	36	......	....	....	....	.....	....	....	0.68	+0.12	0.60	3.2	4	10	7	14	w.	P. B. Anderson.
Max	McLean	2,093	10	24.6	......	63	6	−10	30	42	0.56	....	0.48	1.2	3	11	5	15	......	A. W. Rice.
Minot	Ward	1,557	43	29.0	+17.1	66	6	−13	30	44	0.08	−0.38	0.05	1.0	4	10	5	16	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	46	26.2	+15.2	69	6	−19	30	43	0.06	−0.36	0.02	0.1	3	9	11	11	sw.	Iver Johnson.
Napoleon	Logan	1,955	47	26.5	+13.9	65	6	−10	29	36	0.60	+0.15	0.40	4.5	7	13	6	12	sw.	C. J. Hoof.
New Salem	Morton	2,163	35	27.0	+11.7	66	6	−12	28	46	0.36	−0.22	0.14	4.0	4	15	10	6	nw.	J. Christianson.
Pettibone	Kidder	1,856	30	24.4^{a}	+13.9	65^{a}	6	−14^{a}	31	44^{a}	0.38	−0.09	0.30	3.5	3	7	7	17	nw.	Sam Loeppke.
Rolla	Rolette	1,860	2	24.4	....	64	6	−15	30	32	0.14	....	0.05	1.4	5	10	11	10	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	10	......	....	....	....	.....	....	......	0.35	−0.13	0.22	2.2	5	4	12	15	sw.	W. B. Paterson.
Ryder	Ward	2,108	10	......	....	....	....	.....	..	.....	0.53	+0.17	0.42	1.3	5	16	7	8	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	3	......	....	....	....	.....	....	.....	0.32	....	0.11	2.5	5	12	9	10	nw.	J. B. Smith.
Steele	Kidder	1,857	45	26.1	+13.8	67	6	−15	30	45	0.14	−0.43	0.10	3.0	3	9	10	12	sw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	10	......	....	....	....	.....	...	......	0.08	−0.08	0.04	1.4	3	13	5	13	sw.	G. N. Pilgard.
Timmer	Morton	....	2	......	....	...	...	.....	...	......	0.25	... ...	0.10	6.0	4	......	......	......	.....	Geo. M. Sinclair.
Towner	McHenry	1,482	37	25.8	+15.7	67	6	−14	30	45	0.30	−0.14	0.12	1.5	4	5	16	10	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	25	28.0	+16.4	67	6	− 9	30	41	0.31	−0.20	0.25	1.3	3	13	7	11	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	31	......	....	...	...	.....	....	......	0.26	−0.15	0.13	1.7	7	13	8	10	nw.	Adam Leno.
Velva	McHenry	1,511	12	28.3	+13.2	66	6	−11	30	42	0.43	+0.03	0.37	1.0	4	10	9	12	nw.	Oscar Anderson.
Washburn	McLean	1,731	38	28.8	+14.8	65	6	− 7	28†	38	0.13	−0.34	0.06	1.6	3	14	1	16	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	33	23.2	+13.2	65	6	−15	30	46	0.02	−0.28	0.02	0.5	1	15	8	8	nw.	John J. Egger.
Willow City	Bottineau	1,471	47	22.4	+13.7	65	6	−16	30	53	0.05	−0.54	0.05	0.7	1	10	13	8	nw.	O. M. Sanderson.
Wilton	McLean	2,159	3	......	......	....	....	.....	....	....	......	....	......	.....	.....	......	......	.....	....	Soo Line Agent.
Wishek	McIntosh	2,010	18	26.5^{d}	+13.5	63^{d}	6	−15^{d}	30	41^{d}	0.46	−0.18	0.18	5.0	6	11	9	11	nw.	H. M. Larson.
Zap	Mercer	1,838	24	......	....	....	....	.....	....	....	......	....	......	.....	.....	......	.....	......	......	Fred Buechler.
Average for Middle Division		....	.....	26.4	+14.5	69	6	−20	30	53	0.30	−0.16	0.60	2.5	4	11	9	11	nw.	....

Continued on page 48

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for December 1939

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red												T.						.18	.04	T.												0.22
Cooperstown[2]	Sheyenne	T.											T.						.22	.40													0.62
Courtenay[2]	James	T	T.													T.			.58						.04								0.62
Devils Lake[1]	Devils Lake	.02	T	.02							T.	T.	T.			T.			.26		T.	T.				T.	.01	T.	.01	T.	T	.03	0.35
Edgeley	James			.02										T.					.15						.01								0.18
Edmore	Devils Lake			.01															.02								T.	T.			.01		0.04
Ellendale	James	T.		T.									T.						.02	.04	.01				.08			.04				T.	0.19
Fargo[1]	Red	T.	.01								T.		T.			T.			.40	T	T	T.	T.		T	T.	T	.01	T	.01		.05	0.48
Forman	Sheyenne																		.06	.06	T				.07		T		.05			T.	0.24
Fullerton	James	T.		T.									T.						.15		T.				.04			.07	T.			.04	0.30
Grafton	Red		T.									T.				T.			T.								T.	T.	T.	T.		T.	T.
Grand Forks[1]	do	.02	.01										.01			.01			.32	T.							.01	T.	.02	T.		T.	0.40
Hankinson[2]	do																	.01	.11		T.				T.		T.	T.					0.12
Hannah	Pembina			T.	T.								T.			.10										T.			T.	T.	T.	T.	0.10
Hillsboro	Red																																
Jamestown	James												T.			.06			.09	.28													0.43
Langdon[2]	Pembina		.01	.04									.01			.02												.02	.02	.01		.01	0.14
Larimore	Red		T																.30		T.											T.	0.30
Lisbon	Sheyenne												T			.03		T.	.26	.05	T	T.			T	T.	T.	T.	T.			T.	0.34
McHenry	James	T.		T.									T.			T.			.48						.02			.02	T.			.02	0.54
McLeod	Sheyenne															T.			.07	.21		T.			.02			T	T.				0.30
Mayville	Red		T																.02														0.02
Oakes	James																		.03	.02					.01			.02					0.08
Park River	Red																		T		.02	T							T.				0.02
Pembina	do	T.														.06	T.		T.	T							T.		T.	T.		T.	0.06
Petersburg	do															T.			.33		T	T.						T.					0.33
Sharon	do	T.	T.										T.						.46	T.	.02	T.			T.	.01	.01	T.	.02	T.		.03	0.55
Valley City	Sheyenne															T.			.22	.10	T.				.06								0.38
Wahpeton	Red	.01	T.										T.			T.			.22	.04	T.				T.		T	T.	T.			.01	0.28
Moorhead, Minn[1]	do	T.	.03								T.		.01			T			.34	T.	T.	T.	T.	T.		T	T	T.		T.	T.	.01	0.39
Middle Division																																	
Ashley[2]	Missouri															T.			T.	.17		T			.12			.06				.03	0.38
Bisbee	Devils Lake	T.		.02									T.			T.			T.		T.					T.	T.	T.	T.			.03	0.05
Bismarck[1]	Missouri	T.	T.								T.		T.			T.		.01	.12		T.	T		T.	.01	T.	.05	.01	T	T.	T.	.06	0.26
Bottineau	Mouse	.02											.02								T.	T.			T.	T.	T	T	T.			.02	0.06
Carrington[2]	James												T						.34					T.	T.		.15					T.	0.49
Carson	Heart		.01																.20		.20							.30				.07	0.78
Center	Missouri															T.		T.	.03								.01					.25	0.29
Dogden Butte	Mouse	T.		T.									T			T.			.43		T.					T	T.	T.				.06	0.49
Drake[2]	do		.02										.03	.02					.45	.10						T.	.03	.01	T.			T.	0.66
Dunseith	do	.03		.01									.02			T.			T		T.	T				T.			.01			T.	0.07
Eckman	do	.02		.04							.02		.01			.02					T.					T.		.02	T.			.02	0.15
Energy	Missouri																		.20		T.	T.				T	.04	T.				.12	0.36
Fessenden[2]	James	T.											T.						.41						T	T		.01	T.			T.	0.42
Fort Yates	Missouri																		.18								.02	.01				T.	0.21
Foxholm (near)	Mouse	T.		.01									T.			T.					T			T.		T.	.02					.02	0.05
Gackle	James	T.		.01														.02	.22	T					.07	T.		.02					0.34
Garrison	Missouri	.02														T.		T.	.28		T.	T.				T.	.04	.02				.02	0.38
Granville	Mouse	T.		.05							T		T.						.12		T.					T.	T.	T.	T.			T.	0.17
Hansboro	Devils Lake	T.		T.									T.			T.											T.		T.			T.	T.
Linton	Missouri	T.														T.			.08					T.			.08	.02				.07	0.25
McClusky	do		T.	T.								.06							.25	.12						.02		.02			T.	.08	0.55
Maddock	Sheyenne	T.											T.						.27						T.				T.			.08	0.35
Mandan[2]	Missouri	T.													T.			.03	.05		T.			T.		.02	.07	.02		T	.06	.06	0.31
Max[2]	do		T.									T.							.48								T.	.02				.06	0.56
Minot	Mouse	T.		.01									T.			T.			.05		T.			T.	T.	T.	.01	T.				.01	0.08
Mohall	do	T.		.02									T			.02					T.						T.	T				.02	0.06
Napoleon[2]	Missouri													T.					.07	.40		.02			.05			.02	.02			.02	0.60
New Salem	Heart	T.														T			.10								.07	.05				.14	0.36
Pettibone	James															.04			.30						T.			T.				.04	0.38
Rolla	Devils Lake	.03		.05									.01			T					T.	T.				T.	.01	T.	T	T		.04	0.14
Rugby (near)	Mouse			.02									T.	.05			T.	T.	.22							T.	.01	T.	T.		.05	T	0.35
Ryder[2]	Missouri												T.					.42				.01					.04	.03				.03	0.53
Selfridge	do																	.05	.10			T.				T.	.04	.02			T.	.11	0.32
Steele	do												T.			T.			.10						T.			.01			T.	.03	0.14
Tagus	Mouse		T	.01									T						T			T.	T.	T.		T.		.04		T.		.03	0.08
Towner	do		.10										.03		T.				.12		T	T.				T	T.	T	T.			.05	0.30
Turtle Lake	Missouri	T.											T.						.25								.02					.04	0.31
Tuttle	do	T.											.02			.01			.13	T	T	T			.04	T	T	.01			.01	.04	0.26
Velva	Mouse	T		.01									T						.37		T.					T.	T.	.02				.03	0.43
Washburn[2]	Missouri	T.		T														T.	.06		T.					T.	.02	T.				.05	0.13
Westhope	Mouse	T.		T.								T.				T.				T.	T	T.				T.	T.	T.				.02	0.02
Willow City	do	T									T.		T.								T.					T.	T.	T	T.		.05		0.05
Wishek[2]	Missouri															T.		.06	.18	T.				.12		T.	.03	.01			.06		0.46
Zap	Knife																																
Western Division																																	
Alpha	Lit. Missouri	T.	T.							.01									.03		.01				T.	T.	.11				T		0.16
Amidon	do	T.	.03																.02			.01				.01	.08						0.15
Beach	do	T	T.															T	.02			.02	.01			T	.15					T	0.20
Berthold Agency	Missouri	T.	T.															.11	T.								.01					.24	0.36
Bowman[2]	Grand		T.															T.	T							T							T.
Crosby	Mouse		.01																				.02	.03			.02					.10	0.18
Dickinson[2]	Heart	T.	.01	.02															T.	T		.02	.04		T.		.08	.03	T.		.01		0.21
Dunn Center	Knife		T																T.		T.	T.	T.	T.	T.	T	.12	T.		T		.13	0.25
Fairfield	Lit. Missouri	T	T.															T.				.07					.07	T.			.04		0.18
Fryburg	Heart	.02	.08													T			.02			T	.05	T.	T	T	.08	T.	.07	T	T.	T	0.32
Hettinger	Grand	T.																	.06			T				.02	.09						0.17
Howard (near)	Missouri	T	T.														T.			T.	T	.01	.08				.16					.24	0.49
Kenmare	Mouse	.01	T										T.								.01	.01		.01		T	.01	T.					0.05
Marmarth	Lit. Missouri	.08	.03								.03								.02			.05	.01			.01	.20	T.					0.43
Mary	do	T.																	.09				T.				.03					.07	0.19
Medora	do	T	.04													T		T.	T.			T	T.	T.			.17	T.			T		0.21
Mott	Cannon Ball		.01																.03			.03	T.			T	.06	.01					0.17
New England[2]	do									T.								T.	T		.04	T.				.16	T.						0.20
Parshall	Missouri	.01	.02													T			.23			T.		T		T.	.05	.02				.08	0.41
Portal[2]	Mouse	T.														.02								T.				T.				.05	0.07
Powers Lake	Missouri		.09																			T					.03						0.12
Richardton	Heart		.01															T	.03			.02	.01				.13	.03				.05	0.28
Sanish[2]	Missouri	.01																	.20				.05	.01			.02	T.				.14	0.43
Stanley	do	T.	T															.08				T.		T		T	.06	T.				.06	0.20
Tioga	do																	.10					.05	.05			.05	T				.05	0.30
Trotters	Lit. Missouri		.05																.08				.10				.21	T				T.	0.44
Watford City	Missouri															T.			.27			.01	.04	.03	.05	.10						.13	0.63
Wildrose	do	.02	T.																			T	T			T	T	.10		T		.08	0.20
Williston[1]	do	T.	.01													T.	T	.27	.12			.01	.04	.01			.15	T.		T.	.03	.05	0.69

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for December 1939

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum...	42	30	53	50	55	64	42	56	62	40	58	39	40	45	55	54	54	39	26	16	24	18	20	30	17	17	16	10	25	0	9	35.6
	Minimum...	27	12	21	28	26	24	24	22	29	25	25	15	10	13	17	30	33	14	10	6	5	6	8	4	0	4	−2	−4	−13	−7	−9	13.0
Beach	Maximum..	51	45	52	57	67	64	54	58	57	51	56	42	45	52	54	51	55	50	35	27	36	31	15	22	20	20	9	19	28	25	28	41.2
	Minimum..	33	14	25	31	33	40	18	25	38	19	35	99	24	19	30	37	34	23	11	10	14	14	1	−8	12	8	−8	−7	7	10	2	18.5
Bismarck	Maximum...	47	31	55	56	59	66	47	56	64	38	64	41	43	53	57	54	48	42	32	17	21	29	20	22	15	19	19	11	28	12	9	37.9
	Minimum...	28	21	29	30	28	25	25	25	35	26	34	18	17	14	29	33	35	24	14	13	10	12	7	5	10	13	8	−6	−9	−4	−8	17.5
Bottineau	Maximum...	42	27	48	48	52	63	55	43	55	49	58	45	25	41	48	48	45	35	27	20	18	24	23	21	19	13	12	13	16	15	9	34.1
	Minimum...	23	4	14	20	24	23	23	24	30	22	25	19	10	9	17	29	28	23	15	11	11	14	17	5	12	9	0	−7	−4	−12	−6	14.1
Carson	Maximum...	49	36	55	60	66	68	55	64	65	54	64	46	48	55	56	54	55	48	36	23	26	18	25	22	28	21	18	17	32	25	14	42.0
	Minimum...	30	16	24	28	31	35	17	23	35	17	32	19	11	21	27	30	32	22	11	7	11	2	1	11	12	11	4	−11	−1	1	−2	16.4
Crosby §	Maximum...	50	45	54	55	60	61	53	55	54	46	51	42	30	51	53	52	51	40	38	22	29	29	25	20	16	19	15	9	25	16	5	37.8
	Minimum...	28	29	29	26	23	26	14	25	33	14	22	19	15	18	22	19	28	19	9	5	9	20	16	9	7	3	4	−13	−5	−10	−3	15.2
Devils Lake	Maximum...	43	25	49	46	56	64	39	51	58	30	59	42	28	44	51	50	49	34	22	18	20	23	22	23	17	15	14	9	18	4	5	33.2
	Minimum...	20	13	21	26	28	34	23	24	30	22	28	10	10	16	27	28	32	22	14	14	11	15	7	8	10	12	7	2	−2	−13	−8	15.8
Dickinson §	Maximum...	40	40	54	58	68	65	53	60	60	50	59	38	46	59	55	53	57	35	41	17	26	24	15	22	20	20	14	18	29	18	29	40.1
	Minimum...	28	10	15	25	26	25	17	17	18	12	12	35	15	12	17	25	28	27	12	6	8	8	−3	−5	0	13	2	−11	−7	5	5	12.8
Dunn Center §	Maximum...	45	35	53	60	61	62	52	59	54	49	60	46	46	54	57	53	52	45	43	22	25	22	22	20	18	19	14	21	28	19	12	39.6
	Minimum...	28	3	22	24	18	24	21	15	31	44	40	31	30	35	34	29	29	18	1	−3	2	−2	−5	2	−2	3	−9	−18	−14	−5	−13	13.2
Fessenden §	Maximum...	50	30	55	52	58	67	55	53	61	52	62	52	34	45	55	52	49	45	24	22	17	30	19	19	18	20	19	15	23	20	5	38.0
	Minimum...	21	9	22	25	26	31	23	25	35	12	22	18	8	11	26	30	29	22	8	13	9	10	1	13	13	11	11	−7	−7	−11	−4	14.7
Fullerton	Maximum...	48	31	52	54	55	68	57	50	65	54	59	56	32	45	58	56	53	46	34	22	18	32	27	30	22	18	19	16	27	27	11	40.1
	Minimum...	25	16	25	32	31	22	24	23	37	21	24	25	10	12	29	28	35	34	17	13	11	12	4	14	5	11	12	6	−8	−9	1	17.6
Garrison §	Maximum...	44	31	52	55	60	66	44	54	59	36	60	37	43	52	54	53	46	42	34	17	22	28	20	22	16	18	20	12	27	6	8	36.6
	Minimum...	31	19	27	27	22	24	20	20	36	22	29	22	11	13	26	33	42	28	16	13	11	13	9	14	10	11	9	−9	−7	−9	−2	17.1
Grafton	Maximum...	47	25	46	52	54	63	58	47	54	52	48	55	23	33	46	51	49	35	26	23	22	28	25	29	23	23	18	18	22	20	7	36.2
	Minimum...	22	13	17	27	30	24	26	24	33	26	24	19	5	10	19	30	22	19	18	17	7	10	9	8	11	14	12	5	9	−10	−2	15.7
Grand Forks	Maximum...	42	20	42	50	52	58	43	47	53	31	53	44	21	34	45	52	49	32	24	21	14	25	17	24	21	20	18	15	20	0	7	32.1
	Minimum...	17	10	16	26	28	26	25	25	31	25	25	9	5	11	20	29	26	22	19	11	3	10	5	10	6	15	12	3	0	−10	−6	14.6
Jamestown §	Maximum...	48	35	52	51	61	67	61	59	63	55	62	56	34	45	55	55	48	51	30	27	25	29	30	23	23	20	23	20	27	32	7	41.1
	Minimum...	27	16	25	30	31	30	25	23	36	20	22	22	12	12	25	31	33	24	13	13	11	13	2	10	4	14	12	0	−12	−11	−3	16.5
Kenmare	Maximum...	52	33	50	56	65	61	55	52	57	49	52	56	42	51	52	51	50	41	36	30	25	29	24	24	19	18	16	16	22	20	8	39.1
	Minimum...	32	22	26	32	32	48	22	32	38	25	34	21	16	20	31	30	30	26	15	8	12	20	19	9	7	8	−1	−6	−2	−13	0	19.1
Langdon	Maximum...	43	25	46	50	54	64	59	47	53	44	53	49	28	39	47	46	49	34	29	23	21	28	25	30	18	15	15	15	20	20	5	35.3
	Minimum...	20	8	15	25	21	26	20	24	22	20	23	15	1	10	19	29	24	19	12	13	7	9	9	6	7	7	9	0	0	−16	−5	12.9
Marmarth	Maximum...	55	42	55	58	65	66	54	6	61	58	57	44	45	53	57	55	61	48	37	30	29	29	17	26	21	20	22	20	34	28	31	43.2
	Minimum...	28	10	22	28	23	20	15	22	25	20	17	28	12	12	25	16	30	25	5	3	16	12	−4	−12	15	5	−10	−20	−2	13	2	12.9
Minot	Maximum...	50	32	54	56	59	66	57	54	62	51	62	50	40	53	56	54	48	41	34	21	24	32	25	28	28	20	18	18	28	21	6	40.3
	Minimum...	32	15	26	27	23	33	22	29	41	24	35	22	13	9	29	32	32	29	12	12	11	17	11	10	13	11	6	7	−4	−13	−3	17.7
Mott	Maximum...	62	36	55	59	69	67	65	64	65	58	69	50	48	55	64	55	56	57	41	32	24	30	25	26	22	20	19	13	35	28	32	45.2
	Minimum...	33	12	22	26	23	29	17	16	27	14	33	31	18	13	20	16	30	25	9	6	11	9	8	7	8	12	0	9	−5	5	−7	15.4
Pembina	Maximum...	40	20	46	48	53	62	55	49	50	55	52	52	23	34	37	49	43	33	26	29	22	32	25	29	24	18	19	20	22	17	6	35.2
	Minimum..	18	7	12	12	26	25	22	25	28	22	24	14	1	10	19	27	23	22	21	7	12	11	15	15	11	8	10	10	10	−12	−4	14.5
Sharon	Maximum...	39	24	49	47	57	64	52	49	60	49	55	50	27	41	55	51	47	36	23	22	16	23	17	26	19	16	16	11	20	13	7	34.9
	Minimum...	24	10	20	27	27	28	23	26	34	22	23	18	6	14	26	26	28	23	18	13	9	9	2	11	3	12	10	0	−4	−12	−2	15.3
Steele	Maximum...	46	28	55	50	55	67	60	52	64	50	66	54	40	47	57	58	48	40	27	24	19	29	21	27	19	18	17	11	27	22	7	38.9
	Minimum...	26	10	24	23	20	22	19	20	27	28	27	22	10	15	20	25	28	27	10	10	6	9	0	9	0	10	10	−9	−11	−15	−9	13.3
Valley City	Maximum...	41	33	47	45	64	14	63	46	59	56	50	49	25	41	51	51	49	46	31	24	24	28	27	22	21	18	22	22	24	28	11	37.8
	Minimum...	27	15	24	30	29	22	30	26	32	26	26	23	10	12	27	29	31	31	18	15	11	14	5	16	6	10	13	8	−8	−10	−4	17.7
Wahpeton	Maximum...	47	31	42	50	56	66	55	55	59	51	54	52	27	41	52	57	49	46	37	24	20	27	27	28	28	20	23	21	20	20	11	38.6
	Minimum...	30	11	15	27	27	23	30	26	33	26	25	21	5	10	22	30	28	30	21	19	1	8	3	16	3	16	14	3	−5	−8	−6	16.3
Williston	Maximum...	46	41	51	57	60	63	48	50	56	51	57	41	46	52	55	53	46	38	33	21	31	31	21	19	17	21	13	9	27	12	13	38.0
	Minimum...	27	18	30	31	29	32	22	27	30	16	35	26	23	22	32	38	32	27	19	10	15	19	16	7	12	12	−7	−10	1	4	−13	18.8
Moorhead, Minn.	Maximum...	43	20	41	50	54	65	49	50	55	38	54	47	25	39	53	55	46	40	25	21	14	26	25	25	20	20	20	14	19	10	7	34.5
	Minimum..	20	11	15	28	30	24	31	26	33	25	28	12	7	11	19	30	29	25	21	11	4	13	7	13	5	14	13	0	−4	−8	−3	15.8

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

Climatological Data for December 1939—Continued from page 46.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	....	12	......	....	....	....	.....	....	......	0.16	−0.34	0.11	4.0	4	16	7	8	w.	H. A. Bury.
Amidon	Slope	....	16	29.5	+12.4	67	5	−10	31	40	0.15	−0.33	0.08	1.2	5	12	11	8	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	33	29.8	+12.8	67	5	−8	24†	36	0.20	−0.30	0.15	2.4	4	2	23	6	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	45	28.6	+13.2	68	6	−15	28	50	0.36	−0.02	0.24	4.0	3	14	10	7	nw.	C. L. Hall.
Bowbells	Burke	1,958	10	26.2	+14.0	63	6	−16	30	37	0.03	−0.44	0.03	0.4	1	4	11	16	nw.	Charles Kaufman.
Bowman	Bowman	2,872	24	27.2	+12.1	68	9	.....	...	......	T.	−0.36	T.	0.1	0	9	16	6	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	30	26.5	+14.9	61	6	−13	28	39	0.18	−0.33	0.10	3.0	5	7	9	15	sw.	J. H. Phelps.
Dickinson	Stark	2,543	46	26.4	+10.0	68	5	−11	28	47	0.21	−0.29	0.08	2.1	7	14	9	8	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	39	26.4	+ 8.7	62	6	−18	28	44	0.25	−0.21	0.13	2.0	2	13	7	11	nw.	O. T. Evenson.
Epping	Williams	2,224	28	27.4	+13.8	62	7	−14	28	47	0.51	+0.01	0.31	4.5	4	14	2	15	nw.	T. Beachler.
Fairfield	Billings	....	2	......	....	....	....	.....	....	......	0.18	....	0.07	2.0	3	13	11	7	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	20	30.4	....	67	5	−5	28	33	0.32	−0.19	0.08	3.0	6	15	9	7	nw.	Verne King.
Hettinger	Adams	2,675	31	31.0	+14.2	69	5	−7	28	38	0.17	−0.23	0.09	2.8	3	3	14	14	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	31	26.2	+14.6	65	6	−15	31	40	0.49	−0.14	0.24	6.2	4	10	12	9	sw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	7	29.1	....	65	5	−13	30	35	0.05	−0.41	0.01	0.6	5	13	12	6	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	29	28.0	+11.2	66	6	−20	28	46	0.43	+0.02	0.20	3.3	8	14	9	8	nw.	S. P. Crane.
Mary	McKenzie	....	10	......	....	....	....	.....	....	......	0.19	−0.11	0.09	3.0	3	13	8	10	sw.	Fred Hartman.
Medora	Billings	2,271	23	......	....	....	....	.....	....	......	0.21	−0.24	0.17	1.7	2	12	15	4	nw.	Vernon Thompson.
Mott	Hettinger	2,424	31	30.3	+16.5	69	5	−7	31	48	0.17	−0.43	0.06	2.8	5	2	11	18	w.	P. G. Wick.
New England	Hettinger	2,400	44	28.1	+11.6	70	5	−13	27	51	0.20	−0.21	0.16	2.0	2	10	11	10	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	23	25.5	....	63	6	−15	28	44	0.41	−0.01	0.23	3.0	6	4	19	8	sw.	C. E. Shubert.
Portal	Burke	1,954	33	25.3	+13.1	61	6†	−16	30	41	0.07	−0.40	0.05	0.5	2	17	4	10	w.	R. G. Wegener.
Powers Lake	Burke	2,205	33	28.5	+14.4	66	6	−12	29	35	0.12	−0.44	0.09	2.3	2	13	9	9	w.	Geo. B. Gee.
Richardton	Stark	2,467	22	29.4	+15.4	64	5	−5	28	38	0.28	−0.11	0.13	4.9	7	9	10	12	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	13	25.6	+14.2	65	7	−12	28	46	0.43	−0.18	0.20	3.9	6	11	8	12	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	1	25.2	....	61	6	−14	30	37	0.20	....	0.08	2.7	3	12	8	11	w.	Leroy Edwards.
Tioga	Williams	2,279	10	......	....	....	....	.....	....	......	0.30	−0.16	0.10	5.0	5	13	4	14	nw.	B. V. Olson.
Trotters	Golden Valley	....	13	......	....	....	....	.....	....	......	0.44	+0.04	0.21	2.8	4	1	20	10	sw.	Walter Gunewald
Watford City	McKenzie	2,084	25	29.1	+16.1	65	5	−10	28	38	0.63	+0.09	0.27	4.3	7	14	8	9	w.	J. C. Zeller.
Wildrose	Williams	2,258	11	......	....	....	....	.....	....	......	0.20	....	0.10	2.0	3	10	10	11	sw.	L Holter.
Williston	Williams	1,878	59	28.4	+14.6	63	6	−13	31	35	0.69	+0.11	0.39	3.8	9	13	7	11	sw.	U. S. Weather Bureau.
Average for Western Division		....	.....	27.8	+13.3	70	5	−20	28	51	0.27	−0.20	0.39	2.8	4	11	10	11	nw.	....
Average for the State		....	.....	26.7	+13.7	70	5	−20	28†	53	0.28	−0.21	0.60	2.3	4	10	10	11	nw.	....

[WBO, Minneapolis, 1-26-40—1400

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

Vol. XLVIII Bismarck, N. D., Annual 1939 No. 13

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GENERAL SUMMARY

The mean temperature for the year was above normal at almost every station in the state. February, March, June, and October were the only months with subnormal temperatures. February, with a mean temperature of -0.8°, was by far the coldest month of the year and December was the warmest December since statewide records began in 1892. The frost free season extended from May 11th to September 23d or 25th at most stations, which made the growing season somewhat longer than average.

The precipitation averaged below normal in all sections of the state. Only three months, February, June, and August, had precipitation in excess of the normal. November 1939, was the driest month in the climatological history of North Dakota. Dust storms were light and less frequent than in other years. Due to the fact that June was cool and wet, crops were mostly good throughout the state and hay was plentiful. Livestock was good to excellent.

The average temperature for the state was 41.9°, or 2.5° above the 1892-1939 average, and the same as the average for 1938. The highest annual temperature reported was 46.2° at Hettinger; the lowest was 37.6° at Hannah. The absolute range in temperature was 154°, from 108° at Turtle Lake on July 29th to -46° Willow City on February 15th. The average annual precipitation for the state was 14.15 inches, or 2.72 inches below the 1892-1939 average, and 1.18 inches below the average for 1938. The greatest annual precipitation reported was 21.15 inches at McLeod; the least was 9.52 inches at Crosby. The greatest monthly amount reported was 10.91 inches at McLeod in June. The average snowfall for the state was 25.5 inches.

The average number of days with 0.01 inch or more of precipitation was 71.

There were 161 clear days, 109 partly cloudy days, and 95 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS

January.—The temperature averaged considerably above the seasonal normal, with the greatest plus departures in the western section. The coldest weather occurred during the middle of the month, while unusually pleasant weather prevailed during the first decade and again during the third decade. The precipitation was below normal in the middle section and near the normal in the eastern and western sections. Due to the mild weather, livestock ranged freely, thus saving considerable feed.

February.—This was the third coldest February since statewide records began in 1892. More than half of the stations in the central and eastern sections recorded mean temperatures below zero. Precipitation averaged somewhat above normal in all sections, with the greatest amounts in the eastern section. Livestock remained in fair to good condition but considerable yard feeding was necessary.

March.—Although the temperature during March averaged near the seasonal normal, the readings from the 14th to the 18th were considerably below normal, while unusually high temperatures prevailed from the 22d to the 25th. Precipitation was about normal during the first half of the month, but only light, scattered amounts occurred after the 15th. Livestock continued in fair to good condition although considerable yard feeding was necessary. Much bottom land, particularly along the Missouri River, was flooded when ice in rivers broke up during warm weather from the 22d to the 25th.

April.—Cool weather prevailed from the 5th to the 12th, but temperatures were somewhat above the seasonal average during the remainder of the month. There was no freezing weather at most stations after the 22d. The precipitation was below normal in all sections. Due to warm weather near the close of the month, good progress was made in seeding small grains and considerable plowing for corn was accomplished. Early planted spring wheat was up to good stand and color and pastures and ranges were greening, but rain was needed in all sections for feed and crops.

May.—May was a warm dry month. Only two other Mays, since statewide records began, had higher average temperatures. Frost occurred generally on the 11th, although a few stations in the central and southern parts of the state had no killing frost during the entire month. Temperatures remained well above freezing after the 12th. Precipitation was considerably below average in the eastern division, particularly in the southeastern section, and slightly below average in the western division. During the last decade of the month crops in the south-central portion deteriorated considerably due to drought.

June.—The month was cool and moist. A few stations in the northeastern section recorded frost on the 9th but no serious damage was reported. The precipitation was the heaviest for June in 11 years. It was well distributed both geographically and throughout the month. Crops were rather poor at the beginning of the month but June was an unusually good month for crops.

July.—Temperatures were considerably above the 48 year average, with the greatest excess in the eastern division. Generous showers occurred at nearly all stations from the 2d to 7th, and also at many stations on the 17th and 21st. Most stations in the eastern part of the state were very dry. Hail was reported, with some damage at scattered stations on the 18th and 20th. Outlook was for excellent crops until after the middle of the month when hot, dry weather set in. By the close of the month all crops needed rain and many late seeded fields were poor. Pastures were mostly good.

August.—Although the temperature averaged 2.1° above the 48 year mean, it was the coolest August since 1935. Precipitation was fairly well distributed throughout the month. The middle and western divisions averaged above normal and the eastern division averaged below normal. The soil was dry at most places during the last half of the month due to hot weather and by the close of the month corn, potatoes, pastures, and ranges had deteriorated somewhat, but livestock was mostly in good condition. The weather was favorable for farm work.

September.—The month was characterized by above normal temperatures and deficient moisture. Temperatures were high at the beginning and near the middle of the month, but a general killing frost occurred on the 25th. Precipitation averaged only about 50% of the normal. Many stations reported snow on the 28th with the average fall 0.2 inch. Weather conditions were favorable for harvesting and threshing, but fall plowing and seeding were delayed generally by the dry conditon of the soil. Due to generous showers earlier in the season, there was enough feed for livestock and farm animals were generally in good condition.

[Continued on page 53]

Climatological Data for the Year 1939

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number of days				Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall	With .01 in or more precip.	Clear	Pt. cloudy	Cloudy	
Eastern Division																				
Cavalier	Pembina	894	30	39.7	104	July 12	-37	Feb. 15	30	13.35	3.77	Aug.	T.	Nov.†	21.2	52	174	63	128	n.
Cooperstown	Griggs	1,428	43	39.6	102	July 12	-42	Feb. 15	43	13.64	3.50	June	0.02	Nov.	26.2	53	236	44	85	nw.
Courtenay	Stutsman	1,523	....	....	....	....	....	....	11	14.90	5.00	June	0.00	Nov.	30.7	52	167	99	99	nw.
Devils Lake	Ramsey	1,478	43	40.1	99	July 12	-35	Feb. 8	43	14.66	4.65	June	0.09	Nov.	17.3	95	96	114	155	nw.
Edgeley	LaMoure	1,568	39	43.4	100	May 30†	-36	Feb. 15	39	15.13	6.70	June	0.01	Nov.	29.4	62	102	202	61	nw.
Edmore	Ramsey	1,524	15	38.4	98	Aug. 5	-41	Feb. 15	16	12.97	4.60	June	0.02	Nov.	13.1	58	214	72	79	nw.
Ellendale	Dickey	1,451	37	43.7	97	May 30†	-33	Feb. 15	45	20.26	7.83	June	0.02	Nov.	21.7	72	187	79	99	nw.
Fargo	Cass	895	3	41.8	105	July 12	-38	Feb. 15	3	10.61	3.60	June	0.12	Nov.	27.5	85	....	....	....	....
Forman	Sargent	1,249	3	42.0	98	May 30	-38	Feb. 15	47	20.31	9.53	June	T.	Nov.	19.1	53	221	72	72	nw.
Fullerton	Dickey	1,439	43	44.2	98	July 12	-34	Feb. 15	42	19.13	7.27	June	T.	Nov.	36.3	70	157	125	83	nw.
Grafton	Walsh	827	48	42.4	104	July 12	-40	Feb. 15	48	16.20	3.86	Aug.	T.	Nov.†	45.1	68	101	155	109	nw.
Grand Forks	Grand Forks	830	49	40.2	102	July 12	-38	Feb. 15	49	16.67	4.58	June	0.12	Nov.	31.2	94	73	145	147	n.
Hankinson	Richland	1,068	11	42.9	102	July 12	-29	Feb. 16	11	19.16	8.09	June	0.04	Nov.	31.2	76	151	134	80	nw.
Hannah	Cavalier	1,568	31	37.6	96	Aug. 5	-41	Feb. 15	48	13.49	3.93	June	T.	Nov.	16.3	48	152	128	85	nw.
Jamestown	Stutsman	1,457	48	43.0	103	July 29	-37	Feb. 15	48	17.54	7.48	June	T	Nov.	35.4	52	164	99	102	nw.
Langdon	Cavalier	1,615	44	39.3	101	July 12	-37	Feb. 8	44	13.29	3.72	June	0.07	Nov.	21.5	98	111	157	97	nw.
Larimore	Grand Forks	1,134	47	41.8	101	July 12	-35	Feb. 15	47	11.75	2.98	June	T.	Nov.	26.0	57	154	61	150	nw.
Lisbon	Ransom	1,091	36	43.5	104	May 30	-38	Feb. 15	36	19.95	9.26	June	T.	Nov.	31.0	87	167	73	125	nw.
McHenry (near)	Eddy	1,509	18	39.0	103	July 29	-44	Feb. 15	18	11.08	3.56	June	T.	Nov.	18.5	74	136	134	95	nw.
McLeod	Ransom	1,075	28	43.9	102	May 30	-40	Feb. 15	29	21.15	10.91	June	0.12	Nov.	30.6	60	207	68	90	sw.
Mayville	Traill	975	44	42.6	104	May 29†	-38	Feb. 15	44	13.87	4.68	June	T.	Nov.	25.7	48	123	147	95	s.
Oakes	Dickey	1,318	11	43.0	99	May 30	-35	Feb. 15	11	17.32	7.30	June	T.	Nov.	23.0	75	197	59	109	nw.
Park River	Walsh	998	36	39.2	103	July 12	-38	Feb. 15	36	13.87	2.98	June	T	Nov.	41.9	61	153	77	135	nw.
Pembina	Pembina	789	66	39.4	103	July 12	-42	Feb. 15	66	14.86	3.63	Aug.	0.01	Nov.	23.3	74	170	77	118	nw.
Petersburg	Nelson	1,520	....	....	....	....	....	....	10	14.22	3.79	June	0.04	Nov.	21.5	65	141	123	101	nw.
Sharon	Steele	1,516	13	40.6	103	May 30	-36	Feb. 15	16	12.53	4.02	June	0.05	Nov.	28.0	84	121	127	117	nw.
Valley City	Barnes	1,245	34	42.8	103	May 30	-38	Feb. 15	34	12.73	4.19	June	0.11	Nov.	40.8	81	167	121	77	nw.
Wahpeton	Richland	962	48	44.1	99	July 12	-38	Feb. 15	48	18.17	7.96	June	0.03	Nov.	27.1	88	144	107	114	se.
Moorhead, Minn.	Clay	935	59	42.2	102	July 12	-34	Feb. 15	59	11.23	3.92	June	0.09	Nov.	27.2	91	99	117	149	s.
Middle Division																				
Ashley	McIntosh	2,001	44	41.8	100	Aug. 26	-36	Feb. 15	44	20.03	6.20	June	0.00	Nov.	32.9	73	183	70	112	se.
Bisbee	Towner	1,601	4	40.2	99	July 11	-40	Feb. 15	4	12.62	3.40	June	0.00	Nov.	22.6	68	220	42	103	w.
Bismarck	Burleigh	1,674	66	43.8	100	July 29	-39	Feb. 15	66	14.49	5.42	June	0 01	Nov.	26.6	82	128	139	103	nw.
Bottineau	Bottineau	1,638	48	39.5	99	July 12	-39	Feb. 8	48	10.20	3 15	June	0.09	Nov.	15.9	69	134	242	89	nw.
Carrington	Foster	1,579	34	40.9	104	July 29	-35	Feb. 8†	42	14.79	4.29	June	0.00	Nov.	20.9	59	150	32	183	nw.
Carson	Grant	2,500	28	45.0	105	July 29	-37	Feb. 8	28	18.48	5.27	June	0.00	Nov.	28.6	66	117	167	81	nw.
Dogden Butte	McLean	1,880	14	42.3	102	July 29	-36	Feb. 9	14	13.19	3.83	June	0.05	Nov.	26.8	53	158	101	106	nw.
Drake	McHenry	1,634	10	40.5	103	July 29	-38	Feb. 8	11	14.30	3.89	June	0.03	Nov.	23.4	85	118	94	153	nw.
Dunseith	Rolette	1,682	44	39.4	99	Aug. 26	-41	Feb. 8	44	10.12	3.53	June	0.04	Nov.	19.9	69	150	128	87	n.
Eckman	Bottineau	1,500	35	39.8	103	July 11	-45	Feb. 15	35	13.83	3.91	June	0.08	Nov.	32.5	96	133	170	62	nw.
Energy	McLean	1,750	15	43.0	103	July 29	-40	Feb. 15	28	13.21	3.50	June	0.00	Nov.	28.2	46	162	159	44	nw.
Fessenden	Wells	1,610	28	41.3	101	July 11†	-39	Feb. 15	28	14.72	5.36	June	0.02	Nov.	25.4	74	196	67	102	n.
Fort Yates	Sioux	1,670	40	44.2	101	Aug. 26	-33	Feb. 8	40	14.48	6.56	June	T.	Nov.	18.0	48	216	73	76	nw.
Foxholm (near)	Ward	1,657	15	41.6	103	July 11	-38	Feb. 8	19	13.25	2.80	June	0.09	Nov.	30.4	85	122	120	123	nw.
Gackle	Logan	1,951	10	42.5	100	May 30	-38	Feb. 20	10	17.70	7.78	June	T	Nov.	47.5	58	149	112	104	nw.
Garrison	McLean	1,901	45	42.2	102	July 29	-37	Feb. 8	45	14.34	3.99	June	T.	Nov.	36.2	73	151	127	87	nw.
Granville	McHenry	1,504	33	41.2	104	July 11	-40	Feb. 8†	33	12.94	3.97	June	0.11	Nov.	39 5	65	153	128	84	nw.
Hansboro	Towner	1,597	32	38.9	100	Aug. 6	-39	Feb. 8	32	9.98	3.92	June	T	Nov †	27.5	41	168	102	95	nw.
Linton	Emmons	1,711	22	41.2	102	July 29†	-38	Feb. 15	23	16.51	7.46	June	T	Nov.	16.2	65	179	127	59	nw.
McClusky	Sheridan	1,943	15	41.7	99	July 29	-38	Feb. 8	22	13.20	5.11	June	0.00	Nov.	16.2	49	138	105	122	nw.
Maddock	Benson	1,604	25	39.9	102	July 29	-44	Feb. 15	25	13.37	5.08	June	T.	Nov.	26.5	73	173	102	90	nw.
Mandan	Morton	1,750	26	43.2	103	July 29	-34	Feb. 15	26	13.95	4.65	June	T.	Nov.	27.3	75	163	76	126	nw.
Max	McLean	2,093	11	39.9	101	July 29	-36	Feb. 8	11	15.39	4.37	Aug.	0.00	Nov.	26.2	63	137	81	147	nw.
Minot	Ward	1,557	44	42.5	103	July 11	-38	Feb. 8	44	13.20	3.23	June	0.08	Dec.	37.7	89	121	62	182	nw.
Mohall	Renville	1,646	46	39.9	105	July 11	-42	Feb. 8	46	13.40	3.02	June	0.06	Nov.†	21 0	78	143	144	78	nw.
Napoleon	Logan	1,955	48	42.9	102	July 29†	41	Feb. 15	48	18.55	7.50	June	0.00	Nov.	26.7	77	188	72	105	s.
New Salem	Morton	2,163	36	42.9	104	July 29	-39	Feb. 8	36	13.71	2.95	Aug.	0 01	Nov.	24.4	71	199	100	66	nw.
Pettibone	Kidder	1,856	31	41.7	103	July 29	-38	Feb. 15	31	13.17	5.31	June	0.00	Nov.	21.3	43	152	93	120	nw.
Rolla	Rolette	1,860	2	39.4	99	July 11	-38	Feb. 8	2	13.75	4.30	June	0.06	Nov.	25.5	81	146	108	111	nw.
Rugby	Pierce	1,562	....	....	....	....	....	....	11	12.21	3.88	June	0.01	Nov.	28.3	72	98	165	102	sw.
Ryder	Ward	2.108	....	....	....	....	....	....	11	17.18	5.87	July	0.03	Nov.	15.5	66	208	85	72	nw.
Selfridge	Sioux	2,183	....	....	....	....	....	....	3	17.81	6.69	June	T.	Nov.	30.0	58	133	150	82	nw.
Steele	Kidder	1,857	46	41.4	107	July 29	-41	Feb. 15	46	12.68	5.57	June	T.	Nov.	16.7	16	162	105	98	nw.
Tagus (near)	Mountrail	2.179	....	....	....	....	....	....	11	15.94	6.36	June	0.04	Nov.	40.4	99	199	77	89	nw.
Towner	McHenry	1,482	38	41.0	103	July 11†	+40	Feb. 8†	38	13.45	3.76	June	0 02	Nov.	23 0	63	159	126	80	nw.
Turtle Lake	McLean	1.899	26	43.2	108	July 29	-38	Feb. 8†	26	12.53	3.65	June	T.	Nov.	15.2	51	226	49	90	nw.
Tuttle	Kidder	1,936	....	....	....	....	....	....	32	13.51	4.64	June	T.	Nov.	19.3	75	182	101	82	nw.
Velva	McHenry	1,511	13	42.3	99	July 11	-40	Feb. 15	13	13.49	3.49	June	T.	Nov.	26.1	68	126	148	91	nw.
Washburn	McLean	1,731	38	44.4	103	July 23	-35	Feb. 8	39	12.78	3.81	June	T.	Nov.	18.8	58	187	78	100	n.
Willow City	Bottineau	1,471	48	38.5	104	July 11	-46	Feb. 15	48	10 26	3.27	June	0.05	Dec.	22.4	57	176	137	52	nw.
Wishek	McIntosh	2,010	11	41.6	98	May 30	-37	Feb. 14	11	18.46	7.77	June	T.	Nov.	23.1	79	146	124	95	nw.
Western Division																				
Alpha	Golden Valley	....	....	....	....	....	....	....	13	11.45	3.58	June	0.00	Nov.	18.0	70	208	103	59	nw.
Amidon	Slope	....	16	44.4	102	Aug. 26	-39	Feb. 8	16	13.07	4.56	June	0.00	Nov.	14.0	78	177	93	95	nw.
Beach	Golden Valley	2,579	34	44.5	100	July 11†	-38	Feb. 8	34	11.73	3.65	June	T	Nov.	16.2	80	108	186	71	nw.
Berthold Agency	McLean	2,082	47	43.4	103	July 29	-36	Feb. 8†	47	16.79	4.57	Aug.	T.	Oct. †	29.0	41	244	54	67	nw.
Bowman	Bowman	2,872	25	43.5	100	Aug. 15	-35	Feb. 9	25	15.42	5.45	June	T	Nov.†	12.6	65	236	57	72	nw.
Crosby	Divide	1,954	33	40.8	105	July 11	-38	Feb. 8	33	9 52	3.97	June	0.00	Nov.	22.6	68	135	116	114	w.
Dickinson	Stark	2,543	48	41.6	102	July 29	-38	Feb. 9	48	15.75	4.46	June	T.	Nov.	25.3	90	174	121	70	nw.
Dunn Center	Dunn	2,191	41	40.7	105	July 29	-37	Feb. 8	41	13.04	2.72	July	T.	Nov.	18.2	63	170	114	81	nw.
Epping	Williams	2,224	30	42.0	100	July 11†	-41	Feb. 8	30	10.15	3.21	June	0.04	Nov.	15.6	50	228	60	77	nw.
Fryburg	Billings	2,790	4	44.1	100	July 29	-38	Feb. 8	22	12.98	3.70	June	0.00	Nov.	23.2	70	175	113	77	nw.
Hettinger	Adams	2,675	33	46.2	104	Aug. 15	-34	Feb. 8	33	13.07	4.30	June	0.00	Nov.	18.8	54	132	141	92	nw.
Howard (near)	Williams	2,275	33	41.9	99	July 11	-43	Feb. 8	33	11.12	4.98	June	0.01	Nov.	33.8	58	187	92	86	nw.
Kenmare	Ward	1,799	8	42.1	103	July 11	-38	Feb. 8	9	12.10	2.64	June	T	Nov.	31.1	89	178	96	91	nw.
Marmarth	Slope	2,714	26	44.1	97	Aug. 15	-36	Feb. 10	31	15.09	4.33	July	0.00	Nov.	21.6	80	145	102	118	nw.
Mary	McKenzie	....	....	....	....	....	....	....	11	12.73	2.74	June	0.02	Nov.	30.3	58	194	91	80	nw.
Medora	Billings	2,271	....	....	....	....	....	....	23	12.69	3.77	June	0.02	Nov.	18.8	75	175	139	51	nw.
Mott	Hettinger	2,424	33	44.6	102	May 30†	-35	Feb. 8	33	14.09	4.86	June	0.00	Nov.	18.9	70	193	99	73	nw.
New England	Hettinger	2,400	46	44.0	105	Aug. 26	-37	Feb. 7	46	15.42	4.92	June	0.08	Nov.	27.8	63	149	117	99	nw.
Parshall	Mountrail	1,929	7	39.6	99	July 29†	-41	Feb. 8	25	15.60	3.87	June	0.03	Nov.	17.1	83	91	229	45	nw.
Portal	Burke	1.954	27	39.0	104	July 11	-43	Feb. 8†	35	11.04	2.35	July	0.02	Nov.	24.5	62	202	54	109	w.
Powers Lake	Burke	2,205	14	41.9	104	July 11	-41	Feb. 8	35	15.17	4.27	June	0.07	Nov.	38.4	57	192	124	49	w.
Richardton	Stark	2,467	24	43.9	100	July 29	-37	Feb. 8	24	15.62	3.73	June	0.02	Nov.	28.5	95	137	144	84	nw.
Sanish	Mountrail	1,835	15	41.5	102	July 11	-31	Feb. 11	15	11.72	3.92	June	0.12	Mar.	27.4	64	140	153	72	nw.
Stanley	Mountrail	2,258	2	39.6	100	July 11	-39	Feb. 8	2	12.81	3.16	June	0.04	Nov.	26.2	73	170	130	65	nw.
Tioga	Williams	2,279	....	....	....	....	....	....	11	12.06	2.88	June	T.	Nov.	25.5	62	184	84	97	nw.
Trotters	Golden Valley	....	....	....	....	....	....	....	14	11.83	3.31	June	T	Nov.	22.3	59	126	134	95	....
Watford City	McKenzie	2,084	27	44.8	103	July 11	-37	Feb. 8	27	12.50	3.87	June	0.00	Nov.	26.5	61	175	124	66	w.
Wildrose	Williams	2,258	....	....	....	....	....	....	11	11.78	3.28	June	0.09	Nov.	30.4	78	156	105	104	sw.
Williston	Williams	1,878	61	43.2	102	July 11	-37	Feb. 8	61	13.48	3.99	June	0.04	Nov.	20.4	92	187	107	71	se.

†Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1939, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.
Eastern Division																										
Casselton	0.34	-0.12	0.75	+0.25	0.39	-0.10	0.79	-0.88	0.44	-2.43	3.60	-0.11	0.34	-2.45	1.36	-1.23	0.67	-1.45	2.36	+0.89	0.12	-0.51	0.22	-0.32	11.38	-8.46
Cavalier	0.42	-0.25	0.77	+0.25	0.24	-0.47	0.72	-0.63	2.41	+0.01	2.86	-0.34	0.75	-1.92	3.77	+1.41	0.92	-1.34	0.49	-0.92	T.	-0.79	T.	-0.84	13.35	-5.83
Cooperstown	0.33	-0.16	1.58	+1.18	0.12	-0.51	0.40	-0.99	1.36	-1.24	3.50	+0.17	1.18	-1.28	1.40	-1.23	1.88	+0.06	1.25	+0.13	0.02	-0.66	0.62	+0.06	13.64	-4.47
Courtenay	0.24	.....	0.78	.....	0.70	.....	1.07	.....	1.44	.....	5.00	.....	0.75	.....	1.57	.....	1.38	.....	1.35	.....	0.00	.....	0.62	.....	14.90	.....
Devils Lake	0.45	-0.02	0.36	-0.14	0.19	-0.59	1.05	-0.47	1.54	-0.49	4.65	+1.09	2.04	-0.53	2.76	+0.28	0.50	-1.13	0.68	-0.57	0.09	-0.63	0.35	-0.19	14.66	-3.39
Edgeley	0.15	-0.25	1.02	+0.69	0.12	-0.59	0.72	-1.05	1.71	-0.92	6.70	+3.04	1.73	-1.04	1.37	-1.10	0.39	-1.40	1.03	-0.06	0.01	-0.45	0.18	-0.22	15.13	-3.35
Edmore	0.28	-0.23	0.33	-0.11	0.02	-0.66	0.73	-0.49	1.68	-0.24	4.60	+1.34	1.63	-1.12	2.25	-0.05	0.71	-1.09	0.68	-0.37	0.02	-0.68	0.04	-0.54	12.97	-4.24
Ellendale	0.77	+0.28	0.56	+0.02	0.18	-0.73	1.03	-0.76	2.25	-0.52	7.83	+4.55	3.04	+0.30	1.68	-1.04	0.69	-1.07	2.02	+0.91	0.02	-0.60	0.19	-0.27	20.26	+1.07
Fargo	0.34	+0.04	0.75	+0.41	0.39	-0.49	0.79	-1.21	0.44	-2.13	3.60	-0.10	0.42	-3.11	1.36	-1.71	0.61	-1.29	1.31	-0.58	0.12	-0.41	0.48	+0.21	10.61	-10.37
Forman	1.05	+0.59	0.52	-0.02	0.24	-0.50	1.26	-0.61	1.29	-1.86	9.53	+6.04	2.24	-0.73	1.14	-1.64	1.38	-0.79	1.42	-0.03	T.	-0.62	0.24	-0.32	20.31	-0.49
Fullerton	1.36	+0.57	1.46	+0.53	0.45	-0.75	0.87	-1.27	1.17	-2.01	7.27	+3.50	1.94	-1.18	1.78	-0.75	0.69	-1.41	1.84	+0.41	T.	-0.86	0.30	-0.55	19.18	-3.77
Grafton	0.62	+0.13	1.64	+1.10	0.71	+0.06	0.95	-0.26	0.97	-1.20	2.37	-1.03	2.29	-0.26	3.86	+1.28	2.05	-0.29	0.74	-0.48	T.	-0.74	T.	-0.54	16.20	-2.23
Grand Forks	0.62	+0.11	0.96	+0.40	0.73	-0.01	0.98	-0.64	0.91	-1.68	4.58	+1.23	1.37	-1.38	1.95	-0.69	2.32	+0.28	1.73	+0.33	0.12	-0.70	0.40	-0.20	16.67	-2.95
Hankinson	1.25	+0.77	0.77	+0.26	0.21	-0.70	0.74	-1.43	2.25	-0.33	8.09	+5.34	1.59	-1.15	1.49	-0.71	1.23	-0.82	1.38	+0.43	0.04	-0.82	0.12	-0.40	19.16	+0.44
Hannah	0.53	-0.19	0.91	+0.32	0.00	-0.69	1.11	+0.07	1.27	-0.85	3.93	+0.54	2.04	-0.31	2.55	+0.43	0.87	-1.33	0.18	-0.96	T	-0.75	0.10	-0.52	13.49	-4.24
Jamestown	0.57	+0.02	1.34	+0.75	0.45	-0.42	1.60	+0.02	1.33	-1.67	7.43	+3.82	0.75	-2.03	1.45	-1.24	1.01	-0.83	1.18	-0.10	T.	-0.68	0.43	-0.23	17.54	-2.59
Langdon	0.63	+0.06	1.00	+0.38	0.17	-0.63	1.53	+0.38	1.38	-0.64	3.72	+0.32	0.63	-1.74	2.60	+0.14	0.99	-1.33	0.43	-0.71	0.07	-0.75	0.14	-0.49	13.29	-5.01
Larimore	0.23	-0.43	0.62	+0.04	0.63	-0.14	1.09	-0.51	0.70	-2.19	2.98	-0.88	1.40	-1.82	1.40	-1.38	1.23	-1.03	1.17	-0.39	T.	-0.91	0.30	-0.27	11.75	-9.91
Lisbon	1.02	+0.45	0.87	+0.25	0.40	-0.24	1.10	-0.71	0.76	-2.16	9.26	+5.42	0.95	-2.24	2.73	+0.05	0.77	-1.37	1.75	+0.42	T.	-0.66	0.34	-0.14	19.95	-0.93
McHenry (near)	0.27	-0.37	0.42	-0.29	0.18	-0.40	0.58	-1.34	0.91	-1.92	3.56	+0.17	1.74	-1.34	1.20	-1.71	0.68	-1.22	1.00	+0.01	T.	-0.62	0.54	-0.29	11.08	-9.32
McLeod	1.02	+0.45	0.52	-0.09	0.57	-0.14	0.90	-1.03	1.18	-2.09	10.91	+6.90	1.76	-1.21	1.30	-1.12	0.96	-1.25	1.61	+0.13	0.12	-0.54	0.30	-0.18	21.15	-0.17
Mayville	0.06	-0.34	0.94	+0.52	0.75	+0.06	0.65	-0.92	0.78	-2.13	4.68	+1.33	0.86	-1.90	1.08	-1.55	3.08	+0.89	0.97	-0.37	T.	-0.69	0.02	-0.52	13.87	-5.62
Oakes	0.69	+0.19	0.55	+0.10	0.25	-0.53	0.92	-1.04	1.69	-0.19	7.30	+4.72	2.11	-0.17	1.54	-0.53	0.69	-0.24	1.50	+0.24	T	-0.58	0.08	-0.34	17.32	+1.63
Park River	0.20	-0.19	0.91	+0.51	0.20	-0.42	1.05	-0.23	1.39	-0.67	2.98	-0.41	1.63	-0.87	2.72	+0.30	1.89	-0.35	0.88	-0.40	T.	-0.69	0.02	-0.41	13.87	-3.83
Pembina	0.78	+0.14	0.97	+0.34	0.20	-0.61	1.13	-0.07	1.99	-0.37	3.48	+0.15	0.68	-1.67	3.63	+1.44	1.28	-0.94	0.65	-0.66	0.01	-0.80	0.06	-0.58	14.86	-3.63
Petersburg	0.18	.....	1.11	.....	0.50	.....	0.77	.....	1.02	.....	3.79	.....	3.08	.....	1.74	.....	0.94	.....	0.72	.....	0.04	.....	0.33	.....	14.22	.....
Sharon	0.28	-0.06	1.02	+0.69	0.39	-0.25	0.84	-0.66	0.54	-2.33	4.02	+0.29	0.80	-1.29	1.52	-0.58	1.11	-0.74	1.41	-0.65	0.05	-0.82	0.55	+0.10	12.53	-6.30
Valley City	0.23	-0.27	0.73	+0.26	0.23	-0.44	0.73	-0.81	0.73	-2.07	4.19	+0.73	1.57	-1.24	1.38	-0.83	1.12	-0.76	1.33	+0.15	0.11	-0.58	0.38	-0.10	12.73	-5.96
Wahpeton	0.83	+0.41	0.78	+0.29	0.30	-0.35	0.64	-1.29	2.06	-0.60	7.96	+4.25	0.86	-2.36	2.00	-0.68	1.03	-1.35	1.40	-0.17	0.03	-0.73	0.28	-0.18	18.17	-2.76
Moorhead, Minn.	0.58	-0.09	0.69	0.00	0.23	-0.78	0.91	-1.27	0.48	-2.41	3.92	-0.13	0.43	-3.00	1.49	-1.40	0.59	-1.63	1.43	-0.26	0.09	-0.81	0.39	-0.33	11.23	-12.11
Middle Division																										
Ashley	0.41	-0.06	0.89	+0.40	0.31	-0.48	0.69	-0.97	2.94	+0.40	6.20	+2.96	1.93	-0.90	4.33	+1.78	0.62	-0.98	1.33	+0.17	0.00	-0.62	0.38	-0.18	20.08	+1.52
Bisbee	0.41	.....	0.55	.....	0.43	.....	1.69	.....	1.39	.....	3.40	.....	1.86	.....	2.16	.....	0.58	.....	0.10	.....	0.00	.....	0.05	.....	12.62	.....
Bismarck	0.32	-0.13	0.63	+0.19	0.21	-0.68	0.69	-0.83	1.57	-0.75	5.42	+2.07	2.52	+0.28	1.81	-0.01	0.24	-0.99	0.81	-0.13	0.01	-0.56	0.26	-0.31	14.49	-1.85
Bottineau	0.35	-0.06	0.38	+0.03	0.22	-0.44	0.98	+0.21	0.93	-1.14	3.15	-0.17	1.23	-1.14	1.90	-0.51	0.58	-1.05	0.33	-0.75	0.09	-0.40	0.06	-0.41	10.20	-5.83
Carrington	0.40	+0.08	0.87	+0.50	0.40	-0.27	1.14	-0.11	1.58	-0.99	4.29	+0.77	2.23	-0.35	1.81	-0.35	0.42	-1.09	1.16	+0.18	0.00	-0.58	0.49	+0.10	14.79	-2.11
Carson	0.15	-0.19	1.36	+0.92	0.52	-0.23	1.49	+0.25	2.52	+0.07	5.27	+1.77	1.52	-0.51	3.75	+1.95	0.22	-1.38	0.90	-0.07	0.00	-0.57	0.78	+0.27	18.48	+2.28
Dogden Butte	0.26	+0.03	0.58	+0.23	0.65	+0.07	0.73	-0.51	1.61	-1.36	3.83	+0.58	1.89	-1.25	2.24	+0.32	0.36	-0.80	0.50	-0.63	0.05	-0.46	0.49	+0.07	13.19	-3.71
Drake	0.33	.....	0.48	.....	0.31	.....	0.72	.....	2.01	.....	3.89	.....	2.14	.....	2.83	.....	0.45	.....	0.45	.....	0.03	.....	0.66	.....	14.30	.....
Dunseith	0.64	+0.20	0.42	-0.01	0.28	-0.35	0.67	-0.15	0.66	-1.18	3.53	+0.41	1.25	-1.30	1.86	-0.60	0.53	-1.21	0.17	-0.78	0.04	-0.51	0.07	-0.35	10.12	-5.83
Eckman	0.45	+0.09	0.45	+0.09	0.70	+0.17	0.81	-0.05	2.45	+0.53	3.91	+0.91	1.47	-0.76	2.21	+0.24	0.75	-0.71	0.40	-0.53	0.08	-0.39	0.15	-0.33	13.83	-0.74
Energy	0.30	-0.01	0.78	+0.33	0.46	-0.31	0.72	-0.24	1.26	-0.90	3.50	+0.10	2.92	+0.57	2.79	+0.86	T.	-1.47	0.12	-0.82	0.00	-0.44	0.36	-0.09	13.21	-2.42
Fessenden	0.30	-0.18	0.66	+0.16	0.35	-0.40	1.03	-0.22	1.76	-0.55	5.36	+1.67	2.01	-0.32	1.79	-0.52	0.30	-1.34	0.72	-0.37	0.02	-0.67	0.42	-0.18	14.72	-2.92
Fort Yates	0.18	-0.23	0.25	-0.24	0.08	-0.77	0.59	-0.69	2.21	-0.09	6.56	+3.10	1.16	-1.03	2.06	-0.11	0.24	-1.28	0.94	-0.18	T	-0.50	0.21	-0.21	14.48	-2.23
Foxholm (near)	0.33	0.00	0.56	-0.01	1.30	+0.63	0.56	-0.79	2.63	+0.66	2.80	-0.29	1.22	-1.01	2.55	+0.81	0.64	-0.86	0.52	-0.58	0.09	-0.58	0.05	-0.38	13.25	-2.49
Gackle	0.08	.....	0.69	.....	0.02	.....	0.49	.....	1.33	.....	7.78	.....	2.01	.....	3.32	.....	0.51	.....	1.13	.....	T.	.....	0.34	.....	17.70	.....
Garrison	0.29	-0.05	0.77	+0.24	0.33	-0.52	1.11	+0.12	1.13	-1.20	3.99	+0.45	2.76	+0.20	2.91	+0.90	0.23	-1.32	0.44	-0.50	T.	-0.45	0.38	-0.11	14.34	-2.24
Granville	0.34	-0.02	0.53	+0.09	0.67	+0.17	0.83	+0.02	0.66	-1.28	3.97	+0.75	1.37	-0.80	3.14	+1.24	0.56	-1.05	0.59	-0.34	0.11	-0.45	0.17	-0.30	12.94	-1.97
Hansboro	0.24	-0.42	0.36	-0.19	0.10	-0.84	0.79	-0.47	0.94	-1.15	3.92	+0.54	1.19	-1.27	1.60	-0.70	0.76	-1.22	0.08	-1.03	T.	-0.59	T.	-0.59	9.98	-7.93
Linton	0.16	-0.22	0.09	-0.39	0.02	-0.77	0.52	-0.73	1.77	-0.64	7.46	+4.30	1.76	-0.37	1.80	-0.57	1.60	0.00	1.08	-0.03	T.	-0.50	0.25	-0.13	16.51	-0.05
McClusky	0.20	-0.21	0.58	+0.04	0.08	-0.72	0.51	-0.69	2.06	-0.42	5.11	+1.74	1.26	-1.27	1.89	-0.05	0.34	-1.09	0.62	-0.41	0.00	-0.57	0.55	+0.03	13.20	-3.62
Maddock	0.21	-0.09	1.17	+0.79	0.54	+0.01	0.91	-0.22	1.21	-0.90	5.08	+1.71	1.51	-1.08	1.62	-0.85	0.29	-1.52	0.48	-0.61	T.	-0.46	0.35	+0.01	13.37	-3.21
Mandan	0.67	+0.32	0.62	+0.26	0.44	-0.41	0.74	-0.43	1.93	-0.51	4.65	+1.36	1.69	-0.69	2.19	+0.47	0.17	-1.32	0.54	-0.45	T	-0.51	0.31	-0.16	13.95	-2.07
Manfred	0.53	+0.04	0.65	+0.19	0.29	-0.49	1.09	-0.15	1.41	-0.85	4.66	+1.09	1.03	-1.21	1.43	-0.91	0.36	-1.19	0.58	-0.55	0.06	-0.57	0.68	+0.12	12.77	-4.48
Max	0.18	.....	0.80	.....	0.34	.....	1.19	.....	0.86	.....	3.65	.....	2.76	.....	4.37	.....	0.36	.....	0.32	.....	0.00	.....	0.56	.....	15.39	.....
Minot	0.39	+0.02	0.52	+0.07	0.58	-0.05	0.82	-0.38	1.65	-0.49	3.23	+0.03	1.71	-0.19	3.06	+0.99	0.61	-1.05	0.46	-0.55	0.09	-0.58	0.08	-0.38	13.20	-2.56
Mohall	0.44	+0.13	1.26	+0.95	1.30	+0.66	0.71	-0.19	1.82	-0.03	3.02	+0.13	1.33	-1.01	2.16	+0.23	0.86	-0.70	0.38	-0.79	0.06	-0.48	0.06	-0.36	13.40	-1.46
Napoleon	0.07	-0.26	0.85	+0.45	0.10	-0.73	0.53	-1.01	1.95	-0.48	7.50	+4.21	0.92	-1.58	3.17	+0.77	1.27	-0.21	1.59	+0.49	0.00	-0.57	0.60	+0.15	18.55	+1.23
New Salem	0.40	-0.05	0.74	+0.29	0.28	-0.57	1.23	+0.19	1.52	-0.60	2.90	-0.57	2.31	+0.13	2.95	+1.13	0.20	-1.16	0.81	-0.15	0.01	-0.48	0.36	-0.22	13.71	-2.06
Pettibone	0.15	-0.26	0.55	+0.16	0.18	-0.44	0.58	-0.54	1.56	-0.84	5.31	+2.06	1.21	-1.63	1.38	-0.90	0.42	-0.90	1.45	+0.52	0.00	-0.58	0.38	-0.09	13.17	-3.44
Rolla	0.49	.....	0.90	.....	0.93	.....	1.14	.....	0.67	.....	4.30	.....	2.04	.....	2.11	.....	0.67	.....	0.30	.....	0.06	.....	0.14	.....	13.75	.....
Rugby	0.82	+0.51	0.65	+0.30	0.82	+0.47	1.07	+0.24	1.16	-0.26	3.88	+1.57	1.13	-1.40	1.48	+0.48	0.54	-0.46	0.30	-0.64	0.01	-0.37	0.35	-0.13	12.21	+0.31
Ryder	0.36	+0.07	0.32	-0.07	0.21	-0.09	1.25	+0.45	1.55	-0.63	3.14	+0.63	5.87	+3.67	3.45	+2.26	0.35	-0.69	0.12	-0.49	0.03	-0.45	0.53	+0.17	17.18	+4.83
Selfridge	0.85	.....	0.73	.....	0.42	.....	0.65	.....	1.69	.....	6.69	.....	1.65	.....	3.61	.....	0.55	.....	0.65	.....	T.	.....	0.32	.....	17.81	.....
Steele	0.07	-0.39	0.26	-0.18	0.09	-0.72	0.42	-0.74	1.48	-1.19	5.57	+2.06	0.85	-2.14	1.99	-0.40	0.38	-1.14	1.43	+0.26	T	-0.53	0.14	-0.43	12.68	-5.54
Tagus (near)	0.34	+0.13	0.55	+0.25	0.53	+0.13	0.76	-0.23	2.18	+0.59	6.36	+4.48	1.46	-0.78	2.56	+1.44	0.67	-0.23	0.41	-0.13	0.04	-0.31	0.08	-0.08	15.94	+0.26
Towner	0.35	-0.09	0.65	+0.21	1.30	+0.57	1.23	+0.36	0.98	-1.16	3.76	+0.61	1.27	-1.14	2.45	+0.42	0.55	-1.21	0.59	-0.40	0.02	-0.50	0.30	-0.14	13.45	-2.47
Turtle Lake	0.07	-0.30	0.61	+0.11	0.12	-0.76	0.55	-0.48	2.31	+0.08	3.65	+0.01	1.97	-0.58	2.24	+0.12	0.21	-1.17	0.49	-0.42	T.	-0.42	0.31	-0.20	12.53	-4.01
Tuttle	0.36	-0.09	0.72	+0.31	0.14	-0.65	0.75	-0.22	1.40	-1.11	4.64	+1.30	2.43	-0.09	1.27	-0.65	0.53	-0.93	1.01	+0.25	T.	-0.42	0.26	-0.15	13.51	-2.42
Velva	0.30	-0.11	0.59	+0.22	0.31	-0.22	0.76	-0.15	0.64	-1.99	3.49	+1.05	2.48	-0.12	3.46	+1.56	0.64	-0.40	0.39	-0.66	T.	-0.46	0.43	+0.03	13.49	-1.25
Washburn	0.08	-0.25	0.63	+0.22	0.36	-0.38	0.77	-0.20	2.37	+0.08	3.81	+0.42	1.63	-0.85	2.02	+0.35	0.28	-1.06	0.70	-0.35	T.	-0.46	0.13	-0.34	12.78	-2.82
Willow City	0.63	+0.05	0.48	-0.07	0.62	-0.12	1.16	+0.29	0.70	-1.14	3.27	+0.12	1.15	-0.99	1.49	-0.63	0.39	-1.34	0.18	-0.70	0.14	-0.42	0.05	-0.54	10.26	-5.49
Wishek	0.32	-0.18	0.29	-0.06	0.06	-0.65	0.61	-0.74	1.55	-1.29	7.77	+4.77	2.44	-0.09	2.84	+0.93	0.76	-0.43	1.36	+0.58	T.	-0.35	0.46	-0.18	18.46	+2.31
Western Division																										
Alpha	0.34	-0.12	0.35	-0.12	0.18	-0.68	1.08	-0.09	1.61	-0.82	3.58	+0.18	2.41	+0.35	1.36	-0.35	0.07	-1.20	0.31	-0.67	0.00	-0.39	0.16	-0.34	11.45	-4.25
Amidon	0.60	+0.18	0.27	-0.21	0.14	-0.59	1.07	-0.19	1.24	-1.28	4.56	+1.47	2.90	+0.43	1.49	+0.27	0.08	-1.42	0.57	-0.57	0.00	-0.47	0.15	-0.33	13.07	-2.71
Beach	0.43	-0.04	0.44	+0.03	0.13	-0.63	0.87	-0.28	2.13	-0.19	3.65	-0.05	1.68	-0.13	1.82	+0.13	0.22	-1.07	0.16	-0.78	T.	-0.48	0.20	-0.30	11.73	-3.79
Berthold Agency	0.39	+0.14	0.33	-0.07	0.79	+0.23	1.32	+0.31	3.00	+0.76	2.21	-1.66	3.77	+1.41	4.57	+2.65	0.05	-1.54	T.	-0.89	T	-0.37	0.36	-0.02	16.79	+0.95
Bowman	0.47	+0.01	0.05	-0.43	0.31	-0.36	0.95	-0.17	2.68	+0.39	5.45	+2.50	2.76	+0.63	1.91	+0.11	0.16	-1.12	0.68	-0.30	T.	-0.39	T.	-0.36	15.42	+0.51
Crosby	0.17	-0.24	0.47	+0.11	0.94	+0.27	0.86	-0.12	0.67	-1.27	3.97	+0.61	0.68	-1.43	0.88	-1.11	0.43	-0.96	0.27	-0.57	0.00	-0.60	0.18	-0.33	9.52	-5.64
Dickinson	0.38	-0.04	0.58	+0.15	0.46	-0.28	1.44	+0.36	3.22	+0.89	4.46	+1.09	1.93	-0.24	2.49	+0.50	0.11	-1.21	0.47	-0.51	T.	-0.47	0.21	-0.29	15.75	-0.05
Dunn Center	0.36	-0.03	0.31	-0.19	0.21	-0.62	1.49	+0.23	2.31	-0.08	2.64	-1.23	2.22	-0.01	2.72	+1.01	0.25	-1.19	0.28	-0.63	T.	-0.46	0.25	-0.21	13.04	-3.41
Epping	0.14	-0.30	0.43	+0.02	0.14	-0.45	0.55	-0.48	1.65	-0.53	3.21	-0.36	0.48	-1.50	1.85	+0.15	0.89	-0.50	0.26	-0.53	0.04	-0.40	0.51	+0.01	10.15	-4.82
Fryburg	0.73	+0.28	0.44	-0.03	0.29	-0.49	0.87	-0.30	2.04	-0.35	3.70	+0.40	1.78	-0.41	2.30	+0.34	0.26	-1.11	0.25	-0.80	0.00	-0.49	0.32	-0.19	12.98	-3.15
Hettinger	0.28	-0.02	0.31	-0.11	0.30	-0.40	0.42	-0.55	0.65	-1.73	4.30	+1.10	3.04	+0.68	2.06	+0.43	0.05	-1.35	1.49	+0.72	0.00	-0.42	0.17	-0.23	13.07	-1.88
Howard (near)	1.19	+0.68	0.50	-0.06	0.84	-0.06	0.32	-0.80	0.91	-1.36	4.98	+1.92	0.50	-1.33	1.08	-0.56	0.20	-1.18	0.10	-0.69	0.01	-0.54	0.49	-0.14	11.12	-4.12
Kenmare	0.20	-0.15	0.81	+0.44	0.83	+0.20	0.56	-0.39	1.17	-0.79	2.64	-0.42	1.72	-0.57	2.26	+0.32	1.56	-0.05	0.30	-0.76	T.	-0.55	0.05	-0.41	12.10	-3.13
Marmarth	0.47	+0.07	0.30	-0.14	0.60	-0.12	1.15	+0.13	1.67	-0.65	3.96	+0.90	4.33	+2.45	1.76	+0.02	0.07	-1.22	0.35	-0.50	0.00	-0.39	0.43	+0.02	15.09	+0.57
Mary	0.76	+0.36	0.16	-0.10	0.07	-0.41	1.29	+0.40	2.19	+0.01	2.74	+0.29	2.19	+0.41	2.46	+1.48	0.26	-0.51	0.40	-0.30	0.02	-0.37	0.19	-0.11	12.73	+1.15
Medora	0.50	-0.02	0.35	-0.13	0.35	-0.55	0.90	-0.13	2.12	-0.44	3.77	+0.61	2.20	+0.04	1.79	+0.08	0.20	-0.95	0.28	-0.45	0.02	-0.44	0.21	-0.24	12.69	-2.62
Mott	0.24	-0.40	0.79	+0.17	0.22	-0.71	0.82	-0.39	0.64	-1.76	4.86	+1.64	3.57	+1.43	1.72	-0.21	0.06	-1.35	1.00	+0.06	0.00	-0.48	0.17	-0.43	14.09	-2.43
New England	1.25	+0.75	0.37	-0.12	0.59	-0.19	1.16	+0.15	1.18	-0.80	4.92	+1.96	3.82	+1.75	1.40	-0.30	0.00	-1.38	0.53	-0.31	0.00	-0.44	0.20	-0.21	15.42	+0.86
Parshall	0.26	+0.02	0.41	-0.01	0.12	-0.39	2.13	+1.18	2.48	+0.31	3.87	+0.31	2.32	+0.32	3.05	+1.09	0.23	-1.31	0.29	-0.52	0.03	-0.34	0.41	-0.01	15.60	+0.67
Portal	0.82	+0.40	0.70	+0.30	0.70	+0.10	0.70	-0.27	1.02	-1.04	1.90	-1.39	2.35	+0.24	1.41	-0.48	0.51	-1.08	0.81	-0.05	0.02	-0.53	0.07	-0.40	11.04	-4.20
Powers Lake	1.07	+0.56	0.38	-0.08	0.48	-0.21	1.99	+0.78	1.34	-0.84	4.27	+0.67	1.00	-1.59	1.93	+0.16	1.54	+0.03	0.98	-0.24	0.07	-0.42	0.12	-0.44	15.17	-1.62
Richardton	0.43	+0.05	0.90	+0.50	0.56	-0.16	1.05	-0.09	1.77	-0.81	3.73	+0.32	3.39	+1.14	2.97	+1.02	0.13	-1.23	0.39	-0.49	0.02	-0.46	0.28	-0.11	15.62	-0.32
Sanish	0.56	-0.18	0.62	+0.19	0.12	-0.46	1.26	+0.19	1.18	-0.09	3.92	+1.06	0.98	-0.72	1.74	+0.43	0.44	-0.36	0.33	-0.29	0.14	-0.33	0.43	-0.18	11.72	-0.74
Stanley	0.23	.....	0.46	.....	0.50	.....	1.32	.....	2.25	.....	3.16	.....	1.15	.....	1.96	.....	0.94	.....	0.60	.....	0.04	.....	0.20	.....	12.81	.....
Tioga	0.45	+0.06	0.60	+0.27	0.50	-0.11	1.03	+0.37	0.97	-0.81	2.88	+0.80	1.60	-0.10	2.19	+1.11	1.33	+0.52	0.21	-0.58	T	-0.38	0.30	-0.16	12.06	+0.99
Trotters	0.61	+0.24	0.46	+0.09	0.38	-0.38	0.72	-0.31	2.03	-0.29	3.31	-0.17	1.48	-0.08	1.62	+0.11	0.55	-0.70	0.20	-0.63	T.	-0.44	0.44	+0.04	11.83	-2.52
Watford City	0.82	+0.35	0.38	-0.04	0.25	-0.43	1.16	0.00	1.47	-0.50	3.87	+0.67	0.81	-1.02	1.77	+0.06	0.77	-0.55	0.57	-0.30	0.00	-0.50	0.63	+0.09	12.50	-2.17
Wildrose	0.60	.....	0.71	.....	0.83	.....	1.14	.....	1.57	.....	3.28	.....	0.72	.....	1.67	.....	0.73	.....	0.24	.....	0.09	.....	0.20	.....	11.78	.....
Williston	0.77	+0.23	0.37	-0.04	0.29	-0.40	0.65	-0.55	1.98	-0.08	3.99	+0.56	1.09	-0.80	2.31	+0.84	0.99	-0.10	0.31	-0.55	0.04	-0.54	0.69	+0.11	13.48	-1.32

The departures from normal precipitation for stations with 15 years or more of record are computed from a normal or "standard mean" adjusted to a uniform 35-year period; for stations of 10 to 14 years, the means for the period of record are used. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1939, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Eastern Division																										
Casselton	10.4	+5.5	-2.0	-10.8	21.6	-3.0	40.1	-1.9	61.9	+7.9	63.8	+0.4	73.2	+4.5	71.9	+5.4	60.9	+3.6	43.8	-0.8	36.4	+8.4	28.0	+15.8	42.5	+2.9
Cavalier	6.6	.....	-5.6	.....	19.9	.....	38.3	.....	57.5	.....	60.8	.....	73.5	.....	70.6	.....	57.6	.....	39.6	.....	33.9	.....	23.6	.....	39.7	.....
Cooperstown	6.0	-0.6	-9.4	-18.8	17.6	-5.8	39.3	-1.4	60.0	+7.7	60.8	-1.6	72.4	+4.2	70.2	+4.0	57.9	+1.6	41.3	-2.1	33.5	+5.9	25.0	+12.7	39.6	+0.5
Devils Lake	9.4	+7.6	-4.4	-9.5	20.4	+0.6	39.4	+0.6	59.2	+6.6	60.2	-1.7	72.6	+5.2	69.0	+4.2	57.4	+1.5	39.2	-3.2	33.9	+9.4	24.5	+15.0	40.1	+3.1
Edgeley	15.8	+7.0	0.2	-12.5	27.8	+0.5	42.8	+0.1	63.8	+10.1	63.4	+0.5	73.6	+4.8	70.6	+3.7	61.8	+4.2	43.4	-1.9	32.9	+3.1	25.2	+10.6	43.4	+2.5
Edmore	6.3	+5.0	-5.4	-12.6	18.8	-2.2	37.9	-2.7	57.3	+4.9	57.4	-5.6	70.6	+4.2	66.8	+3.1	56.4	+0.9	38.6	-3.6	32.0	+7.2	24.0	+15.1	38.4	+1.2
Ellendale	16.4	+5.7	2.3	-8.4	28.6	+3.0	42.8	-0.8	62.2	+6.5	64.0	-2.0	72.8	+2.1	70.6	+1.8	59.9	+1.5	44.0	-1.6	33.4	+7.3	27.3	+10.5	43.7	+2.1
Fargo	10.4	+6.6	-2.0	-10.1	21.6	-1.1	40.1	-0.5	61.9	+6.8	63.8	-0.6	72.8	+4.7	70.4	+4.3	60.2	+2.0	42.5	-2.0	34.6	+7.5	24.9	+13.4	41.8	+2.6
Forman	13.4	+3.9	-0.8	-13.9	24.0	-3.6	39.8	-4.4	60.8	+5.4	63.6	-1.2	71.6	+1.5	69.4	+1.2	59.0	+0.3	43.2	-2.9	34.8	+4.8	25.2	+9.9	42.0	+0.1
Fullerton	17.0	+8.1	2.0	-10.0	28.0	+1.2	42.6	-0.2	62.4	+8.4	63.2	-0.2	73.3	+4.3	71.0	+3.9	60.7	+3.5	44.4	-0.4	36.4	+7.2	28.8	+14.4	44.2	+3.4
Grafton	10.0	+7.8	2.2	-4.5	21.6	+0.4	41.4	+0.8	61.0	+7.7	63.6	+0.8	74.0	+6.3	71.9	+6.7	59.6	+3.3	42.4	+0.3	35.0	+10.3	26.0	+17.1	42.4	+4.8
Grand Forks	7.6	+4.1	-4.0	-11.6	19.2	-3.2	39.6	-2.1	60.3	+6.6	62.9	-0.1	72.4	+4.9	70.2	+4.8	57.7	+1.3	40.2	-3.4	33.4	+7.4	23.4	+12.8	40.2	+1.8
Hankinson	14.2	+6.5	1.0	-14.1	[d]26.7	-2.7	39.3	-4.8	61.8	+4.0	65.2	-2.0	73.0	-1.7	69.5	-1.6	59.4	-0.9	43.3	-3.1	35.4	+7.5	26.4	+9.9	42.9	-0.3
Hannah	4.0	+5.1	-8.0	-10.5	16.7	-2.1	37.9	-0.2	56.0	+5.4	56.8	-3.1	70.0	+5.3	67.3	+4.4	56.8	+2.8	36.1	-4.5	32.7	+12.4	25.2	+18.4	37.6	+2.8
Hillsboro	9.9	+5.3	-3.2	-13.5	20.2	-5.4	39.4	-3.4	.....	.....	63.4	-0.8	73.8	+4.2	.....	.....	.....	.....	.....	.....	.....	.....	27.8	+16.6	42.0	+1.9
Jamestown	14.2	+7.2	0.2	-9.4	26.1	+2.1	40.8	-1.3	61.2	+7.7	62.0	-1.2	74.2	+5.7	71.1	+4.7	58.4	+1.9	41.6	-2.9	37.6	+10.3	28.8	+15.4	43.0	+3.3
Langdon	7.4	+8.3	-5.5	-10.3	20.2	+0.6	39.4	+1.6	57.7	+6.8	59.6	-0.3	72.0	+7.4	69.2	+6.7	56.7	+4.4	38.3	-2.6	32.7	+8.7	24.1	+15.8	39.3	+3.9
Larimore	9.8	+6.2	-2.1	-9.4	22.8	+0.5	40.2	-0.2	60.9	+8.3	62.6	+0.2	73.1	+6.1	71.2	+6.2	59.8	+4.5	41.2	-2.7	35.6	+9.8	26.6	+15.6	41.8	+3.8
Lisbon	14.4	+7.1	1.4	-9.8	28.0	+0.9	40.9	-1.5	62.8	+8.9	64.3	+0.8	73.0	+3.7	70.0	+3.0	58.6	+1.1	44.4	+0.6	36.5	+7.6	27.6	+13.5	43.5	+3.0
McHenry (near)	8.2	+6.7	-6.0	-11.8	19.6	-3.6	38.1	-3.1	58.0	+5.7	58.8	-3.4	70.8	+3.1	67.6	+2.5	56.4	+1.3	39.0	-3.9	33.4	+6.0	24.7	+15.2	39.0	+1.2
McLeod	14.8	+6.4	1.8	-11.5	27.3	-0.4	39.8	-4.4	62.8	+8.3	65.6	+1.1	72.8	+2.6	70.0	+2.1	63.4	+4.4	44.2	-2.0	35.8	+5.5	28.4	+14.0	43.9	+2.2
Mayville	10.8	+5.0	0.5	-9.0	21.0	-0.5	38.2	-4.8	62.0	+7.3	62.8	-1.2	75.2	+6.2	72.2	+5.2	61.0	+3.6	40.8	-5.1	35.9	+7.7	27.6	+14.7	42.6	+2.4
Oakes	15.0	+7.9	1.6	-12.5	27.6	-1.6	40.6	-2.8	61.5	+4.9	63.6	-4.0	72.2	-2.0	69.3	-1.8	59.2	-0.9	43.6	-2.8	34.4	+6.2	27.3	+11.8	43.0	+0.2
Park River	8.1	+5.4	-7.0	-14.7	17.6	-5.5	35.0	-6.3	57.2	+4.2	60.7	-2.2	71.3	+3.4	69.6	+3.4	56.4	-0.2	40.2	-3.6	35.0	+7.2	26.6	+16.1	39.2	+0.6
Pembina	5.1	+7.5	-6.6	-9.6	16.4	-1.8	38.6	0.0	58.0	+5.2	62.2	-0.5	73.5	+6.0	68.2	+3.9	57.7	+3.6	41.2	-0.2	33.4	+10.1	24.8	+18.5	39.4	+3.6
Sharon	9.1	+4.8	-4.2	-15.6	21.4	-3.2	39.2	-0.7	59.9	+6.0	60.7	-2.9	72.8	+1.9	70.3	+3.0	58.3	+1.7	40.2	-2.7	34.7	+10.2	25.1	+14.5	40.6	+1.4
Valley City	12.9	+7.4	0.2	-11.3	26.0	0.0	41.7	-0.9	62.2	+8.7	63.5	+0.4	73.2	+4.5	69.8	+3.0	59.4	+1.2	42.6	-2.0	34.6	+6.6	27.8	+14.1	42.8	+2.6
Wahpeton	13.7	+5.3	2.2	-9.8	25.6	-1.9	42.0	-2.4	63.3	+7.7	67.0	+1.9	73.3	+3.5	72.2	+4.3	62.5	+3.3	44.1	-2.5	36.4	+7.6	27.4	+12.1	44.1	+2.4
Moorhead, Minn.	11.3	+7.5	-0.8	-8.9	22.5	-0.1	40.3	-0.3	62.2	+7.1	64.4	0.0	72.8	+4.7	70.5	+4.4	61.0	+2.8	42.6	-1.9	34.9	+7.8	25.2	+13.7	42.2	+3.0
Middle Division																										
Ashley	15.2	+6.6	-1.0	-12.1	25.9	+1.6	41.1	-1.5	60.8	+7.3	60.8	-1.6	71.7	+3.0	68.0	+1.5	58.6	+1.3	41.4	-2.7	35.1	+7.1	24.3	+10.1	41.8	+1.7
Bisbee	9.4	.....	-4.9	.....	21.0	.....	43.6	.....	58.6	.....	58.4	.....	71.4	.....	68.6	.....	59.9	.....	38.8	.....	32.4	.....	24.6	.....	40.2	.....
Bismarck	19.0	+11.2	1.5	-8.8	26.6	+2.4	43.9	+1.8	62.0	+7.5	61.6	-2.1	74.4	+4.6	69.9	+2.6	60.2	+2.1	43.0	-1.9	36.4	+7.9	27.7	+13.0	43.8	+3.3
Bottineau	9.2	+8.6	-4.9	-9.1	20.0	-0.1	39.8	+0.7	59.2	+7.9	57.8	-3.5	71.8	+5.2	68.4	+4.3	57.9	+3.0	38.8	-2.2	32.4	+8.8	24.1	+16.7	39.5	+3.3
Carrington	10.0	+3.3	-6.2	-14.9	22.4	-1.0	40.8	+1.2	60.0	+7.5	60.3	-2.7	72.4	+3.7	69.8	+3.0	56.5	-0.1	39.6	-4.2	37.4	+9.6	27.4	+15.7	40.9	+1.8
Carson	23.2	+14.2	3.8	-11.6	30.0	+3.7	43.8	+1.1	61.9	+8.8	59.7	-2.7	74.1	+5.3	70.6	+2.7	61.9	+5.5	44.1	+0.8	37.6	+7.6	29.2	+14.5	45.0	+4.2
Center	16.2	.....	0.6	.....	23.5	.....	41.0	.....	59.4	.....	59.5	.....	72.0	.....	65.8	.....	56.9	.....	43.1	.....	33.3	.....	27.0	.....	41.5	.....
Dogden Butte	15.0	+7.5	-0.8	-15.3	23.4	-3.0	42.3	+0.9	60.6	+6.0	59.0	-3.7	72.8	+3.7	69.0	+2.0	60.4	+4.1	41.2	-2.8	36.3	+9.9	28.0	+14.9	42.3	+2.1
Drake	11.9	.....	-5.1	.....	20.2	.....	40.4	.....	59.4	.....	59.4	.....	72.9	.....	68.5	.....	57.5	.....	40.1	.....	35.2	.....	25.8	.....	40.5	.....
Dunseith	9.6	+7.1	-5.6	-12.0	19.2	-1.0	40.4	+0.5	58.6	+6.5	57.4	-3.5	71.1	+5.2	68.1	+4.2	57.4	+3.0	39.0	-2.4	32.8	+8.4	24.4	+15.3	39.4	+2.6
Eckman	9.4	+6.3	-5.2	-12.8	18.5	-4.4	41.5	+0.9	60.1	+8.7	58.2	-3.4	72.0	+5.2	67.6	+3.4	57.8	+2.6	39.8	-2.0	33.3	+7.5	25.0	+15.7	39.8	+2.3
Energy	17.7	+8.1	0.9	-15.0	24.6	-4.4	44.0	0.0	61.4	+5.3	61.0	-3.5	73.4	+1.4	67.4	-1.0	59.2	+1.8	43.4	-0.8	35.2	+6.7	28.1	+13.7	43.0	+1.0
Fessenden	11.2	+6.7	-2.8	-12.9	23.2	-0.2	41.2	+0.5	61.7	+9.7	59.6	-2.1	72.2	+4.2	69.3	+3.4	58.0	+2.3	41.2	-1.8	34.2	+7.1	26.4	+15.8	41.3	+2.7
Fort Yates	21.8	+12.6	4.0	-7.8	28.0	+1.7	44.4	-0.5	62.6	+6.5	61.6	-4.6	73.6	+1.9	68.7	-0.6	58.4	-1.4	44.8	-1.6	35.5	+5.7	27.5	+9.1	44.2	+1.7
Foxholm (near)	13.1	+6.8	-2.1	-15.5	21.7	-3.5	42.6	+1.7	60.0	+6.0	58.0	-4.1	73.0	+3.6	68.4	+2.2	58.8	+3.8	41.0	-0.8	36.7	+11.4	28.5	+16.1	41.6	+2.3
Gackle	15.2	.....	-1.9	.....	25.8	.....	42.2	.....	61.0	.....	60.2	.....	72.6	.....	68.6	.....	59.3	.....	43.6	.....	36.8	.....	26.6	.....	42.5	.....
Garrison	15.5	+7.9	0.6	-10.3	23.6	-0.2	43.4	+1.1	61.8	+9.1	60.5	-2.2	72.6	+4.4	67.9	+1.8	58.4	+3.5	41.2	-1.5	34.6	+8.3	26.8	+13.1	42.2	+2.9
Granville	12.2	+7.6	-2.6	-12.7	20.8	-3.3	42.4	+1.6	60.4	+8.8	58.8	-3.4	72.7	+5.2	67.8	+2.9	58.6	+3.8	41.4	-1.9	34.9	+8.2	26.8	+14.8	41.2	+2.6
Hansboro	7.6	+7.7	-4.6	-10.4	19.3	-1.3	38.6	-0.3	57.4	+6.7	57.8	-2.6	71.4	+6.2	67.4	+5.0	56.9	+3.4	38.6	-2.1	32.0	+8.5	24.6	+16.6	38.9	+3.1
Linton	19.2	+9.7	3.0	-11.5	26.9	-0.8	43.3	+0.6	61.6	+7.4	60.8	-3.5	73.7	+2.4	71.2	+2.0	62.6	+4.1	45.0	+0.3	35.8	+6.8	27.9	+14.0	44.2	+2.6
McClusky	14.4	+8.4	-2.7	-15.9	24.2	-1.9	42.3	+1.2	61.7	+8.1	60.1	-2.1	72.8	+2.9	68.8	+2.0	58.8	+2.6	40.6	+1.8	33.2	+7.7	26.0	+14.0	41.7	+2.1
Maddock	9.6	+4.8	-5.2	-16.3	20.4	-4.2	40.6	-0.4	58.8	+6.1	57.9	-3.2	70.9	+3.3	66.8	+1.1	58.4	+2.7	41.6	-1.3	33.4	+6.8	25.5	+15.5	39.9	+1.3
Mandan	18.0	+9.7	0.6	-12.3	25.2	-1.5	43.3	+0.6	61.5	+7.6	60.8	-2.5	74.2	+3.6	69.4	+1.3	60.0	+2.6	43.0	-1.0	35.5	+6.3	26.8	+13.1	43.2	+2.3
Max	12.8	.....	-2.7	.....	19.5	.....	39.8	.....	58.5	.....	59.3	.....	72.4	.....	66.6	.....	56.6	.....	38.4	.....	32.8	.....	24.6	.....	39.9	.....
Minot	14.0	+7.8	-1.0	-10.7	22.8	0.0	43.4	+2.6	61.6	+9.4	59.5	-2.8	74.3	+6.4	68.6	+3.6	59.5	+3.6	42.0	-1.3	36.8	+9.3	29.0	+17.1	42.5	+3.7
Mohall	10.0	+5.4	-5.6	-12.7	19.0	-1.9	41.2	+0.7	59.0	+6.7	57.1	-4.0	72.0	+5.7	67.6	+3.7	57.8	+3.8	40.0	-1.7	34.6	+9.8	26.2	+15.2	39.9	+2.5
Napoleon	18.2	+11.8	-0.8	-9.1	26.0	+3.3	42.0	+0.6	61.6	+9.2	60.3	-2.1	72.2	+3.6	69.6	+3.2	60.0	+3.3	43.4	-0.3	36.2	+9.5	26.5	+13.9	42.9	+3.9
New Salem	20.0	+10.9	0.8	-12.3	25.6	-0.3	42.6	+0.2	60.8	+8.4	59.3	-3.6	72.6	+2.7	68.6	+1.4	59.3	+1.8	42.1	-2.7	36.4	+6.6	27.0	+11.7	42.9	+2.0
Pettibone	13.0	+10.0	-2.5	-11.3	22.7	-1.6	42.2	+1.3	62.8	+11.0	60.8	-0.7	72.8	+4.8	68.9	+0.6	59.2	+4.0	41.3	-0.5	35.0	+8.6	[a]24.4	+13.9	41.7	+3.3
Rolla	9.8	.....	-5.0	.....	20.2	.....	39.8	.....	58.9	.....	58.3	.....	71.0	.....	67.6	.....	56.8	.....	38.1	.....	32.5	.....	24.4	.....	39.4	.....
Steele	14.8	+7.5	-2.8	-12.2	23.8	-0.3	40.0	-3.2	60.0	+6.6	58.4	-4.1	72.6	+3.2	68.0	+1.3	58.9	+2.0	41.9	-1.9	35.0	+8.7	26.1	+13.8	41.4	+1.8
Towner	12.0	+8.2	-3.3	-11.0	20.8	-1.3	41.6	-0.3	61.2	+8.0	59.7	-3.1	72.4	+4.4	67.6	+2.2	58.6	+2.4	41.2	-2.2	34.6	+9.4	25.8	+15.7	41.0	+2.7
Turtle Lake	16.0	+8.2	1.6	-10.2	24.2	-0.6	44.0	+2.5	62.4	+9.6	60.4	-1.4	74.0	+5.7	69.6	+3.2	59.6	+3.3	43.0	-0.3	36.0	+7.8	28.0	+16.4	43.2	+3.6
Velva	14.0	+8.1	-0.4	-14.3	23.5	-3.3	43.3	+1.2	62.4	+6.5	59.8	-4.7	72.5	+1.1	68.0	+0.1	59.1	+2.0	41.8	-2.1	35.8	+8.2	28.3	+13.2	42.3	+1.3
Washburn	19.2	+11.8	1.6	-7.9	26.0	+1.6	44.6	+0.8	63.4	+9.6	61.6	-2.5	74.6	+5.1	70.9	+3.5	61.7	+3.2	43.4	-1.1	36.5	+6.2	28.8	+14.8	44.4	+3.8
Westhope	9.3	+8.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39.2	-2.9	33.7	+8.1	23.2	+13.2	.....	.....
Willow City	7.8	+6.9	-6.6	-11.5	17.4	-2.3	39.3	-0.3	57.2	+5.7	57.5	-3.5	71.7	+6.0	68.3	+4.7	56.8	+2.6	39.1	-2.3	31.6	+9.0	22.4	+13.7	38.5	+2.3
Wilton	.....	.....	.....	.....	.....	.....	39.5	.....	58.7	.....	59.2	.....	71.6	.....	67.4	.....	57.3	.....	42.4	.....	34.4	.....	.....	.....	.....	.....
Wishek	16.0	+9.0	-0.3	-9.3	[d]25.8	-0.5	41.6	-0.3	59.8	+9.1	60.6	-1.7	71.2	+2.6	67.0	+1.2	56.6	+1.0	40.2	-3.7	33.6	+3.8	[d]26.5	+13.5	41.6	+2.1
Western Division																										
Amidon	23.8	+9.7	6.0	-11.4	27.7	-0.2	44.0	+2.8	59.8	+7.0	58.4	-2.6	72.8	+2.7	68.8	+0.9	61.8	+4.7	43.0	-0.6	37.8	+6.9	29.5	+12.4	44.4	+2.6
Beach	24.4	+13.3	6.6	-9.6	27.6	+0.4	45.2	+3.2	59.8	+8.4	58.8	+2.9	73.7	+5.2	68.1	+1.7	59.4	+3.0	43.2	-0.4	37.4	+6.4	29.8	+12.8	44.5	+3.5
Berthold Agency	18.6	+10.0	3.3	-8.9	25.1	-0.9	44.2	+0.7	62.0	+7.9	60.6	-2.2	73.4	+4.2	68.0	+0.3	59.1	+2.2	42.8	-1.8	35.4	+6.9	28.6	+13.2	43.4	+2.6
Bowbells	.....	.....	.....	.....	.....	.....	40.8	.....	57.1	.....	55.2	.....	71.0	.....	65.1	.....	55.4	.....	36.8	.....	35.4	.....	26.2	.....	39.4	.....
Bowman	23.1	+10.1	4.8	-13.7	27.2	-0.5	43.4	+0.8	58.8	+6.6	58.2	-4.3	72.0	+2.6	68.2	+0.5	59.2	+2.4	42.4	-1.6	37.3	+6.7	27.2	+12.1	43.5	+1.8
Crosby	15.4	+11.8	-2.0	-11.4	22.6	-0.9	41.1	+0.9	57.8	+6.6	57.2	-3.9	72.4	+5.6	66.2	+1.6	57.0	+2.9	40.8	-1.0	35.1	+8.4	26.5	+14.9	40.8	+2.9
Dickinson	20.6	+10.1	-0.2	-13.3	22.8	-2.5	42.4	+0.3	57.6	+5.4	57.4	-4.3	71.9	+3.7	66.1	-0.2	58.4	+2.4	41.4	-2.2	34.0	+5.7	26.4	+10.0	41.6	+1.3
Dunn Center	20.7	+6.9	1.7	-12.9	23.6	-1.9	40.2	-1.6	58.6	+5.9	57.3	-4.7	71.0	+3.0	62.0	-4.2	58.7	+2.5	36.4	-8.0	32.0	+4.1	26.4	+8.7	40.7	-0.2
Epping	17.0	+9.0	0.4	-10.4	23.4	-0.6	42.6	+0.4	59.8	+7.0	58.0	-4.5	73.3	+5.3	66.9	+1.0	58.6	+3.2	40.4	-3.0	35.9	+8.0	27.4	+13.8	42.0	+2.5
Fryburg	24.6	.....	4.6	.....	26.0	.....	43.2	.....	58.9	.....	57.9	.....	73.0	.....	68.6	.....	60.6	.....	43.2	.....	38.2	.....	30.4	.....	44.1	.....
Hettinger	26.6	+13.6	9.9	-6.6	30.3	+1.7	45.2	+2.4	62.2	+8.6	61.4	-1.5	74.3	+4.2	69.2	+0.4	62.5	+4.9	44.6	-1.0	37.8	+6.2	31.0	+14.2	46.2	+3.9
Howard (near)	16.0	+11.6	4.1	-4.9	21.8	-0.1	42.2	+3.1	57.4	+7.6	57.2	-3.0	72.6	+6.6	71.4	+6.5	59.4	+5.1	39.4	-2.2	34.8	+8.5	26.2	+14.6	41.9	+4.5
Kenmare	15.2	.....	-1.2	.....	23.0	.....	41.8	.....	59.2	.....	59.2	.....	73.5	.....	67.8	.....	58.5	.....	41.4	.....	37.3	.....	29.1	.....	42.1	.....
Marmarth	25.2	+12.4	8.0	-9.7	28.5	+0.8	45.3	+2.3	59.4	+8.2	59.2	-2.8	72.2	+2.8	66.5	-0.8	58.4	+1.9	44.0	-1.5	34.4	+3.0	28.0	+11.2	44.1	+2.3
Mott	22.8	+14.0	5.9	-7.6	27.9	+1.0	44.1	+2.3	61.0	+7.5	59.8	-4.6	73.8	+3.5	68.8	+1.7	60.6	+4.0	44.0	+0.7	36.4	+7.2	30.3	+16.5	44.6	+3.8
New England	21.8	+8.4	4.2	-9.9	27.4	+2.2	45.0	+2.7	60.4	+8.4	60.4	-2.2	73.8	+5.0	69.3	+2.4	59.0	+2.6	42.4	-1.0	35.6	+6.5	28.1	+11.6	44.0	+3.1
Parshall	13.4	.....	-2.3	.....	21.2	.....	39.4	.....	58.6	.....	57.0	.....	70.6	.....	64.6	.....	55.2	.....	39.8	.....	32.4	.....	25.5	.....	39.6	.....
Portal	11.4	+8.9	-7.6	-13.0	18.8	+1.1	40.4	-1.0	58.1	+7.6	56.2	-3.0	71.0	+4.8	66.4	+2.2	56.4	+2.0	37.8	-3.6	34.4	+9.0	25.3	+13.1	39.0	+2.3
Powers Lake	15.7	+8.0	0.0	-12.7	22.2	-2.8	40.4	+0.1	58.1	+4.9	59.4	-1.9	75.4	+4.6	68.2	+3.0	60.4	+5.4	38.6	-5.0	35.8	+10.8	28.5	+14.4	41.9	+2.4
Richardton	23.0	+12.8	4.0	-11.2	26.2	-0.9	42.2	+1.1	59.0	+6.4	59.4	-3.2	72.8	+2.7	69.2	+1.1	60.8	+4.0	43.5	+0.1	37.6	+9.3	29.4	+15.4	43.9	+3.1
Sanish	14.6	+10.3	-1.3	-10.7	21.5	-3.0	43.0	+1.2	61.1	+6.1	58.6	-5.1	73.5	+2.9	67.0	-0.5	59.0	+2.4	42.0	-1.3	33.8	+5.2	25.6	+14.2	41.5	+1.8
Stanley	13.4	.....	-3.6	.....	20.8	.....	41.3	.....	57.9	.....	55.8	.....	69.8	.....	66.0	.....	56.3	.....	38.8	.....	33.3	.....	25.2	.....	39.6	.....
Watford City	22.1	+13.1	4.2	-9.7	25.8	+0.5	44.9	+3.8	60.6	+7.9	59.8	-1.9	74.6	+5.3	69.2	+1.9	60.4	+4.1	42.9	0.0	37.6	+9.3	29.1	+16.1	44.3	+4.2
Williston	18.9	+12.5	0.1	-8.0	25.0	+2.1	45.0	+3.0	60.2	+6.2	59.0	-3.7	74.6	+5.7	68.6	+2.5	59.4	+2.8	42.0	-1.4	36.8	+9.6	28.4	+14.6	43.2	+3.9

The departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49]

OCTOBER.—The month averaged deficient in both temperature and precipitation. This October was the coolest since 1930. The 1st and 2d and the period from the 18th to 24th averaged well above normal, except for these periods the rest of the month was cool. Sunshine was 13% below the normal, with only four other years having so few clear days. This is the second month with precipitation averaging below normal. October was an excellent month for outdoor work, but the ground was too dry and less fall plowing was done than usual. The weather was favorable for corn husking.

NOVEMBER.—Unusually warm, dry weather prevailed. It was the warmest November since 1923 and the fifth warmest of record. The sunshine was above normal and there were more clear days during the month than in any other November. This was the driest month of any name since state-wide records began in 1892 and there was an average of only one day with measurable precipitation. Light snow fell on several dates and in most instances melted as it fell. November was an excellent month for outdoor work and for livestock.

COMPARATIVE ANNUAL DATA FOR THE STATE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892...	37.8	108	−52	20.24	21.00	13.79	18.34	34.9	70	157	95	114
1893...	35.8	112	−54	18.02	16.33	13.19	15.85	46.1	65	154	104	107
1894...	40.3	107	−47	17.45	14.55	14.84	15.61	24.6	56	174	100	91
1895...	37.7	104	−50	18.41	16.97	16.69	17.36	20.9	63	155	117	93
1896...	37.3	107	−42	26.30	21.67	19.97	22.65	48.3	80	143	111	112
1897...	37.8	109	−48	18.75	16.04	13.26	16.02	33.9	63	162	105	98
1898...	39.2	106	−38	18.97	15.55	13.92	16.15	22.7	57	159	108	98
1899. .	36.9	109	−48	17.40	19.48	15.98	17.62	26.6	60	161	105	99
1900...	40.9	114	−48	21.61	18.70	16.88	19.06	23.2	62	178	97	90
1901...	40.4	110	−43	24.35	17.54	16.33	19.41	20.2	63	175	92	98
1902...	39.4	106	−39	21.66	18.50	17.89	19.35	29.9	62	160	79	126
1903...	38.3	108	−49	20.18	18.27	19.28	19.24	28.8	65	166	81	118
1904...	37.6	103	−52	21.59	18.26	13.59	17.81	38.1	68	150	73	143
1905...	39.3	107	−46	23.23	19.17	14.34	18.91	29.6	66	152	79	134
1906...	39.4	109	−40	21.14	17.68	21.28	20.03	35.4	78	164	93	108
1907...	36.9	104	−49	17.17	13.06	12.69	14.31	33.7	63	175	101	89
1908...	40.7	104	−41	18.84	17.77	19.05	18.55	43.7	75	164	97	105
1909...	38.2	109	−48	21.79	15.89	16.61	18.10	33.5	71	143	110	112
1910...	41.1	114	−50	11.88	12.17	13.56	12.54	21.0	52	180	92	93
1911...	38.0	108	−43	21.73	18.60	14.94	18.42	36.5	76	160	100	105
1912...	38.2	124	−52	22.72	19.73	18.71	20.39	19.3	74	161	102	103
1913...	40.0	106	−54	17.85	13.39	12.70	14.65	19.4	64	166	104	95
1914...	40.1	109	−47	19.81	19.57	17.53	18.97	30.0	70	155	110	100
1915...	39.7	104	−48	21.06	19.06	17.72	19.28	21.2	72	148	101	116
1916...	36.2	105	−56	24.11	18.88	16.63	19.87	54.2	70	170	97	99
1917...	36.3	114	−48	12.61	10.44	9.20	10.75	40.5	60	154	111	100
1918...	40.0	102	−44	18.01	16.00	14.01	16.01	29.7	63	159	104	102
1919...	38.6	108	−44	20.55	14.71	11.51	15.59	47.2	60	165	107	93
1920...	39.5	108	−44	17.67	14.26	13.92	15.28	27.9	64	166	108	92
1921...	42.0	110	−33	23.05	18.96	16.30	19.44	29.4	74	158	111	96
1922...	39.7	115	−46	21.97	19.09	18.62	19.89	42.8	75	155	100	110
1923...	40.7	103	−40	19.12	16.65	17.60	17.79	30.1	64	160	110	95
1924...	38.2	105	−46	20.23	16.39	14.74	17.12	26.1	66	158	101	107
1925...	40.6	111	−39	21.91	14.74	13.29	16.65	19.7	64	158	107	100
1926...	40.7	108	−36	18.05	14.40	13.65	15.37	23.7	68	151	105	109
1927...	38.0	101	−44	22.72	21.25	20.56	21.51	36.2	79	150	102	113
1928...	41.1	107	−41	20.03	18.12	15.48	17.88	17.3	59	177	101	88
1929...	38.0	109	−44	15.09	13.27	14.57	14.31	41.8	65	171	98	96
1930...	41.4	107	−43	17.13	14.19	13.36	14.89	25.0	66	166	101	98
1931...	44.9	111	−31	18.48	14.10	12.41	15.00	18.0	56	180	92	93
1932...	40.0	108	−34	18.43	16.39	16.71	17.18	34.9	69	156	108	102
1933...	41.1	110	−45	14.01	12.74	13.59	13.45	42.2	65	161	104	100
1934...	43.4	112	−44	13.33	8.61	6.60	9.51	15.2	54	160	109	96
1935...	39.4	110	−44	21.24	17.97	14.91	18.04	33.3	77	137	113	115
1936...	38.8	121	−60	10.09	8.21	8.18	8.83	35.2	59	171	110	85
1937...	39.1	111	−44	20.10	17.37	13.63	17.03	36.0	69	150	111	104
1938...	41.9	109	−41	15.27	14.60	16.13	15.33	30.6	73	149	116	100
1939...	41.9	108	−46	15.56	13.88	13.01	14.15	25.5	71	161	109	95
Period	39.4	124	−60	19.19	16.34	15.07	16.87	30.9	66	161	101	103

DECEMBER.—Unusually warm weather prevailed over the entire state from the 1st through the 18th, above normal temperatures being reported by all stations without exception. It is the warmest December on record, exceeding the previous warmest which was in 1913, by 4.0°, and sub-zero readings did not occur at most stations until the 27th. Maximum temperatures for December occurred on the 5th and 6th in all sections. These high readings broke most all-time records of 50 years standing. Nearly all stations had deficiencies of precipitation. The average deficiency for the year is 1.13 inches greater than 1938. December was an excellent month for outdoor work and particularly favorable for livestock. Major rivers were abnormally late in freezing over, therefore the ice harvest has been delayed.

CLIMATOLOGICAL SUMMARY, 1939

Month	Temperature in degrees Fahrenheit				Precipitation, in inches			Number of days				Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Precip., .01 inch or more	Clear	Pt. cloudy	Cloudy	
January	15.0	+8.7	55	−32	0.47	−0.01	6.0	6	8	10	13	nw.
February....	−0.8	−10.2	51	−46	0.63	+0.16	9.7	5	13	8	7	nw.
March	23.3	−0.5	83	−29	0.39	−0.37	5.3	3	16	8	7	nw.
April	41.6	+0.2	90	− 1	0.87	−0.54	0.8	6	12	9	9	nw.
May.........	60.1	+6.5	104	18	1.55	−0.75	0	8	13	11	7	nw.
June.........	60.1	−2.9	99	29	4.59	+1.18	0	12	10	11	9	nw.
July	72.6	+3.7	108	37	1.81	−0.62	0	7	19	9	3	se.
August	68.6	+2.1	105	32	2.10	+0.10	0	7	18	9	4	nw.
September ..	58.9	+2.1	98	11	0.68	−0.83	0.2	5	15	8	7	nw.
October	41.3	−2.5	84	− 6	0.75	−0.26	1.2	7	8	10	13	nw.
November...	34.9	+8.2	74	− 4	0.03	−0.56	T.	1	19	6	5	sw.
December ...	26.7	+13.7	70	−20	0.28	−0.21	2.3	4	10	10	11	nw.
Annual ...	41.9	+2.5	108	−46	14.15	−2.72	25.5	71	161	109	95	nw.

Killing Frosts

STATIONS	Last in Spring	First in Autumn
Eastern Div.		
Casselton	....	Sept. 25
Cavalier.............	May 16	" 25
Cooperstown	" 13	" 23
Devils Lake	" 11	" 23
Edgeley	" 11	" 23
Edmore	" 13	" 10
Ellendale.	" 11	" 25
Fargo	" 12	" 25
Forman	" 12	" 24
Fullerton...........	" 11	" 25
Grafton	" 12	" 23
Grand Forks........	" 12	" 23
Hankinson	" 11	" 25
Hannah.............	" 17	" 23
Hillsboro	" 12	....
Jamestown	" 12	Sept. 25
Langdon	June 9	" 10
Larimore............	May 11	" 25
Lisbon	" 12	" 25
McHenry............	" 17	" 10
McLeod	" 15	" 25
Mayville	" 13	" 23
Oakes	" 15	" 25
Park River...	" 17	Oct. 23
Pembina	" 17	Sept. 25
Sharon	" 13	" 23
Valley City	" 12	" 25
Wahpeton	" 12	" 25
Moorhead, Minn....	" 11	" 26
Middle Div.		
Ashley	May 12	Sept. 10
Bisbee	" 11	" 23
Bismarck	Apr. 21	" 25
Bottineau	May 11	" 23
Carrington..........	" 11	" 23
Carson	" 11	" 23
Center	" 11	" 10
Dogden Butte	" 11	" 25
Drake...............	" 11	" 25
Dunseith.......	June 9	" 10
Eckman.............	May 11	" 20
Energy..............	" 11	" 10
Fessenden	" 11	" 10
Fort Yates..........	" 11	" 25
Foxholm............	" 11	" 25
Gackle............ .	" 12	" 24
Garrison	Apr. 21	Sept. 23
Granville	May 11	" 25
Hansboro	" 17	" 23
Linton	" 13	" 25
McClusky	" 10	" 23
Maddock...........	" 13	" 10
Mandan............	" 11	" 25
Max	Apr. 25	" 23
Minot	May 11	" 20
Mohall.............	" 11	" 25
Napoleon	" 12	" 25
New Salem	" 11	" 23
Pettibone..........	" 11	" 10
Rolla...............	" 11	" 25
Steele..............	" 13	" 10
Towner	" 11	" 10
Turtle Lake	" 11	" 23
Velva	" 11	" 20
Washburn	Apr. 21	" 25
Willow City........	May 13	" 10
Wilton	Apr. 22	" 25
Wishek	May 11	" 7
Western Div.		
Amidon	May 11	Sept. 26
Beach..............	" 11	" 25
Berthold Agency..	" 11	" 23
Bowbells	June 10	" 25
Bowman	May 10	" 25
Crosby.............	" 11	" 25
Dickinson..........	" 11	" 23
Dunn Center.......	" 11	" 10
Epping	" 11	" 25
Fryburg............	Apr. 21	" 29
Hettinger	May 11	" 26
Howard	" 10	" 25
Kenmare	" 11	" 25
Marmarth..........	Apr. 24	" 28
Mott	May 11	" 23
New England......	" 10	" 23
Parshall	" 11	" 10
Portal	" 10	" 25
Powers Lake	" 10	" 28
Richardton	" 7	" 25
Sanish	" 11	" 22
Stanley	Apr. 26	" 23
Watford City	May 11	" 25
Williston	" 11	" 25

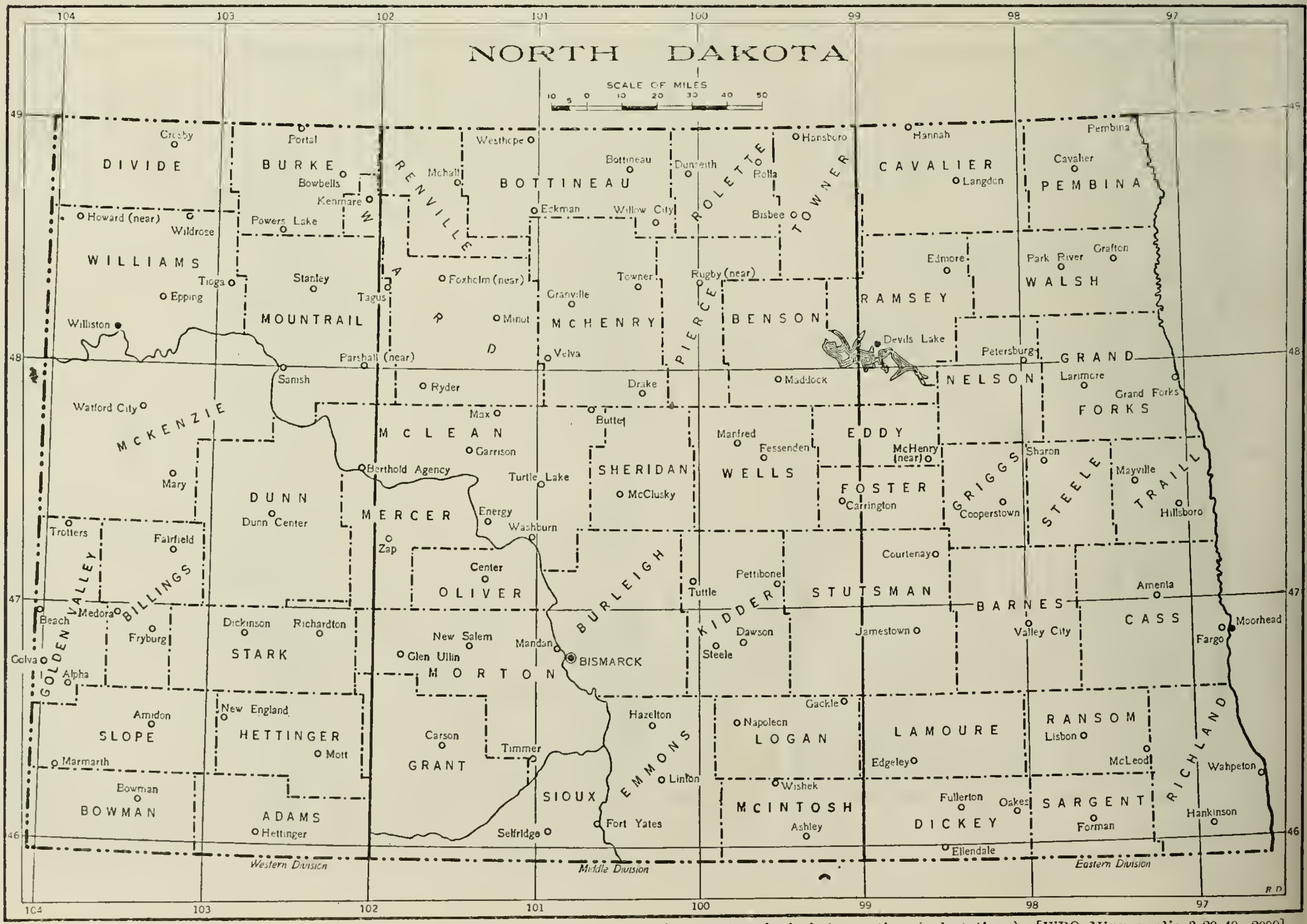
MONTHLY AVERAGE AND COMPARATIVE DATA

Month	Temperature			Precipitation												Sunshine		Relative Humidity			Wind		Average number of days								
				Average 1898-1939																											
	Average maximum	Average minimum	Average	Eastern division	Middle division	Western division	State	Greatest monthly	Place	Year	Greatest 24-hour	Place	Day	Year	Average snowfall	Total hours	Percentage	7 a. m.	noon	7 p. m.	Average hourly velocity	Direction	Clear	Partly cloudy	Cloudy	Rain (.01 or more)	Snow (.1 or more)	Thunderstorms	Dense fog	Minimum temp., zero or below	Maximum temp. 90° or above
Jan.	17	−5	6	0.54	0.44	0.47	0.48	3.94	Lakota	1907	1.73	Lakota	2	1907	5.2	144	51	86	77	82	10.3	nw.	13	8	10	4	4	0	*	0	18
Feb.	21	−1	10	0.53	0.43	0.42	0.46	4.85	Langdon	1908	2.40	Lisbon	15	1915	4.8	164	56	86	75	81	10.5	nw.	13	7	8	4	4	0	*	0	14
Mar.	35	13	24	0.77	0.75	0.75	0.76	6.26	Edgeley	1902	2.60	Hettinger	14	1919	5.8	217	59	84	68	74	11.0	nw.	13	9	9	4	4	*	1	0	6
Apr.	54	30	42	1.76	1.32	1.19	1.42	8.61	New Rockford	1896	4.20	Napoleon	23	1832	3.3	248	61	80	53	59	11.4	nw.	12	8	10	5	2	1	*	*	*
May	66	40	53	2.53	2.18	2.19	2.30	9.30	Pembina	1927	5.90	Hillsboro	29	1909	0.5	288	61	77	47	50	11.2	nw.	13	9	9	7	*	3	*	1	0
June	75	49	62	3.52	3.39	3.33	3.41	13.28	Carson	1914	7.70	McKinney	15	1897	T.	309	64	79	50	54	10.4	nw.	13	10	7	9	*	7	*	2	0
July	82	54	68	2.77	2.46	2.06	2.43	12.22	Berthold Agency	1928	6.03	Larimore	3	1921	0.0	356	74	81	49	55	9.5	nw.	17	9	5	7	0	7	*	5	0
Aug.	81	51	66	2.41	1.97	1.62	2.00	9.76	Ellendale	1926	6.45	Jamestown	20	1918	0.0	315	72	82	46	52	9.5	nw.	16	9	6	6	0	7	1	5	0
Sept.	70	42	56	1.86	1.42	1.25	1.51	9.72	Minto	1900	6.40	Rolla	14	1905	0.1	231	61	83	50	54	10.0	nw.	14	8	8	6	*	3	*	1	0
Oct.	56	31	44	1.25	0.95	0.83	1.01	6.20	Melville	1898	3.14	McLeod	4	1926	1.4	189	56	83	53	60	10.3	nw.	14	8	9	4	1	*	1	*	*
Nov.	37	17	27	0.70	0.57	0.49	0.59	5.33	Pembina	1922	4.02	Crosby	7	1915	4.6	131	46	82	64	71	10.2	nw.	11	8	11	4	4	*	2	0	3
Dec.	22	2	12	0.55	0.46	0.47	0.49	4.84	Lakota	1909	1.80	Hansboro	26	1916	5.2	126	47	86	73	80	10.1	nw.	12	8	11	4	4	0	1	0	12
Period	51	27	39	19.19	16.34	15.07	16.87	13.28	Carson	1914	7.70	McKinney	Jun 15	1897	30.9	2718	59	82	59	64	10.4	nw.	161	101	103	66	23	23	8	14	53

*Indicates less than one.

MONTHLY AMOUNTS OF EVAPORATION—inches—and WIND MOVEMENT—miles

Station	Data	Apr.	May	June	July	Aug.	Sept.	Seasonal
Dickinson	Evaporation	4.775	4.884	4.604	8.389	7.299	5.794	35.745
	Wind movement	4,980	4,890	4,020	3,310	3,040	3,340	23,580
Mandan	Evaporation	3.971	6.894	5.056	7.922	6.584	4.670	35.097
	Wind movement	4,800	4,102	3,127	2,883	2,841	3,035	20,788



Key to Symbols: ●Meteorological observations (regular Weather Bureau stations). ○Meteorological observations (sub-stations). [WBO, Minneapolis, 3-29-40—2000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

F. J. BAVENDICK

VOL. XLIX BISMARCK, N. D., JANUARY 1940 No. 1

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GENERAL SUMMARY

January marks a continuation of the fall and winter drought, which has persisted since September 1939, with November 1939 and January 1940 averaging the least precipitation for these respective months since state-wide records began. Except for two warm periods from January 7th–13th, and from the 27th–31st, the month was very cold. Sub-zero temperatures were the rule from the 1st through the 27th, with most of the minima being reported on the 18th, at some stations on the 4th or 5th. The highest temperatures of the month occurred in the closing few days with all maxima occurring on the 29th or 30th. Precipitation was rather frequent, but amounts were mostly light, usually in the form of snow flurries. January 1940 is the fifth consecutive month with the average precipitation for the state below normal. During this five month period there has been but 46% of the state average; 56% in the eastern division; 40% in the middle division; and 37% in the western division. This is the second least fall and winter precipitation, the five month period September 1897–January 1898 averaged but 42% of the normal. Because of the light snowfall all highways were open, occasionally slippery because of sleet. At the close of January the ice harvest, which is of a good quality, was still in progress. Conditions were generally favorable for farm work, and livestock.

M. S. C.

TEMPERATURE

The mean temperature for the state was 3.4°, or 2.8° below the 1892–1940 average for January. The mean temperature for the eastern division was 3.6°; for the middle division, 2.8°; and for the western division, 3.7°. The highest mean temperature was 8.0° at Bowman, and the lowest, -0.6° at Epping and Howard, making a range in mean temperature of 8.6°. The absolute range was 87°, from 48° at three stations on the 29th, to -39° at Dunn Center on the 4th. The average daily deficiency in temperature for the state since January 1, 1940, is 2.8°.

PRECIPITATION

The average precipitation for the state was 0.10 inch, or 0.37 inch less than the 1892–1940 average for January. In the eastern division the average amount was 0.10 inch; in the middle division, 0.11 inch; and in the western division, 0.10 inch. The greatest monthly amount reported was 0.55 inch at Towner; there was none reported at three stations. The greatest amount recorded in any 24 consecutive hours was 0.20 inch at Energy on the 31st. The accumulated deficiency in precipitation for the state since January 1, 1940, is 0.37 inch. The average snowfall was 1.4 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	2	5	7	3	3	..	..	..	..	1	7	5	..	..	..	1	..	..	..	..	..	..	1	..	..	..	1	..	2	3	1
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	1	2	13	3	8	9	4	9	15	3	..	1	7	1	..	1	1	..	..	..	..	..	1	..	..	..	..	3	6	1	1
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	1	..	..	2	1	..	..	..
Solar halos	2	2	1	1	..	2	3	..	..	..	..	1	..	1	..	..	5	5	6	2	3	3	3	6	2	.	1	1	..	1	..
Sleet	..	..	..	..	..	..	..	..	1	4	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	18
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.32	30.79	24	29.67	10	9.8	34	nw.	18	92	81	86	56
Devils Lake	30.24	30.62	24	29.62	11	9.0	25	nw.	18	94	86	94	66
Williston	30.31	30.84	24	29.55	10	6.7	26	n.	13	80	76	73	61
Fargo	30.25	30.62	24	29.66	11	....	....	....	....	91	77	86	....
Moorhead, Minn	....	....	....	....	....	8.0	21	nw.	15	....	....	....	50

† And other dates.

COMPARATIVE DATA FOR JANUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	3.3	58	−52	0.31	0.41	0.25	0.32	2.8	4	15	8	8
1893	0.8	52	−48	0.93	0.94	1.11	0.99	8.4	7	11	11	9
1894	0.6	60	−47	0.38	0.40	0.38	0.39	3.6	4	13	9	9
1895	−2.9	42	−46	0.53	0.69	0.47	0.56	5.5	5	16	8	7
1896	5.3	58	−42	0.75	0.77	0.80	0.77	6.6	6	9	9	13
1897	3.6	49	−38	0.91	0.64	0.76	0.77	7.5	5	11	9	11
1898	14.6	69	−32	0.14	0.12	0.07	0.11	1.1	2	15	8	8
1899	5.2	55	−41	0.29	0.20	0.26	0.25	2.4	3	13	9	9
1900	15.4	70	−30	0.27	0.27	0.12	0.22	2.0	3	15	9	7
1901	7.7	68	−39	0.29	0.29	0.26	0.28	3.0	4	14	8	9
1902	12.7	51	−40	0.17	0.03	0.23	0.14	1.4	2	17	7	7
1903	9.4	56	−37	0.72	0.58	0.68	0.66	6.7	5	13	8	10
1904	3.6	50	−52	0.41	0.36	0.42	0.40	4.0	5	15	6	10
1905	0.9	48	−40	0.26	0.30	0.41	0.32	2.9	3	15	8	8
1906	12.2	60	−38	0.75	0.72	0.61	0.69	6.9	4	14	6	11
1907	−6.2	45	−45	1.77	1.13	1.05	1.32	14.5	8	12	8	11
1908	17.0	70	−41	0.21	0.16	0.34	0.24	1.9	2	17	8	6
1909	3.5	53	−48	0.60	0.32	0.37	0.43	4.3	4	14	8	9
1910	9.4	49	−35	0.30	0.21	0.59	0.37	4.1	3	16	8	7
1911	−1.0	56	−43	0.86	0.96	0.69	0.84	8.5	6	11	8	12
1912	−4.6	63	−52	0.34	0.34	0.36	0.35	3.6	4	16	6	9
1913	3.2	60	−54	0.51	0.40	0.43	0.45	4.6	5	12	9	10
1914	14.8	62	−38	0.56	0.48	0.40	0.48	4.9	4	12	8	11
1915	5.8	51	−48	0.39	0.24	0.25	0.29	3.4	3	12	9	10
1916	−6.4	49	−56	1.58	1.24	1.26	1.36	15.1	6	13	8	10
1917	1.7	47	−46	0.82	0.69	0.65	0.72	8.6	5	13	8	10
1918	0.5	48	−44	0.41	0.43	0.58	0.47	5.0	5	12	8	11
1919	18.7	66	−44	0.24	0.21	0.10	0.18	1.7	2	17	8	6
1920	2.7	49	−44	1.26	0.96	0.68	0.97	10.0	5	10	9	12
1921	15.9	52	−31	0.29	0.20	0.22	0.24	2.5	2	13	9	9
1922	7.0	55	−46	0.68	0.36	0.42	0.49	5.2	5	12	9	10
1923	10.1	56	−35	0.59	0.43	0.54	0.52	6.0	5	9	9	13
1924	2.6	61	−42	0.30	0.20	0.18	0.23	2.5	3	14	9	8
1925	8.6	52	−35	0.33	0.18	0.22	0.24	2.5	3	11	10	10
1926	16.3	55	−30	0.31	0.34	0.49	0.38	4.1	4	13	8	10
1927	10.1	60	−44	0.50	0.36	0.41	0.42	4.3	4	14	8	9
1928	13.0	50	−41	0.21	0.19	0.19	0.20	2.3	3	14	9	8
1929	−4.8	42	−42	0.76	0.48	0.63	0.62	9.2	6	13	8	10
1930	−1.9	41	−43	0.26	0.22	0.40	0.29	2.7	4	12	9	10
1931	21.4	68	−31	0.15	0.15	0.14	0.15	1.4	2	15	8	8
1932	9.5	50	−34	0.47	0.62	0.59	0.56	6.3	4	12	7	12
1933	11.8	53	−30	0.92	0.70	0.79	0.80	10.0	7	12	7	12
1934	15.8	54	−36	0.29	0.14	0.17	0.20	2.0	3	11	9	11
1935	3.3	60	−44	0.55	0.29	0.39	0.41	4.9	6	8	10	13
1936	−5.8	43	−44	0.51	0.48	0.69	0.56	6.9	7	11	8	12
1937	−8.3	38	−44	1.04	0.55	0.42	0.67	9.0	6	13	8	10
1938	9.5	50	−40	0.36	0.42	0.67	0.48	6.1	6	10	9	12
1939	15.0	55	−32	0.56	0.32	0.54	0.47	6.0	6	8	10	13
1940	3.4	48	−39	0.10	0.11	0.10	0.10	1.4	3	13	9	9
Period	6.2	70	−56	0.53	0.43	0.46	0.47	5.1	4	13	8	10

Climatological Data for January 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	5.3	+0.4	43	30	−22	17†	41	0.10	−0.36	0.05	1.5	5	20	8	3	nw.	James. H. Erickson.
Cavalier	Pembina	894	30	4.2	......	41	30	−25	14	40	T.	−0.67	T	T.	0	13	8	10	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	1.0	−5.6	40	31	−30	18	40	0.06	−0.43	0.04	0.7	2	16	6	9	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	....	......	....	....	....	....	......	0.32	......	0.09	4.4	4	9	11	11	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	1.6	−0.2	40	30	−26	17	30	0.15	−0.32	0.06	2.1	6	6	14	11	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	2.2	−6.6	42	30	−25	18	33	0.11	−0.29	0.02	3.0	2	5	23	3	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	16	1.9	+0.6	40	30	−29	15	40	0.04	−0.47	0.03	1.4	2	13	14	4	nw.	Mike Davis.
Ellendale	Dickey	1,457	45	4.8	−5.9	45	30	−25	18	39	0.03	−0.46	0.02	0.3	2	16	7	8	nw.	J. E. Demmer.
Fargo	Cass	895	4	3.2	......	41	30	−25	17	34	0.08	−0.22	0.05	1.5	4	......	......	......	......	W. B. Aerological Sta.
Forman	Sargent	1,249	47	3.0	−6.5	39	31	−26	18	39	0.08	−0.38	0.03	1.0	3	13	13	5	nw.	Helge Dyste.
Fullerton	Dickey	1,439	42	4.7	−4.2	45	30	−24	18	39	0.07	−0.72	0.04	0.3	2	7	20	4	nw.	F. O. Alin.
Grafton	Walsh	827	48	5.8	+3.6	45	30	−24	15	38	0.11	−0.38	0.11	1.4	1	11	10	10	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	3.0	−0.5	40	30	−25	17	32	0.12	−0.39	0.06	1.1	5	4	10	17	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	3.4	−4.3	30	28	−24	18	34	0.06	−0.42	0.04	0.7	2	6	24	1	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	48	1.8	+2.9	40	30	−30	15	30	0.06	−0.66	0.06	0.7	1	13	15	3	nw.	Charles McAdams
Hillsboro	Traill	901	40	......	......	....	....	......	....	......	......	......	......	......	......	......	......	......	......	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	4.0	−3.0	41	31	−26	18	40	0.31	−0.24	0.08	3.1	6	20	3	8	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	44	2.2	+3.1	43	30	−31	15	35	0.23	−0.34	0.07	2.3	7	6	20	5	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	4.2	+0.6	41	30	−24	18	33	0.12	−0.54	0.10	1.2	2	17	8	6	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	36	3.9	−3.4	42	30	−23	18	39	0.07	−0.50	0.04	1.5	2	13	11	7	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	0.6	−0.9	40	30	−29	18	39	0.10	−0.54	0.07	1.6	3	13	10	8	nw.	C. E. Blasky.
McLeod	Ransom	1,075	29	4.8	−3.6	42	30	−23	17†	42	0.21	−0.36	0.08	2.1	3	20	2	9	n.	J. G. Carlson.
Mayville	Traill	975	44	6.6	+0.8	39	29	−22	18	38	T	−0.40	T.	T	0	13	11	7	w.	H. B. Addicott.
Oakes	Dickey	1,318	11	3.8	−3.3	43	30	−26	18	43	0.01	−0.49	0.01	0.6	1	22	5	4	nw.	F. H. Murray.
Park River	Walsh	998	36	4.6	+1.9	41	30	−25	15	37	0.07	−0.32	0.04	1.2	2	15	9	7	nw.	E. J. Taintor.
Pembina	Pembina	789	66	5.0	+7.4	46	30	−26	15	40	0.05	−0.59	0.05	1.5	1	14	8	9	nw.	Harry A Gordon.
Petersburg	Nelson	1,520	10	......	......	....	....	....	....	......	0.07	......	0.04	1.0	4	13	13	5	nw.	T. M. Rykken.
Sharon	Steele	1,516	16	1.6	−2.7	41	30	−27	18	34	0.08	−0.26	0.05	0.9	3	9	13	9	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	4.3	−1.2	39	30	−22	18	37	0.12	−0.38	0.07	4.0	3	16	5	10	nw.	I. C. Robertson.
Wahpeton	Richland	962	48	5.0	−3.4	37	30†	−24	18	37	0.09	−0.33	0.08	1.5	2	13	9	9	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	4.0	+0.2	41	30	−22	18	36	0.13	−0.54	0.06	2.6	6	12	8	11	nw.	U. S. Weather Bureau.
Average for Eastern Division		......	....	3.6	−0.9	46	30	−31	15	43	0.10	−0.43	0.11	1.5	3	13	10	8	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	44	2.4	−6.2	42	30	−28	18	42	0.07	−0.40	0.03	3.5	3	13	7	11	nw.	Henry Doerr.
Bisbee	Towner	1,601	4	2.2	......	38	30	−30	18	37	0.09	......	0.05	1.2	3	19	3	9	w.	I. K. Lund.
Bismarck	Burleigh	1,670	66	2.2	−5.6	44	30	−26	2	39	0.02	−0.43	0.01	0.1	2	8	6	17	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	1.5	+0.9	39	30	−32	18	38	0.18	−0.23	0.06	3.0	5	8	19	4	nw.	N. D. School of Forestry
Carrington	Foster	1,579	42	4.4	−2.3	39	30	−26	18	36	0.01	−0.31	0.01	0.2	1	7	0	24	nw.	Soo Line Agent.
Carson	Grant	2,500	28	5.0	−4.0	45	30	−27	18	48	0.00	−0.34	0.00	0.0	0	11	12	8	nw.	J. W. Evens.
Center	Oliver	......	2	2.6	......	42	30	−25	5	52	0.08	......	0.04	0.9	3	18	10	3	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	4.8	−2.7	40	30	−26	18	36	0.14	−0.09	0.14	1.0	1	12	7	12	nw.	R. L. Williams.
Drake	McHenry	1,634	11	2.9	......	43	30	−26	18†	36	0.15	......	0.03	2.1	8	1	14	16	nw.	Peter Anton.
Dunseith	Rolette	1,682	44	3.2	+0.7	42	30	−26	18	37	0.20	−0.24	0.09	3.1	5	12	13	6	n.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	2.5	−0.6	40	30	−31	18	50	0.15	−0.21	0.06	3.0	5	16	11	4	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	3.8	−5.8	46	30	−27	4	47	0.20	−0.11	0.20	1.0	1	17	8	6	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	28	2.6	−1.9	44	30	−27	18	31	0.13	−0.35	0.08	4.0	3	13	13	5	w.	John V. Zuber.
Fort Yates	Sioux	1,670	40	3.2	−6.0	44	30	−26	2	37	0.10	−0.31	0.10	3.0	1	15	7	9	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	4.9	−1.4	43	30	−27	18	39	0.13	−0.20	0.07	1.7	4	10	16	5	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	10	2.0	......	34	30†	−27	18	38	0.03	......	0.02	1.0	2	11	10	10	nw.	A. H. Haut.
Garrison	McLean	1,901	63	4.2	−3.4	42	30	−25	18	47	0.04	−0.30	0.03	0.9	2	11	12	8	nw.	E. L. Vorachek.
Granville	McHenry	1,504	33	4.0	−0.6	45	30	−27	18	42	0.14	−0.22	0.05	2.0	4	9	14	8	nw.	W. A. Christianson.
Hansboro	Towner	1,597	32	2.4	+2.5	40	30†	−27	15	33	T	−0.66	T.	T.	0	10	19	2	nw.	W. E. Disher.
Linton	Emmons	1,711	23	2.8	−6.7	45	30	−25	2	40	0.02	−0.36	0.02	0.1	1	19	4	8	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	1.2	−4.8	41	31	−29	18	37	0.12	−0.29	0.04	1.2	4	15	10	6	nw.	F. W. Perry.
Maddock	Benson	1,604	25	1.8	−3.0	39	30	−28	18	39	0.09	−0.21	0.04	1.0	3	13	11	7	nw.	A. T. Felland.
Mandan	Morton	1,750	26	2.2	−6.1	44	30	−23	5	40	0.03	−0.32	0.02	0.2	2	12	6	10	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	......	......	....	....	......	....	......	0.10	−0.39	0.04	1.5	4	14	9	8	nw.	P. B. Anderson.
Max	McLean	2,093	11	1.2	......	39	30	−28	18	41	0.04	......	0.02	0.5	2	9	5	17	nw.	A. W. Rice.
Minot	Ward	1,557	44	5.9	−0.3	44	30	−25	18	44	0.14	−0.23	0.08	3.4	5	15	3	13	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	47	2.8	−1.8	39	30	−28	18	47	0.32	+0.01	0.17	2.1	6	11	14	6	nw.	Iver Johnson.
Napoleon	Logan	1,955	48	1.6	−4.8	40	30	−30	18	37	0.07	−0.26	0.03	1.5	3	12	1	18	nw.	C. J. Hoof.
New Salem	Morton	2,163	36	3.2	−5.9	44	30	−30	18	52	0.04	−0.41	0.04	0.5	1	14	9	8	nw.	J. Christianson.
Pettibone	Kidder	1,856	31	1.0	−2.0	40	30	−32	18	35	0.18	−0.23	0.13	2.2	2	10	12	9	nw.	Sam Loeppke.
Rolla	Rolette	1,860	3	3.5	......	44	30	−25	18	35	0.17	......	0.07	1.7	5	15	6	10	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	......	......	....	....	......	....	......	0.29	−0.02	0.11	4.0	4	13	9	9	nw.	W. B. Paterson.
Ryder	Ward	2,108	11	......	......	....	....	......	....	......	0.03	−0.26	0.02	0.4	2	15	9	7	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	......	......	....	....	......	....	......	0.25	......	0.10	2.7	4	8	8	15	nw.	J. B. Smith.
Steele	Kidder	1,857	46	1.1	−6.2	42	30	−28	18	36	0.02	−0.44	0.02	1.0	1	8	13	10	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	......	......	....	....	......	....	......	0.12	−0.09	0.04	2.2	6	17	9	5	nw.	G. N. Pilgard.
Timmer	Morton	......	3	......	......	....	....	......	....	......	0.00	......	0.00	0.0	0	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	38	3.8	0.0	45	30	−29	18	40	0.55	+0.11	0.15	3.0	5	13	9	9	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	3.8	−4.0	44	31	−26	18	36	T.	−0.37	T.	T	0	17	5	9	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	32	......	......	....	....	......	....	......	0.07	−0.38	0.04	0.3	4	14	12	5	nw.	Adam Leno.
Velva	McHenry	1,511	13	5.5	−0.4	44	30	−25	18	43	0.07	−0.34	0.05	0.5	2	12	13	6	nw.	Oscar Anderson.
Washburn	McLean	1,731	39	3.6	−3.8	39	31	−25	18	29	T.	−0.33	T	T.	0	12	5	14	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	2.2	+0.9	40	30	−34	18	42	0.26	−0.06	0.18	3.5	2	22	4	5	nw.	John J. Egger.
Willow City	Bottineau	1,471	48	0.0	−0.9	39	30	−31	18	48	0.14	−0.44	0.09	1.5	2	20	8	3	nw.	O. M. Sanderson.
Wilton	McLean	2,159	4	2.8	......	41	30	−25	24	33	T.	......	T.	T	0	9	10	12	nw.	Soo Line Agent.
Wishek	McIntosh	2,010	19	0.8^c	−6.2	41^c	30	-26^c	17	35^c	0.09	−0.41	0.04	1.7	4	14	10	7	nw.	H. M. Larson.
Zap	Mercer	1,838	25	......	......	....	....	......	....	......	......	......	......	......	......	......	......	......	......	John Kaufman, Jr.
Average for Middle Division		......	....	2.8	−3.1	46	30	−34	18	52	0.11	−0.32	0.20	1.5	3	13	9	9	nw.	......

Continued on page 4

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for January 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red									.01						.01	.05		.02		.01					T.						T.	0.10
Cooperstown [2]	Sheyenne	T.		T.						.02	T.	T.				T.	T.	.04					T.									T.	0.06
Courtenay [2]	James								T.	T.	.05				T.		.09		.09			.09										T	0.32
Devils Lake [1]	Devils Lake		T.	T.	T.	T.	T.		.06	.01	T.	T.		T.	T	.01	.05	T.	T.	T.	T.	T.	T.	.01	T.	T.					T.	.01	0.15
Edgeley	James	.09								T							.02																0.11
Edmore	Devils Lake								.03	.01	T												T.	T		T.						T.	0.04
Ellendale	James																.02															.01	0.02
Fargo [1]	Red		T.	T.	T.	T.			T.	.01	.01	T.			T.	T	.05		T.	.01	T.	T.	T.	T.	T.	T.					T	T.	0.08
Forman	Sheyenne	.03										T.			T.	T.	.03		T.			T.	T.									.02	0.08
Fullerton	James				T.	T.			T.	T.	T.	T.			T.		.03		T.			T.										.04	0.07
Grafton	Red								T.		T.				T.		T.							.11	T.								0.11
Grand Forks [1]	do		T.		T.				.03	.01	.01	T.			T.		.06		T.	T.	T.	T.	T.	.01	T.	T.						T.	0.12
Hankinson [2]	do															.04			.02														0.06
Hannah	Pembina	T.							T.	T.	.06				T.		T.			T.	T.	T	T.									T.	0.06
Hillsboro	Red																																.....
Jamestown	James								T	.05	.08					.03	.08		.05													.02	0.31
Langdon [2]	Pembina	.02							.05	.01						.03	.04						.01	.07									0.23
Larimore	Red								T.	T.	.10				T.		T.		T.					T.								.02	0.12
Lisbon	Sheyenne								T.			T.			T.	T.	.03		T.		T.					T.						.04	0.07
McHenry	James								.01	T.					T.	T.	.07					T.										.02	0.10
McLeod	Sheyenne											.05					.08					T		.08								T	0.21
Mayville	Red										T.																						T.
Oakes	James											T.					.01															T.	0.01
Park River	Red								.03	T.	T						.04							T.									0.07
Pembina	do								.05	T.					T.		T.		T.	T.				T.								T.	0.05
Petersburg	do								.04		.01						T.		T.					.01			T.					.01	0.07
Sharon	do	T							T.	T.	.01			T.	T.	T.	.05		T.													.02	0.08
Valley City	Sheyenne	.02							T.		T.				T.	T.	.07					T.										.03	0.12
Wahpeton	Red									T		.01			T	T	.08					T		T								T.	0.09
Moorhead, Minn [1]	do								T.	.01	.01	T.			T.	T.	.06		.02	.02	T.	T.		.01	T.						T.	T.	0.13
Middle Division																																	
Ashley [2]	Missouri	.03						T.	T.		T.					.02	T.	.02															0.07
Bisbee	Devils Lake	T.							.03	.01	T.						.05		T.				T.										0.09
Bismarck [1]	Missouri					T.		T.	T.	T.	T.	T.			T.	T.	T.	T.	T.	.01	T.	T	T.	T.	T.							.01	0.02
Bottineau	Mouse		T.		T.	T.		T.	.02	.01	.05				T.	T.	.06			T.		T.	T.	T.								.04	0.18
Carrington [2]	James								T.	T.	T.					T.	.01		T.			T.										T	0.01
Carson	Heart																																0.00
Center	Missouri									.02	.02						.04															T	0.08
Dogden Butte	Mouse	T							T.	T	T.				T.	T	T.		T.													.14	0.14
Drake [2]	do	.03					T.		T	T.	.02					.01	.03	.01	T.	.02				.01	T.							.02	0.15
Dunseith	do	.05							.04	T.	.01						.09					.01		T.								T	0.20
Eckman	do								T.	T.	.06				T	.02	.03		T.				T.	.02								.02	0.15
Euergy	Missouri																															.20	0.20
Fessenden [2]	James	T.							T.	T.					T.	.03	.02		T.			T.			T.							.08	0.13
Fort Yates	Missouri	.10															T.															T.	0.10
Foxholm (near)	Mouse								T.	T.	.07				T	.01	.03							T.								.02	0.13
Gackle	James									T.		.02			T	T.																.01	0.03
Garrison	Missouri								T.	T.					T.	T.	.03		T.			T.	T.	T.								.01	0.04
Granville	Mouse						T.		T.	T.	.03					.03	.03	T.	T.				T.	T.	T.	T.						.05	0.14
Hansboro	Devils Lake	T.							T.	T.	T.						T.		T.				T.	T								T.	T
Linton	Missouri							T.		T.						T	.02		T.					T.								T.	0.02
McClusky	do									.02					T.	.04	.04															.02	0.12
Maddock	Sheyenne								.03	T.						T.	.04		T.		T	T			T.							.02	0.09
Mandan [2]	Missouri						T	T	T.	T.					T.	T.	.01	T			T		T.								T.	.02	0.03
Max [2]	do	.02															T.	.02				T.											0.04
Minot	Mouse			T.					T.	T.	.08				.01	T	.02	T.	T			T.	T.	.01	T							.02	0.14
Mohall	do								T.	T.	.17				.03	.04	.01						.01		T.							.06	0.32
Napoleon [2]	Missouri	.02									.03							.02															0.07
New Salem	Heart								T.		T.	T				T.	.04		T.	T.				T.								T.	0.04
Pettibone	James														.05	T.	.13															T.	0.18
Rolla	Devils Lake				T.				.01	.03	.04				T.								T.	.07								.02	0.17
Rugby (near)	Mouse								.06		T.					T.		.10		.02												.11	0.29
Ryder [2]	Missouri									T.	T.							T			T.	T			T.						.01	.02	0.03
Selfridge	do						.05			T.		.07				.10	T															.03	0.25
Steele	do								T.	T						T.	.02															T.	0.02
Tagus	Mouse									.01	.04					.03	T.		.01		T.	T.		.01								.02	0.12
Towner	do			T.	T.				T.	.10	.10				T.	.10	.10		T.		T.		T.									.15	0.55
Turtle Lake	Missouri									T.							T.																T.
Tuttle	do			T.					T.		.01				T.	.01	.01		T.	T.	T		T.									.04	0.07
Velva	Mouse								T.	T.					T.	T	.05					T.	T.	T.	T							.02	0.07
Washburn [2]	Missouri								T.	T.	T.					T.			T.													T	T.
Westhope	Mouse								T.	T.	.18				T.	T.							T.									.08	0.26
Willow City	do									T.	.09				T.		T						T.									.05	0.14
Wishek [2]	Missouri										.01				.02	T.	.02		T.	T.				T								.04	0.09
Zap	Knife																																......
Western Division																																	
Alpha	Lit. Missouri		.01	.05			.03	.01			T.			T			T.	T.	T.	T.	T.											.01	0.11
Amidon	do		.02	.05																.03												.04	0.14
Beach	do		.03	.01			T.	.01		T	T.										.02											.05	0.12
Berthold Agency	Missouri								.10	T					T.			.05														T.	0.15
Bowman [2]	Grand							T.								T.																	T
Crosby	Mouse							T.	.02						T.		.02						.02									T.	0.06
Dickinson [2]	Heart	T.						.01	T.	T.	T					T.	.02	T.		T	T.	.01		T.	T.							T	0.04
Dunn Center	Knife						T.	T	T.	T.						T.	T	T.	T.	T.	T.											T.	T.
Fairfield	Lit. Missouri						T.																									T.	T.
Fryburg	Heart			.05				T	T.	T	T.					T.		T.	T.	T	T.	T.	T.	T.								T.	0.05
Hettinger	Grand		.02	.11			T.	T.		T.																						T.	0.13
Howard (near)	Missouri							.02		.02											.02											T.	0.06
Kenmare	Mouse			.03	.01		T		T.	T.	.01				.06	.03							T.	.01								.02	0.17
Marmarth	Lit. Missouri		.15	T.			.04	T		T.				T.			.04	.03	.01		.01												0.29
Mary	do							T.													T.											T.	T.
Medora	do		.03	.03			.01	T.		T.	T	T.					T.	T.		T.	T.							T.				T.	0.07
Mott	Cannon Ball			.01			T.		T.	T.							.01	.01														T.	0.03
New England [2]	do		.16				T.												.03														0.19
Parshall	Missouri									T	.04				T.	T.	T																0.04
Portal [2]	Mouse																.04																0.04
Powers Lake	Missouri	.07							.17					.13																			0.37
Richardton	Heart															T	.02			.02												T.	0.04
Sanish [2]	Missouri								T		.02											.02	T.										0.04
Stanley	do									T.	.05				.03		T				T.	T.	T.	T.	T	T						.07	0.15
Tioga	do								T.						.05			.05		.05				T.	T								0.15
Trotters	Lit. Missouri		.04						.10								T.			.06	.02											.02	0.24
Watford City	Missouri						T		T.		.02								T		T												0.02
Wildrose	do							T.	T.		T.				.04	T.	T.		.05				T.										0.09
Williston [1]	do						.01	T	.01	T.	T.				T	T.	T.		T.		T.	T.			T							.02	0.04

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for January 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	5	9	5	2	9	10	22	16	17	22	23	23	21	17	−5	−5	−9	0	5	8	17	9	5	5	7	12	22	26	34	42	35	12.2
	Minimum	−14	−21	−9	−24	−9	−19	1	−9	−6	−4	4	−3	−5	−3	−20	−9	−17	−28	−12	−7	−5	−10	−5	−25	−17	−14	−20	7	0	20	20	−8.5
Beach	Maximum	10	16	19	0	8	14	18	19	16	36	31	16	20	27	7	10	−3	−3	7	7	10	8	1	−7	0	13	38	39	43	40	34	15.9
	Minimum	−12	−4	−4	−30	−15	−2	8	−1	10	12	0	4	−6	2	−16	−5	−18	−28	−4	−4	−9	−11	−14	−26	−19	−19	3	17	24	24	18	−4.0
Bismarck	Maximum	1	4	4	2	4	10	17	22	16	22	23	16	23	23	3	4	−5	2	9	9	19	8	6	0	6	14	24	29	34	44	36	13.8
	Minimum	−18	−26	−18	−24	−23	−19	3	−3	−12	5	−1	−8	−12	−8	−14	−8	−23	−23	1	−1	2	−14	−17	−21	−11	−15	−15	3	1	11	18	−9.4
Bottineau	Maximum	3	7	5	5	8	7	18	17	15	18	17	16	20	18	−6	−1	−8	6	5	13	13	5	8	4	3	10	20	21	26	39	34	11.8
	Minimum	−13	−15	−14	−22	0	−10	6	8	−3	4	−3	−12	−6	−6	−25	−15	−25	−32	−8	−7	−1	−13	−13	−30	−26	−18	−11	−2	6	16	18	−8.8
Carson	Maximum	6	11	12	5	4	12	15	25	19	28	26	20	27	30	14	5	−1	−5	3	5	16	9	2	−5	5	20	43	38	39	45	36	16.4
	Minimum	−17	−15	−12	−26	−17	−10	4	−5	9	8	3	−1	−11	2	−14	−5	−23	−27	−9	−4	−8	−10	−16	−25	−16	−17	−5	12	12	20	23	−6.5
Crosby §	Maximum	5	9	6	−1	12	16	16	15	19	29	25	15	16	20	4	−4	−11	1	5	5	14	5	5	1	5	9	34	31	35	40	35	13.3
	Minimum	−18	−18	−14	−29	−25	−17	6	1	5	8	2	−4	−3	−5	−22	−16	−22	−27	−10	−6	−3	−13	−20	−23	−20	−22	−4	−1	9	25	17	−8.7
Devils Lake	Maximum	0	4	2	5	8	9	16	15	11	19	18	13	17	16	−7	−2	−15	3	6	12	17	10	6	2	3	9	23	24	23	40	34	11.0
	Minimum	−13	−17	−15	−20	−2	−8	−1	−6	−5	4	6	0	2	−11	−21	−17	−26	−25	−3	−4	0	−7	−20	−25	−12	−15	−7	9	−1	15	7	−7.7
Dickinson §	Maximum	12	10	15	7	8	14	18	19	17	36	20	20	24	28	7	5	−7	0	5	5	13	4	0	−6	5	20	40	38	46	43	30	16.0
	Minimum	−20	−20	−9	−31	−35	−18	−11	−5	12	11	3	−5	−12	−12	−16	−7	−19	−25	−16	−2	−15	−12	−8	−24	−23	−21	−20	10	12	10	24	−9.8
Dunn Center §	Maximum	8	1	13	7	4	10	16	21	16	33	24	23	26	30	21	1	−2	−1	7	4	14	9	1	−1	5	14	41	38	42	42	37	16.3
	Minimum	−27	−31	−27	−39	−37	−30	8	−10	2	7	6	−5	−13	5	−19	−3	−19	−26	−4	−6	−8	−11	−16	−27	−13	−17	−7	11	6	26	23	−9.7
Fessenden §	Maximum	1	−1	5	2	6	6	19	15	14	19	14	21	15	17	10	−4	−14	1	5	8	18	14	5	0	5	9	21	23	39	44	36	12.0
	Minimum	−16	−17	−7	−24	−1	−14	−5	2	−4	1	6	−5	−2	3	−19	−14	−22	−27	−2	−6	1	−8	−12	−25	−12	−14	−10	−4	14	14	21	−6.7
Fullerton	Maximum	3	5	5	4	10	10	17	12	17	23	25	24	23	19	14	2	−6	3	7	8	18	18	5	−1	8	14	21	27	23	45	39	14.3
	Minimum	−10	−14	−5	−17	2	0	−16	−7	−2	2	8	−5	−3	−5	−14	−6	−15	−24	−2	−3	2	−5	−7	−21	−10	−10	−18	8	2	15	27	−4.9
Garrison §	Maximum	3	14	6	6	5	7	18	16	18	23	24	20	22	23	7	3	−10	1	8	9	17	3	1	−1	3	15	36	31	35	42	32	14.1
	Minimum	−17	−14	−5	−20	−20	−15	5	0	−2	5	8	−3	−9	4	−15	−10	−20	−25	−2	−3	1	−9	−14	−23	−11	−12	−11	5	8	21	22	−5.8
Grafton	Maximum	5	7	10	8	14	14	20	18	17	22	22	20	20	16	2	1	−2	9	13	15	22	22	14	7	11	18	22	28	26	45	42	16.4
	Minimum	−9	−7	−14	−11	1	−13	−8	−2	1	−7	11	−7	−4	−4	−24	−18	−19	−22	5	3	2	8	−2	−18	−5	−10	−10	10	−4	7	18	−4.9
Grand Forks	Maximum	3	5	8	4	12	11	14	14	14	24	20	18	20	15	−3	0	−11	10	11	14	21	16	8	4	7	14	22	25	18	40	34	13.3
	Minimum	−11	−10	−17	−12	−5	−11	−5	−3	−6	2	−1	−4	−4	−3	−23	−15	−25	−19	−2	0	1	−4	−10	−21	−11	−12	−10	1	−7	10	14	−7.2
Jamestown §	Maximum	8	3	11	4	8	10	14	17	14	19	23	17	23	18	17	−1	−10	2	8	8	16	13	11	0	5	10	26	23	22	39	41	13.5
	Minimum	−11	−14	−5	−16	−6	−11	−4	−5	−2	6	9	0	−5	2	−16	−12	−20	−26	−1	−5	−1	−6	−10	−22	−11	−12	−14	10	2	10	21	−5.6
Kenmare	Maximum	6	9	7	5	13	15	22	20	19	30	30	20	21	17	0	−3	−10	0	7	9	18	18	5	2	3	16	32	33	35	42	38	15.5
	Minimum	−14	−11	−3	−19	−17	−15	7	10	6	10	8	5	5	0	−19	−10	−20	−27	−5	−7	1	−7	−17	−23	−11	−10	−1	9	9	27	19	−4.0
Langdon	Maximum	6	5	6	4	14	10	20	17	13	18	18	20	19	15	−2	5	−5	6	12	7	20	15	12	4	9	17	23	30	24	43	39	14.3
	Minimum	−15	−17	−22	−20	−10	−13	−6	−6	−1	2	5	−6	−7	−5	−31	−21	−26	−26	−4	−4	−4	−12	−9	−25	−12	−18	−11	2	−7	10	11	−9.9
Marmarth	Maximum	12	17	15	0	7	12	15	20	19	19	30	20	20	28	20	20	3	1	8	9	12	10	1	−8	1	14	40	43	45	42	32	17.0
	Minimum	−10	4	−5	−26	−27	2	2	8	9	12	−1	−14	−20	15	−18	0	−18	−24	−2	0	−16	−24	−11	−25	−23	−26	−8	10	12	20	23	−5.8
Minot	Maximum	8	10	12	10	16	18	20	22	20	26	25	21	25	19	2	−3	−8	4	8	11	22	12	6	4	8	22	35	34	40	44	36	17.1
	Minimum	−15	−14	−2	−18	−18	−12	4	7	3	6	7	−2	−1	1	−22	−8	−20	−25	−5	−5	2	−6	−15	−21	−10	−15	−9	5	4	23	17	−5.3
Mott	Maximum	20	12	18	11	9	13	19	24	23	39	37	24	27	30	24	13	7	−2	6	5	16	11	10	8	8	22	45	44	49	50	42	21.4
	Minimum	−15	−16	−11	−31	−25	−24	7	−8	10	8	5	−10	12	3	−19	0	−18	−26	−4	−1	−13	−20	−11	−25	−17	−17	−7	17	12	23	21	−6.5
Pembina	Maximum	4	7	5	17	12	16	18	18	17	24	25	16	22	15	0	0	−9	10	14	16	23	19	15	6	10	18	23	26	20	46	42	16.0
	Minimum	−12	−6	−15	−7	−5	−4	−5	1	5	4	5	−7	−5	−4	−26	−24	−25	−21	−3	1	3	−5	−9	−12	−8	−4	−8	5	−10	9	2	−6.1
Sharon	Maximum	0	4	4	3	9	8	14	14	15	19	16	16	16	18	0	−2	−12	1	9	13	16	11	1	1	4	10	24	27	24	41	34	11.5
	Minimum	−13	−17	−17	−19	−6	−14	−7	−3	−7	2	5	−3	−2	−8	−24	−17	−23	−27	−2	−5	−2	−8	−9	−25	−13	−17	−10	8	0	9	16	−8.2
Steele	Maximum	5	3	3	−2	5	13	11	15	12	15	23	16	19	18	14	1	−9	−1	4	8	13	9	6	−4	−1	9	20	26	33	42	36	11.7
	Minimum	−15	−25	−9	−27	−8	−20	0	−5	−10	5	6	−5	−11	−6	−22	−9	−20	−28	−5	−8	−6	−15	−15	−26	−15	−16	−16	−5	−1	11	22	−9.5
Valley City	Maximum	13	5	8	10	9	8	11	16	12	21	20	19	18	18	15	0	−5	2	9	9	18	9	9	3	3	13	24	26	24	39	35	13.6
	Minimum	−8	−12	−1	−15	−3	−11	−8	−10	−2	5	−12	1	−3	−3	−15	−6	−19	−22	1	−2	3	−5	−3	−21	−8	−11	−13	12	0	10	25	−5.0
Wahpeton	Maximum	10	6	9	5	13	15	15	18	16	24	24	25	22	25	15	1	−1	0	12	11	21	22	20	5	8	14	26	25	23	37	37	16.2
	Minimum	−11	−12	−9	−15	−6	−11	−8	−11	0	−4	13	−6	0	−4	−16	−8	−21	−24	−1	−4	0	−6	−1	−21	−14	−14	−11	8	−3	3	28	−6.1
Williston	Maximum	0	9	9	−10	5	12	17	13	20	32	18	20	18	26	0	−1	−7	2	9	6	9	5	5	0	1	11	34	30	40	39	33	13.1
	Minimum	−20	−15	−19	−25	−25	−9	11	7	10	17	5	2	−3	−8	−17	−8	−26	−26	−2	−3	−4	−11	−22	−23	−17	−19	1	2	10	25	12	−6.9
Moorhead, Minn.	Maximum	2	4	7	2	10	14	12	16	15	25	25	21	22	16	−5	−1	−8	7	11	12	18	20	7	2	9	14	22	23	17	41	34	13.4
	Minimum	−10	−8	−7	−13	2	−9	−4	−10	0	−4	4	−4	4	−5	−16	−9	−21	−22	1	−2	2	−5	−7	−20	−9	−9	−10	11	−2	5	12	−5.3

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for January 1940—Continued from page 2.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	.....	.....	....	....	.....	....	.....	0.11	−0.35	0.05	2.0	5	17	4	10	nw.	H. A. Bury.
Amidon	Slope	......	17	6.2	−7.9	45	29	−31	24	40	0.14	−0.28	0.05	1.2	4	13	6	12	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	34	6.0	−5.1	43	29	−30	4	35	0.12	−0.35	0.05	1.7	5	6	15	10	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	3.8	−4.8	44	30	−29	5	53	0.15	−0.10	0.10	1.7	2	13	8	10	nw.	C. L. Hall.
Bowbells	Burke	1,958	11	3.6	......	40	30	−30	18	45	0.07	−0.35	0.06	0.8	2	4	10	17	nw.	Charles Kaufman.
Bowman	Bowman	2,872	25	8.0	−5.0	47	28	−29	22	37	T.	−0.46	T.	T.	0	13	8	10	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	31	2.3	−1.3	40	30	−29	4	38	0.06	−0.35	0.02	0.8	3	11	6	14	nw.	J. H. Phelps.
Dickinson	Stark	2,543	47	3.1	−7.4	46	29	−35	5	60	0.04	−0.38	0.02	0.4	3	16	8	7	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	3.3	−10.5	42	29	−39	4	48	T.	−0.39	T	T.	0	16	5	10	nw.	O. T. Evenson.
Epping	Williams	2,224	29	−0.6	−8.6	39	30	−33	24	42	0.00	−0.44	0.00	0.0	0	17	4	10	nw.	T. Beachler.
Fairfield	Billings	......	3	.....	.....	....	...	.....	....	.....	T.	......	T.	T.	0	20	5	6	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	21	7.0	......	48	29	−27	18†	46	0.05	−0.40	0.05	0.6	1	13	7	11	nw.	Verne King.
Hettinger	Adams	2,675	32	6.4	−6.6	48	29	−32	4	47	0.13	−0.17	0.11	2.0	2	9	8	14	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	−0.6	−5.0	38	30	−34	18	31	0.06	−0.45	0.02	0.7	3	6	11	14	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	5.8	......	42	30	−27	18	33	0.17	−0.18	0.06	1.8	7	19	11	1	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	5,6	−7.2	45	29	−37	5	48	0.29	−0.11	0.15	5.1	6	13	7	11	nw.	S. P. Crane.
Mary	McKenzie	......	11	.....	.....	....	....	.....	....	.....	T.	−0.40	T.	0.1	0	11	9	11	nw.	Fred Hartman.
Medora	Billings	2,271	24	.....	.....	....	...	.....	..	.....	0.07	−0.45	0.03	1.0	3	13	10	8	nw.	Vernon Thompson.
Mott	Hettinger	2,424	32	7.4	−1.4	50	30	−26	18	52	0.03	−0.61	0.01	0.4	3	3	14	14	nw.	P. G. Wick.
New England	Hettinger	2,400	45	6.2	−7.2	48	29	−29	3	52	0.19	−0.31	0.16	1.5	2	16	6	9	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	24	1.8	......	41	29	−28	18	45	0.04	−0.20	0.04	T.	1	10	17	4	nw.	C. E. Shubert.
Portal	Burke	1,954	34	1.2	−1.3	40	29	−31	18	49	0.04	−0.38	0.04	0.5	1	14	7	10	w.	R. G. Wegener.
Powers Lake	Burke	2,205	34	−0.2	−7.9	37	30	−29	17	30	0.37	−0.14	0.17	5.0	3	19	9	3	nw.	Geo. B. Gee.
Richardton	Stark	2,467	23	6.6	−3.6	45	29	−26	18	48	0.04	−0.34	0.02	0.8	2	7	9	15	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	14	0.8	−3.5	42	31	−29	4†	44	0.04	−0.70	0.02	0.2	2	7	13	11	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	2	1.4	......	38	30	−30	18	40	0.15	....	0.07	2.3	3	16	12	3	nw.	Leroy Edwards.
Tioga	Williams	2,279	11	....	......	....		.....	....	....	0.15	−0.24	0.05	1.4	3	13	7	11	nw.	B. V. Olson.
Trotters	Golden Valley	......	14	.....	.....	....	..	.....	....	.....	0.24	−0.16	0.10	2.8	5	7	11	13	nw.	Walter Gunewald
Watford City	McKenzie	2,084	26	5.0	−4.0	44	29	−29	4	38	0.02	−0.45	0.02	T.	1	16	9	6	nw.	J. C. Zeller.
Wildrose	Williams	2,258	12	.....	.....	....	..	.....	...	.....	0.09	....	0.05	1.0	2	10	7	14	nw.	L. Holter.
Williston	Williams	1,878	60	3.1	−3.3	40	29	−26	18	31	0.04	−0.50	0.02	0.3	3	15	7	9	w.	U. S. Weather Bureau.
Average for Western Division		......	.....	3.7	−5.6	48	29	−39	4	60	0.10	−0.36	0.17	1.2	2	13	8	18	nw.	....
Average for the State		......	.....	3.4	−2.8	48	29	−39	4	60	0.10	−0.37	0.20	1.4	3	13	9	9	nw.	....

[WBO, Minneapolis, 3-5-40—1200

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. XLIX BISMARCK, N. D., FEBRUARY 1940 No. 2

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GENERAL SUMMARY

An unusual feature of the month was the cloudiness, the large number of fogs, and days with precipitation 0.01 inch or more. There were 16 cloudy days, the greatest number in February since state-wide records began and twice the normal. Sunshine was 22% below the normal with only 33% of the possible. The month averaged well above normal in both temperature and precipitation. As a whole February was warm and mild with the only cold period from the 22d thru the 28th. Most minima occurred on the 24th; maximum temperatures occurred at most stations on the 10th. This month broke the drought of the previous five months, except for scattered areas in all portions, where the drought condition persists. While the precipitation is beneficial more is badly needed for spring planting. Conditions were favorable for farm work, and livestock. Livestock have wintered well.

M. S. C.

TEMPERATURE

The mean temperature for the state was 15.0°, or 5.4° above the 1892-1940 average for February. The mean temerature for the eastern division was 15.0°; for the middle division, 14.6°; and for the western division, 15.3°. The highest mean temperature was 19.8° at Marmarth, and the lowest, 10.8° at Willow City, making a range in mean temperature of 9.0°. The absolute range was 81°, from 52° at Bismarck, Fort Yates, and Mandan on the 10th, to −29° at Sanish on the 24th. The average daily excess in temperature for the state since January 1, 1940, is 0.8°.

PRECIPITATION

The average precipitation for the state was 0.61 inch, or 0.14 inch more than the 1892-1940 average for February. In the eastern division the average amount was 0.63 inch; in the middle division, 0.59 inch; and in the western division, 0.60 inch. The greatest monthly amount reported was 1.27 inches at Mohall; the least reported was 0.10 inch at Fort Yates. The greatest amount recorded in any 24 consecutive hours was 0.61 inch at Park River on the 29th. The accumulated deficiency in precipitation for the state since January 1, 1940, is 0.23 inch. The average snowfall was 7.8 inches.

ERRATA

JANUARY 1940--p. 2: Wahpeton, total snowfall should be 1.6. p. 4: Mott, minimum temperature should be −31° on the 4th; and Parshall, minimum temperature should be −29° on the 4th.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	1	..	..	..	1	..	1	2	1	..	..	1	..	..	..	..	..	..	..	..	1	..	5	5	..	..	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	6	18	9	14	6	3	7	6	1	1	5	4	17	26	13	5	17	26	13	7	1	2	1	..	..	7	1	4	14	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	4	2	..	..	..	..	..	..	..	..
Solar halos	..	..	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	4	1	..	..	..
Sleet	2	..	1	..	..	..	..	..	..	..	8	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	..	2	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.14	30.80	2	29.44	11	8.7	27	se.	3	95	82	86	30
Devils Lake	30.14	30.82	2	29.53	10	7.5	22	ne.	11	98	88	92	35
Williston	30.11	30.76	2	29.47	10	6.2	21	nw.	26	85	73	76	34
Fargo	30.14	30.81	2	29.44	10	....	....	....	....	91	78	84	....
Moorhead, Minn	......	......	....	......	....	7.1	22	n.	11	....	....	....	33

† And other dates.

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COMPARATIVE DATA FOR FEBRUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	10.0	62	−45	0.59	0.77	0.37	0.58	4.9	4	14	7	8
1893	−0.3	52	−41	1.01	0.51	0.22	0.58	5.7	4	12	7	9
1894	8.0	55	−54	0.28	0.23	0.16	0.22	2.3	2	14	9	5
1895	5.9	65	−40	0.33	0.41	0.33	0.36	3.6	4	13	7	8
1896	14.3	64	−50	0.56	0.29	0.38	0.41	4.3	3	12	9	8
1897	6.1	52	−29	1.14	1.05	1.30	1.16	11.5	7	12	7	9
1898	13.3	65	−40	0.46	0.46	0.46	0.46	4.5	3	13	8	7
1899	0.4	60	−34	0.22	0.16	0.22	0.20	1.9	3	14	8	6
1900	1.3	46	−48	0.20	0.55	0.66	0.47	4.5	4	12	9	7
1901	7.1	60	−48	0.32	0.30	0.31	0.31	2.9	3	15	7	6
1902	12.1	51	−31	0.73	1.10	1.12	0.98	6.7	6	10	6	12
1903	3.1	46	−33	0.48	0.25	0.41	0.38	3.7	3	19	4	5
1904	−2.1	52	−49	0.81	0.56	0.69	0.69	7.6	5	13	6	10
1905	8.2	64	−42	0.25	0.31	0.37	0.31	2.9	2	19	4	5
1906	9.8	57	−46	0.20	0.07	0.28	0.18	1.4	2	13	8	7
1907	10.7	58	−38	0.36	0.21	0.42	0.33	2.8	3	15	7	6
1908	13.8	62	−49	1.56	0.68	0.87	1.04	10.1	5	12	7	10
1909	9.6	56	−34	0.28	0.36	0.37	0.34	3.7	4	11	7	10
1910	3.4	56	−34	0.57	0.40	0.81	0.59	5.6	4	14	7	7
1911	7.3	55	−50	0.84	0.74	0.52	0.70	8.0	3	15	8	5
1912	11.8	48	−38	0.19	0.18	0.09	0.15	1.7	2	10	9	10
1913	8.5	64	−33	0.08	0.09	0.09	0.09	1.0	2	12	9	7
1914	1.0	57	−44	0.34	0.28	0.40	0.34	3.8	3	12	8	8
1915	17.4	50	−47	1.32	0.27	0.26	0.62	6.1	3	9	5	14
1916	6.4	55	−20	0.41	0.45	0.58	0.48	4.8	4	14	8	7
1917	−0.7	61	−39	0.84	0.58	0.55	0.66	7.1	5	10	8	10
1918	10.8	60	−48	0.20	0.16	0.29	0.22	2.3	3	13	9	6
1919	7.7	58	−41	0.68	0.73	0.44	0.62	6.5	5	10	8	10
1920	12.5	53	−40	0.38	0.25	0.28	0.30	3.2	3	11	9	9
1921	19.9	64	−36	0.52	0.39	0.25	0.39	3.8	3	11	10	7
1922	0.7	45	−33	1.41	1.17	1.00	1.19	12.8	5	13	6	9
1923	4.1	48	−39	0.78	0.64	0.51	0.64	7.2	4	13	7	8
1924	20.3	67	−40	0.39	0.43	0.35	0.39	4.2	3	14	6	9
1925	16.5	62	−27	0.48	0.30	0.08	0.29	3.6	3	10	9	9
1926	22.3	58	−39	0.47	0.44	0.31	0.41	3.7	4	9	9	10
1927	13.3	50	−19	0.49	0.31	0.27	0.36	3.1	4	12	7	9
1928	18.8	59	−31	0.13	0.06	0.15	0.11	1.2	2	14	8	7
1929	2.8	44	−19	0.30	0.28	0.30	0.29	3.3	4	12	8	8
1930	21.7	63	−44	1.41	1.15	0.97	1.18	11.7	6	11	8	9
1931	28.0	62	−30	0.34	0.20	0.31	0.28	2.9	2	14	6	8
1932	13.6	69	−31	0.30	0.37	0.30	0.32	4.3	3	12	9	8
1933	7.9	58	−45	0.25	0.26	0.34	0.28	3.3	3	13	8	7
1934	19.5	61	−30	0.08	0.04	0.07	0.06	0.7	1	13	8	7
1935	24.0	63	−25	0.21	0.24	0.15	0.20	1.9	2	13	7	8
1936	−12.9	43	−60	0.90	0.70	0.50	0.70	9.1	6	12	8	9
1937	6.8	55	−35	0.83	0.40	0.25	0.49	6.6	4	12	9	7
1938	7.2	60	−35	0.71	0.63	0.71	0.68	8.6	5	11	7	10
1939	−0.8	51	−46	0.85	0.60	0.45	0.63	9.7	5	13	8	7
1940	15.0	52	−29	0.63	0.59	0.60	0.61	7.8	7	5	8	16
Period	9.6	69	−60	0.55	0.44	0.43	0.47	5.0	4	13	7	8

Climatological Data for February 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	17.0	+8.2	42	10	−13	24	35	0.38	−0.12	0.14	4.8	6	11	5	13	n.	James. H. Erickson.
Cavalier	Pembina	894	30	14.2	...	43	10	−15	23	39	1.15	+0.63	0.40	15.5	6	8	5	16	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	12.6	+3.2	40	10	−20	24†	45	0.44	+0.04	0.08	5.3	10	10	7	12	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	...	...	...	...	...	...	...	0.38	...	0.17	5.5	5	5	10	14	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	12.5	+7.4	39	10	−20	24	38	0.83	+0.32	0.32	8.5	10	3	5	21	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	16.1	+3.4	50	10	−19	24	29	0.32	−0.01	0.14	7.5	5	3	9	17	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	16	11.8	+4.6	40	10	−22	24	34	0.73	+0.29	0.46	10.0	6	10	0	19	nw.	Mike Davis.
Ellendale	Dickey	1,457	45	17.4	+6.7	49	10	−17	25	38	0.57	+0.03	0.25	8.2	8	2	7	20	nw.	J. E. Demmer.
Fargo	Cass	895	4	14.8	...	41	10	−16	24	34	0.39	+0.05	0.12	5.7	12	...	...	...	...	W. B. Aerological Sta.
Forman	Sargent	1,249	47	14.4	+1.3	42	10	−20	24	37	0.45	−0.09	0.20	5.4	6	13	7	9	nw.	Helge Dyste.
Fullerton	Dickey	1,439	42	17.6	+5.6	46	10	−17	24	37	0.70	−0.23	0.34	6.3	5	2	12	15	nw.	F. O. Alin.
Grafton	Walsh	827	48	16.1	+9.4	42	10	−15	24	36	1.21	+0.67	0.44	18.9	5	9	3	17	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	13.0	+5.4	39	10	−16	24	30	1.08	+0.52	0.44	10.8	8	1	5	23	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	17.9	+2.8	44	10	−17	25	38	0.53	+0.02	0.27	9.8	6	3	9	17	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	48	11.8	+9.3	39	10†	−23	24	35	1.00	+0.41	0.50	10.0	2	6	7	16	nw.	Charles McAdams
Hillsboro	Traill	901	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	16.2	+6.6	45	10	−16	24	37	0.63	+0.04	0.15	6.3	10	6	6	16	nw.	S. G. Calvelage.
Langdon	Cavalier	1,615	44	12.4	+7.6	39	10	−23	24	37	1.06	+0.44	0.30	10.6	13	7	9	13	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	15.0	+7.7	43	10	−15	24	35	0.92	+0.34	0.33	11.7	7	6	2	21	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	36	17.4	+6,2	45	10	−17	24	41	0.32	−0.30	0.13	3.8	7	2	9	18	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	12.5	+6.7	40	10	−21	24	33	0.48	−0.23	0.18	7.5	6	3	6	20	nw.	C. E. Blasky.
McLeod	Ransom	1,075	29	16.4	+3.1	42	10	−19	24	34	0.42	−0.19	0.20	4.2	5	7	12	10	n.	J. G. Carlson.
Mayville	Traill	975	44	16.9	+7.4	40	10	−12	24	41	0.82	+0.40	0.44	9.2	7	3	17	9	nw.	H. B. Addicott.
Oakes	Dickey	1,318	11	16.8	+2.7	44	10†	−21	25	40	0.38	−0.07	0.19	5.2	5	2	8	19	ne.	F. H. Murray.
Park River	Walsh	998	36	13.8	+6.1	41	10	−13	25	31	1.18	+0.78	0.61	16.2	7	3	7	19	se.	E. J. Tainter.
Pembina	Pembina	789	66	14.0	+11.0	42	10	−15	22	33	0.17	−0.46	0.04	2.1	6	8	5	16	s.	Harry A Gordon.
Petersburg	Nelson	1,520	10	...	...	...	...	...	...	...	0.62	...	0.24	12.3	6	3	8	18	nw.	T. M. Rykken.
Sharon	Steele	1,516	16	13.1	+1.7	42	10	−19	24	35	0.70	+0.37	0.41	8.8	7	3	5	21	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	15.6	+4.1	43	10	−14	24	37	0.22	−0.25	0.06	9.0	9	5	7	17	nw.	I. C. Robertson.
Wahpeton	Richland	962	48	17.4	+5.4	44	10†	−19	24	38	0.25	−0.24	0.11	4.6	5	5	7	17	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	15.2	+7.1	41	10	−16	25	38	0.48	−0.23	0.17	6.3	11	5	4	20	n.	U. S. Weather Bureau.
Average for Eastern Division		...	...	15.0	+6.4	50	10	−23	24	45	0.63	+0.08	0.61	8.3	7	5	7	17	nw.	...
Middle Division																				
Ashley	McIntosh	2,001	44	14.2	+3.1	47	10	−19	24	42	0.68	+0.19	0.40	4.0	6	5	3	21	nw.	Henry Doerr.
Bisbee	Towner	1,601	4	13.0	...	44	10	−20	24	31	0.81	...	0.27	11.2	8	7	4	18	nw.	I. K. Lund.
Bismarck	Burleigh	1,670	66	16.0	+5.7	52	10	−17	24	39	0.28	−0.18	0.10	3.4	10	1	6	22	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	12.8	+8.6	38	10	−25	24	38	0.96	+0.61	0.41	10.2	7	4	14	11	nw.	N. D. School of Forestry
Carrington	Foster	1,579	42	15.3	+6.6	42	10	−20	24	32	0.47	+0.10	0.15	5.0	5	2	1	26	sw.	Soo Line Agent.
Carson	Grant	2,500	28	15.8	+0.4	50	10	−17	24	38	0.53	+0.09	0.35	5.2	6	2	10	17	se.	J. W. Evens.
Center	Oliver	...	2	17.0	...	49	10	−23	24	41	0.36	...	0.09	4.3	10	9	15	5	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	15.5	+1.0	41	10	−20	24	29	0.79	+0.44	0.30	9.5	6	3	6	20	nw.	R. L. Williams.
Drake	McHenry	1,634	11	14.0	...	45	10	−17	24†	32	0.45	...	0.20	7.5	10	2	3	24	se.	Peter Anton.
Dunseith	Rolette	1,682	44	12.2	+5.8	40	10	−21	24	35	1.12	+0.69	0.44	14.7	7	3	13	13	n.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	11.9	+4.3	47	10	−25	24†	45	1.03	+0.67	0.46	17.5	10	2	13	14	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	15.3	−0.6	48	10	−24	24	40	0.50	+0.05	0.15	6.0	5	3	10	16	se.	H. S. Solenberger.
Fessenden	Wells	1,610	28	14.4	+4.3	48	11	−22	24	29	0.56	+0.06	0.16	6.7	8	4	9	16	n.	John V. Zuber.
Fort Yates	Sioux	1,670	40	17.8	+6.0	52	10	−15	24	36	0.10	−0.39	0.10	2.0	1	10	8	11	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	14.4	+1.0	45	10	−17	24	30	0.41	−0.16	0.16	7.5	7	3	9	17	se.	E. C. Bierbaum.
Gackle	Logan	1,951	10	14.7	...	35	10†	−19	24	23	0.29	...	0.13	3.2	8	2	10	17	ne.	A. H. Haut.
Garrison	McLean	1,901	63	15.2	+4.3	47	10	−20	24	35	0.78	+0.25	0.20	9.8	11	2	5	22	se.	E. L. Vorachek.
Granville	McHenry	1,504	33	15.2	+5.1	48	10	−24	24	40	0.56	+0.12	0.23	11.5	8	4	3	22	se.	W. A. Christianson.
Hansboro	Towner	1,597	32	11.2	+5.4	40	10	−20	22	32	0.26	−0.29	0.10	11.2	5	3	9	17	nw.	W. E. Disher.
Linton	Emmons	1,711	23	18.0	+3.5	51	10	−22	24	38	0.32	−0.16	0.23	3.0	4	8	6	16	se.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	15.1	+1.9	45	10	−23	24	42	0.76	+0.22	0.24	9.0	8	8	7	14	sw.	F. W. Perry.
Maddock	Benson	1,604	25	12.8	+1.7	40	10	−24	24	32	0.47	+0.09	0.20	5.2	7	5	4	20	nw.	A. T. Felland.
Mandan	Morton	1,750	26	15.4	+2.5	52	10	−17	24	40	0.45	+0.09	0.25	4.7	6	4	9	16	se.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	...	...	...	...	...	...	...	0.54	+0.08	0.20	7.0	8	4	5	20	se.	P. B. Anderson.
Max	McLean	2,093	11	13.1	...	45	10	−19	24	40	0.46	...	0.15	7.2	7	...	...	...	ne.	A. W. Rice.
Minot	Ward	1,557	44	16.2	+6.5	48	10	−18	24	34	0.79	+0.34	0.34	11.0	10	3	0	26	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	47	12.0	+4.9	44	10	−22	24	38	1.27	+0.96	0.41	9.2	10	5	7	17	nw.	Iver Johnson.
Napoleon	Logan	1,955	48	15.4	+7.1	46	10	−25	24	36	0.52	+0.12	0.20	8.2	8	2	4	23	nw.	C. J. Hoof.
New Salem	Morton	2,163	36	14.6	+1.5	50	10	−20	24	36	0.31	−0.14	0.15	4.2	8	6	5	18	se.	J. Christianson.
Pettibone	Kidder	1,856	31	13.8	+5.0	42	10	−24	24	35	0.15	−0.24	0.08	2.8	3	5	4	20	nw.	Sam Loeppke.
Rolla	Rolette	1,860	3	12.4	...	42	10	−17	22	29	1.11	...	0.34	13.3	8	4	8	17	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	...	...	...	...	...	...	...	0.78	+0.43	0.26	8.5	7	4	7	18	w.	W. B. Paterson.
Ryder	Ward	2,108	11	...	...	...	...	...	...	...	0.70	+0.31	0.25	8.4	6	3	6	20	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	...	...	...	...	...	...	...	0.46	...	0.14	5.4	8	2	14	13	nw.	J. B. Smith.
Steele	Kidder	1,857	46	16.1	+6.7	46	10	−24	24	36	0.21	−0.23	0.07	3.0	5	5	4	20	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	...	...	...	...	...	...	...	0.65	+0.35	0.27	7.0	9	5	7	17	se.	G. N. Pilgard.
Timmer	Morton	...	3	...	...	...	...	...	...	...	0.39	...	0.24	5.0	3	...	...	...	...	Geo. M. Sinclair.
Towner	McHenry	1,482	38	15.8	+8.1	49	10	−22	24	35	1.12	+0.68	0.25	10.2	7	6	7	16	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	15.8	+4.0	45	10	−20	24	33	0.37	−0.13	0.11	5.4	6	6	6	17	se.	Albert H. Slettum.
Tuttle	Kidder	1,936	32	...	...	...	...	...	...	...	0.27	−0.11	0.08	2.8	8	3	9	17	se.	Adam Leno.
Velva	McHenry	1,511	13	16.1	+2.2	49	10	−20	24	35	0.81	+0.44	0.29	10.0	7	4	7	18	se.	Oscar Anderson.
Washburn	McLean	1,731	39	16.8	+7.3	44	10	−17	24	32	0.32	−0.09	0.10	3.2	5	6	6	17	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	12.0	+5.0	40	10	−27	24	45	1.21	+1.00	0.40	13.5	7	8	6	15	se.	John J. Egger.
Willow City	Bottineau	1,471	48	10.8	+5.9	42	10	−27	24	49	1.08	+0.53	0.50	14.5	4	5	13	11	se.	O. M. Sanderson.
Wilton	McLean	2,159	4	15.1	...	47	10	−14	24	37	0.33	...	0.10	3.2	5	4	8	17	nw.	Soo Line Agent.
Wishek	McIntosh	2,010	19	14.9	+5.9	46	10	−23	23	31	0.30	−0.05	0.22	3.6	5	4	8	17	nw.	H. M. Larson.
Zap	Mercer	1,838	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	John Kaufman, Jr.
Average for Middle Division		...	...	14.6	+4.4	52	10	−27	24	49	0.59	+0.15	0.46	7.4	7	4	7	18	se.	...

Continued on page 8

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; 'Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for February 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	....	....	.10	.06	....	T.	....	....	....	....	T.	T.	....	....	.02	....	....	....	....	T.	T.	....	.04	....	....	.02	T.	....	.14	....	....	0.38
Cooperstown[2]	Sheyenne	.04	....	....	.04	....	T	....	....	....	....	....	....	....	....	....	.04	....	....	....	T.	.04	.04	T.	.02	....	.03	.06	.08	.05	....	....	0.44
Courtenay[2]	James	....	....	....	....	T.	....	....	....	....	....	T.	....	....	....	....	.17	....	....	T.	.02	....	....	....	....	.02	.02	T.	....	.15	....	....	0.38
Devils Lake[1]	Devils Lake	.03	T.	.03	T.	T	T.	....	....	....	....	T.	T	T.	T.	.08	.03	T.	.01	T.	.01	T.	....	....	....	T.	.26	.06	.01	.31	....	....	0.83
Edgeley	James	....	....	.02	....	....	....	....	....	....	....	.14	....	....	....	....	....	....	....	.03	....	....	....	.11	....	.02	....	....	....	....	....	....	0.32
Edmore	Devils Lake	.01	....	.01	....	....	....	....	....	....	....	....	....	....	....	T.	.06	....	....	....	T.	....	....	....	....	....	.17	.02	....	.46	....	....	0.73
Ellendale	James	.01	....	.05	.08	....	....	....	....	....	....	.25	....	....	....	....	....	....	T.	.01	.04	.02	....	.11	....	....	....	....	....	....	....	....	0.57
Fargo[1]	Red	T.	T.	.03	.03	T.	T	T.	....	....	....	.01	T.	.03	.01	.01	.03	....	....	T	.02	.01	....	.06	....	T.	.03	T	T.	.12	....	....	0.39
Forman	Sheyenne	....	....	.03	.07	....	....	....	....	....	....	.20	....	....	....	....	.03	....	....	....	.02	T	.10	....	....	....	....	....	T	T.	....	....	0.45
Fullerton	James	....	....	.04	.12	....	T.	....	....	T	....	.34	T.	....	....	....	T.	T	T.	T.	.02	T.	....	.18	....	....	T	T.	....	....	....	....	0.70
Grafton	Red	T.	....	.10	....	....	....	....	....	....	....	T.	....	....	....	....	.12	....	....	....	T.	T.	....	....	....	....	.37	.18	T	.44	....	....	1.21
Grand Forks[1]	do	T.	....	.18	.02	T.	T.	....	....	....	....	....	....	T	T.	T.	.08	....	T.	T	.01	.01	....	....	....	T.	.33	.01	....	.44	....	....	1.08
Hankinson[2]	do	....	....	.02	T.	....	T.	....	....	....	....	....	.27	....	....	....	.04	T.	....	....	.04	....	.05	....	.11	....	....	....	....	....	....	....	0.53
Hannah	Pembina	T.	T.	T.	T.	....	T.	T.	....	....	....	....	....	T.	T.	T.	T.	T.	....	....	....	T	....	....	....	....	.50	....	....	.50	....	....	1.00
Hillsboro	Red	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	.38	....	....	.....
Jamestown	James	T.	....	....	....	....	....	.03	....	....	.11	....	....	....	....	....	.05	....	....	.04	.15	.03	....	.05	....	.02	.13	.02	....	....	....	....	0.63
Langdon[2]	Pembina	.07	....	.02	....	....	.05	.01	....	....	....	....	....	.02	....	.03	.12	....	....	.02	.02	.01	....	....	....	....	.26	.13	....	.30	....	....	1.06
Larimore	Red	.05	....	.06	.05	....	T	....	....	....	....	....	....	....	....	....	.06	....	....	T.	.10	....	....	....	....	....	27	T.	....	.33	....	....	0.92
Lisbon	Sheyenne	....	.01	.02	.04	....	T	....	....	....	....	.13	T	T.	....	....	T.	T.	T.	T.	.02	T.	T.	.09	....	....	.01	T.	....	T.	....	....	0.32
McHenry	James	T.	....	.02	....	....	....	....	....	....	....	T	....	....	....	....	.10	....	....	....	.01	T	....	....	....	T	.12	.05	....	.18	....	....	0.48
McLeod	Sheyenne	....	....	.04	.09	....	....	....	....	....	....	....	.20	....	....	....	.08	....	....	....	T.	T.	....	.01	T.	....	....	T.	....	T.	....	....	0.42
Mayville	Red	....	....	.06	.04	....	T.	....	....	....	....	....	....	....	....	....	.08	....	....	T.	.02	....	....	....	....	....	.10	.08	....	.44	....	....	0.82
Oakes	James	....	....	.02	.05	....	....	....	....	....	....	.19	....	....	....	....	....	....	....	....	T	.02	....	.10	....	....	....	....	....	....	....	....	0.38
Park River	Red	.02	....	....	....	.05	....	....	....	....	....	....	....	T.	....	....	.06	....	....	....	.03	....	....	....	....	....	.36	.05	....	.61	....	....	1.18
Pembina	do	.02	....	.04	....	T.	....	....	....	....	....	....	....	....	....	.02	T.	....	....	T.	.02	....	....	....	....	....	.04	....	....	.03	....	....	0.17
Petersburg	do	....	....	.04	....	....	....	....	....	....	....	....	....	....	....	....	.05	....	....	....	.01	....	....	....	....	....	.20	.08	....	.24	....	....	0.62
Sharon	do	T.	....	.03	.04	T.	T.	....	....	....	....	....	T.	T.	....	T.	.05	....	T.	T	.02	T.	....	....	....	T.	.09	.06	T.	.41	....	....	0.70
Valley City	Sheyenne	T.	....	.02	.04	....	T.	....	....	....	....	.01	....	.01	....	....	.01	....	....	....	.01	....	....	.05	....	....	.01	T	....	.06	....	....	0.22
Wahpeton	Red	....	....	.02	T.	....	T	....	....	....	....	.11	T.	T.	T.	....	.04	....	....	....	.01	T.	....	.07	....	....	....	....	....	T.	....	....	0.25
Moorhead, Minn[1]	do	T.	T.	.09	.02	T.	T.	....	....	....	....	.03	T.	.04	T.	.01	.04	....	....	T.	.01	T.	....	.04	....	T.	.02	.01	T.	.17	....	....	0.48
Middle Division																																	
Ashley[2]	Missouri	.09	....	....	....	....	....	....	....	....	....	....	.40	....	....	....	.04	....	....	T.	.02	T	.02	.11	....	....	....	....	....	....	....	....	0.68
Bisbee	Devils Lake	.03	....	.04	T	....	....	....	....	....	....	.03	....	....	....	.05	.09	....	....	....	T.	....	....	....	....	....	.21	.09	....	.27	....	....	0.81
Bismarck[1]	Missouri	T.	....	T.	T.	T.	T.	T.	T	....	....	.07	T.	....	T.	.08	.02	T.	T.	.02	.03	.02	T.	.01	....	.01	.01	.01	....	T	....	....	0.28
Bottineau	Mouse	.03	....	.07	....	....	....	....	....	....	....	T.	....	....	....	.05	.05	....	T.	....	....	T.	T.	....	....	....	.28	.07	....	.41	....	....	0.96
Carrington[2]	James	....	....	....	T.	....	....	....	....	....	....	.05	....	....	....	.02	.11	....	....	T.	T.	T.	....	....	T	T.	.14	T.	....	.15	....	....	0.47
Carson	Heart	.03	....	....	....	....	....	.04	....	....	....	.35	....	....	....	.06	....	....	....	....	.03	....	....	.02	....	....	....	....	....	....	....	....	0.53
Center	Missouri	.02	....	....	....	....	T.	....	....	....	.01	.03	....	....	.04	....	....	....	.04	.03	....	.02	....	.09	....	....	.04	.04	....	....	....	....	0.36
Dogden Butte	Mouse	.05	T.	T.	....	....	T.	....	....	....	....	.09	....	....	....	.09	T.	....	....	....	T.	T	....	T.	....	....	.30	.05	....	.21	....	....	0.79
Drake[2]	do	.01	.01	T.	....	....	....	T.	T.	....	....	.01	.01	.01	....	T.	.13	....	....	T.	....	.01	T.	T.	....	T.	.04	.02	....	.20	....	....	0.45
Dunseith	do	.04	....	.10	....	....	T.	....	T.	....	....	T.	T.	T.	....	.13	.02	....	T.	....	T.	....	....	....	....	....	.44	.05	....	.34	....	....	1.12
Eckman	do	.03	....	.03	....	....	....	....	....	....	....	.01	.02	....	T.	.10	.06	....	....	....	T.	.01	....	....	....	....	.25	.06	....	.46	....	....	1.03
Energy	Missouri	....	....	.08	....	....	....	....	....	....	....	.10	....	....	....	.10	....	....	....	....	....	....	....	....	....	....	.15	.07	....	....	....	....	0.50
Fessenden[2]	James	....	....	.03	....	....	....	....	....	....	....	.05	....	....	....	.07	.08	....	....	T.	T.	.02	....	T.	....	....	.16	.02	....	.13	....	....	0.56
Fort Yates	Missouri	....	....	T.	....	....	....	T.	....	....	....	T.	T.	....	....	.10	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	0.10
Foxholm (near)	Mouse	.01	....	.05	....	....	T.	....	....	....	....	.03	....	....	....	.05	T	....	....	....	T.	....	....	T	....	....	.16	.04	....	.07	....	....	0.41
Gackle	James	.02	....	.02	....	....	T	....	....	....	....	.13	T.	....	....	.01	.03	....	.02	.03	.03	T.	....	....	....	....	T.	T.	....	T.	....	....	0.29
Garrison	Missouri	.03	....	.05	....	....	T.	T	.01	....	....	.18	....	....	....	.08	.07	....	T.	....	T	....	....	.04	....	.01	.20	.07	....	.04	....	....	0.78
Granville	Mouse	.02	....	.02	....	....	T.	T.	T	....	....	T.	T	.02	T.	.08	.03	....	....	T.	T.	T.	....	....	....	T.	.12	.04	T	.23	....	....	0.56
Hansboro	Devils Lake	T.	....	T.	....	T	T.	....	....	....	....	....	....	....	....	.05	.02	....	....	....	T.	....	....	....	....	....	.10	.02	....	.07	....	....	0.26
Linton	Missouri	.01	....	T.	T.	....	....	....	T.	....	....	.23	....	....	....	T	.06	....	T.	T.	T	T.	....	.02	....	....	....	....	....	....	....	....	0.32
McClusky	do	....	.09	....	....	....	....	....	....	....	....	.04	....	....	....	.06	.21	....	....	....	T.	.04	....	....	....	.04	.24	T.	....	.24	....	....	0.76
Maddock	Sheyenne	.01	....	.03	....	....	....	....	....	....	....	T.	T.	....	....	.05	.08	....	T.	T.	T.	....	....	....	....	T.	.08	.02	....	.20	....	....	0.47
Mandan[2]	Missouri	T.	T.	T	....	....	T.	.02	T.	....	....	.25	....	....	....	.09	T	....	....	T.	.01	T	T	.05	....	T.	.03	....	T.	....	....	....	0.45
Max[2]	do	T.	....	T.	.05	....	....	....	....	....	....	T.	....	....	....	.02	.15	....	....	....	....	....	.02	....	....	....	.04	.10	....	.08	....	....	0.46
Minot	Mouse	.01	....	.06	.01	T.	T.	....	T.	....	T.	T.	T.	....	T.	.08	.04	....	T.	T	T.	.02	T.	.01	....	T	.17	.05	....	.34	....	....	0.79
Mohall	do	.04	....	.09	....	....	....	....	....	....	....	.01	.02	....	T.	.04	.04	....	....	....	.01	T.	....	....	....	....	.41	.22	....	.39	....	....	1.27
Napoleon[2]	Missouri	.05	....	....	.03	....	....	....	....	....	....	.02	.20	....	....	T.	.05	....	....	....	.10	.05	....	....	....	....	....	....	.02	....	....	....	0.52
New Salem	Heart	T.	....	.01	....	....	T.	.03	....	....	....	.15	T	....	....	T	.03	....	....	....	.02	.02	....	.03	....	T.	.02	T.	....	....	....	....	0.31
Pettibone	James	T.	T.	T	T.	....	....	....	....	....	....	.02	....	....	....	T	.08	....	....	....	T	....	....	....	....	....	.05	....	....	....	....	....	0.15
Rolla	Devils Lake	.06	....	.06	....	....	....	....	T.	....	....	T.	T.	....	T.	.15	.07	....	T.	....	.01	....	....	....	....	T.	.29	.13	....	.34	....	....	1.11
Rugby (near)	Mouse	.03	T.	T.	T.	....	....	....	....	....	....	.01	....	....	....	.09	.04	....	....	....	....	....	....	....	....	T	.36	.10	....	.15	....	....	0.78
Ryder[2]	Missouri	T.	....	.05	....	....	T.	T	....	....	....	....	....	....	....	.10	....	....	....	T	T.	....	....	....	....	.05	.15	.10	.25	....	....	....	0.70
Selfridge	do	.03	.02	.02	....	T.	....	.03	....	....	....	.14	....	....	....	.12	T.	....	T	.07	.03	....	....	T.	....	....	....	....	....	....	....	....	0.46
Steele	do	.01	....	.07	T.	....	T	....	....	....	....	.03	....	....	....	....	.07	....	....	T.	T	T.	....	....	....	....	.03	T	....	....	....	....	0.21
Tagus	Mouse	.01	....	.03	T.	....	....	....	....	....	....	.09	....	....	T.	.01	T	....	....	T	T	.02	....	....	.01	....	.27	.04	....	.17	....	....	0.65
Towner	do	.15	T.	....	T.	....	T.	T.	....	....	....	.02	....	T.	....	.20	.10	....	....	T.	T.	....	....	....	....	....	.20	.20	....	.25	....	....	1.12
Turtle Lake	Missouri	T	....	.05	....	....	....	....	....	....	....	.10	....	....	....	.03	.03	....	....	....	....	T	....	....	....	....	.11	.05	....	....	....	....	0.37
Tuttle	do	.02	T	.01	....	T.	T.	.01	....	....	....	.06	....	....	....	T	.08	....	T	T	.01	T	....	T.	....	T	.05	.03	....	....	....	....	0.27
Velva	Mouse	.01	T.	.05	....	....	....	....	T.	....	....	T	....	....	....	.11	.05	....	....	....	T	T.	....	T	....	....	.25	.05	....	.29	....	....	0.81
Washburn[2]	Missouri	T.	....	.05	....	T	T.	T.	T.	....	....	.60	....	....	....	T.	.07	....	T.	....	T.	.01	....	T	....	T.	.09	T	....	....	....	....	0.32
Westhope	Mouse	.10	....	.01	....	....	....	....	....	....	....	T.	....	....	....	.15	.05	....	....	....	....	....	....	....	....	....	.40	.10	T	.40	....	....	1.21
Willow City	do	.05	....	T.	....	....	....	....	T.	....	....	T.	....	....	....	.08	....	....	....	T	....	....	....	....	....	....	.50	....	....	.45	....	....	1.08
Wishek[2]	Missouri	T.	T	T.	T.	....	T.	T	....	....	T	.22	T.	....	....	T.	....	T.	....	.02	.02	.02	.02	T.	....	....	T	....	T.	T.	....	....	0.30
Zap	Knife	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Western Division																																	
Alpha	Lit. Missouri	.01	T.	.09	....	T.	T.	.02	....	.02	....	.14	....	....	....	.11	T.	....	....	....	.01	T	T	.06	T.	....	....	....	.16	....	....	....	0.62
Amidon	do	.01	....	.14	....	....	....	....	....	....	....	.20	....	....	....	.08	....	....	....	....	.01	....	.10	....	....	....	....	....	....	....	....	....	0.55
Beach	do	.01	....	.13	....	....	....	.04	....	....	....	.22	....	....	....	.07	T.	....	....	....	.01	.01	....	.05	T	T.	T.	....	.08	....	....	....	0.62
Berthold Agency	Missouri	.07	....	.18	....	....	....	T.	....	....	....	21	....	....	....	.13	....	....	....	....	.02	....	....	.04	....	....	....	.02	....	....	....	....	0.67
Bowman[2]	Grand	....	....	.04	....	....	....	T.	....	....	.02	T.	....	....	T.	.02	....	....	....	T.	....	....	.01	T.	....	....	....	.02	....	....	....	....	0.11
Crosby	Mouse	.12	....	....	....	....	T.	....	....	....	....	T.	....	....	....	T	.03	....	....	....	.02	....	....	....	....	....	.25	.07	....	....	....	....	0.49
Dickinson[2]	Heart	.02	T	.03	.08	....	....	.02	.02	....	....	.04	.10	....	....	T.	.08	....	....	....	T.	.02	T.	.06	T	....	T.	.02	T	....	....	....	0.49
Dunn Center	Knife	.01	T.	.11	T.	....	T.	.04	T.	....	....	.04	....	....	....	.08	....	....	....	....	.01	T.	....	T	....	T.	T	.08	T	....	....	....	0.37
Fairfield	Lit. Missouri	T.	....	.11	....	....	....	.04	....	....	....	.01	....	....	....	.07	....	....	....	....	.01	T.	....	T	....	T.	....	....	....	....	....	....	0.33
Fryburg	Heart	.04	....	.10	....	....	.04	T.	T.	....	....	.23	....	....	....	.14	T.	....	....	T	T.	T.	T	.12	T	T.	.03	T.	.04	....	....	....	0.74
Hettinger	Grand	T.	....	.04	....	....	....	T.	....	....	....	.15	....	....	....	.17	....	....	....	T.	.02	....	....	.05	....	....	....	....	.12	....	....	....	0.55
Howard (near)	Missouri	.20	.09	....	....	T	T.	.06	T	....	....	....	....	....	....	T.	....	....	....	....	.07	.02	....	....	....	T.	.18	.13	T.	.02	....	....	0.77
Kenmare	Mouse	.06	....	.03	T.	....	....	....	....	....	....	.05	T	....	....	.01	T.	....	....	....	.01	.01	....	.02	....	....	.16	.08	....	.34	....	....	0.77
Marmarth	Lit. Missouri	T	....	.14	....	.01	....	.03	T.	....	....	.36	....	....	....	.10	....	....	....	....	....	....	....	.07	....	....	T.	....	.05	....	....	....	0.76
Mary	do	.01	....	.16	....	....	....	.02	....	....	....	.04	....	....	....	T	....	....	....	....	T.	.03	....	....	....	T.	.04	.03	....	....	....	....	0.33
Medora	do	T	....	.10	....	....	....	.04	....	....	....	.17	....	....	....	.04	T	....	....	T.	T	T	T	.09	....	....	T.	T.	.08	....	....	....	0.52
Mott	Cannon Ball	.01	....	.04	.01	....	....	.06	....	....	....	.27	....	....	....	.11	.03	....	....	....	.02	....	....	.03	....	....	....	....	.09	....	....	....	0.70
New England[2]	do	....	.05	.04	....	....	.04	....	....	....	.23	....	....	....	....	.08	....	....	....	....	.02	....	.14	....	....	....	....	.16	....	....	....	....	0.76
Parshall	Missouri	.02	....	.06	....	....	....	....	....	....	....	.03	....	....	....	.06	....	....	....	....	.01	....	....	T.	....	T	.13	.07	T.	.13	....	....	0.51
Portal[2]	Mouse	.06	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.04	....	....	....	....	....	....	....	....	....	....	.25	....	....	....	....	0.35
Powers Lake	Missouri	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.03	....	....	....	....	....	.31	.04	....	....	....	....	0.38
Richardton	Heart	.02	....	.02	T	....	....	.02	.01	....	....	.11	....	....	....	.06	T	....	....	T	.04	.07	....	.10	....	....	....	....	....	....	....	....	0.45
Sanish[2]	Missouri	.02	....	.16	.02	....	....	....	....	....	T.	.02	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	.08	.08	....	.16	....	....	0.54
Stanley	do	T.	....	.08	....	....	T	T.	T.	....	....	T.	....	....	....	T.	T.	....	....	....	T	T.	....	....	....	T.	.23	.03	T	.33	....	....	0.67
Tioga	do	.10	T	.20	....	....	....	.10	....	....	....	....	.10	....	....	....	T.	....	....	....	....	....	....	....	....	....	.40	.15	....	.10	....	....	1.15
Trotters	Lit. Missouri	....	.21	....	....	....	....	.10	....	....	....	.22	....	....	....	.02	.01	....	....	....	.11	.08	....	....	....	.08	.05	....	....	....	....	....	0.88
Watford City	Missouri	.04	....	.18	....	....	....	.06	....	....	....	.24	....	....	....	....	....	....	....	....	.02	....	.04	....	....	....	.21	.18	.10	....	....	....	1.07
Wildrose	do	.05	T.	.07	....	....	.03	T	T	....	....	T.	....	....	T	T.	.02	....	....	....	.02	.02	....	....	....	....	.18	.07	....	.33	....	....	0.79
Williston[1]	do	.03	....	.02	....	T.	T.	.07	T	....	....	.17	....	....	....	T.	T.	....	....	T.	.01	.01	....	.01	....	.02	.20	.18	.07	.01	....	....	0.80

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement.
T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for February 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	20	24	24	24	30	22	21	17	34	47	34	24	32	26	26	26	19	24	28	25	18	16	9	11	16	23	22	19	30	....	....	23.8
	Minimum	5	10	5	17	17	6	3	−7	−5	5	17	11	16	15	15	10	2	8	10	12	1	0	−17	−19	−16	10	−6	−7	12	....	....	4.5
Beach	Maximum	21	25	26	26	29	27	27	19	39	45	37	31	34	41	33	25	33	24	24	24	19	18	18	12	22	19	20	28	44	....	....	27.2
	Minimum	5	1	18	15	13	6	8	0	9	29	21	20	6	16	20	12	6	6	12	13	4	−4	−7	−11	−2	5	−3	10	21	....	....	8.4
Bismarck	Maximum	18	23	25	26	25	18	19	17	42	52	39	27	29	28	29	26	19	22	28	26	19	15	10	10	17	25	21	19	32	....	....	24.3
	Minimum	11	15	21	22	18	1	−4	−1	3	17	20	22	23	20	24	−2	−6	8	19	17	5	−10	−12	−17	−7	7	0	−8	14	....	....	7.6
Bottineau	Maximum	19	22	23	27	25	23	15	14	35	38	36	29	28	27	30	30	22	17	21	22	17	15	6	5	13	14	15	9	19	....	....	21.2
	Minimum	8	12	14	12	14	−2	−15	−2	1	14	19	17	14	16	22	17	14	11	10	12	4	−23	−17	−25	−12	2	−2	−15	6	....	....	4.3
Carson	Maximum	25	19	25	25	29	20	21	15	40	50	40	29	30	27	28	27	26	19	27	25	22	20	9	5	17	22	22	19	46	....	....	25.1
	Minimum	6	9	14	18	16	5	0	3	2	21	17	17	10	17	20	4	0	2	11	15	2	−11	−8	−17	−8	4	−3	6	13	....	....	6.4
Crosby §	Maximum	18	22	28	22	22	18	19	14	40	44	37	37	44	36	31	22	32	30	28	26	20	3	5	12	17	16	15	19	18	....	....	24.0
	Minimum	7	5	7	17	14	9	−9	−1	3	22	21	23	23	19	14	2	−1	7	9	13	0	−12	−9	−23	−9	6	−7	−13	6	....	....	4.9
Devils Lake	Maximum	19	24	22	26	25	17	15	10	31	39	26	25	31	29	28	24	21	18	24	21	17	8	7	5	14	13	5	11	16	....	....	19.7
	Minimum	9	11	10	20	16	5	−3	−8	7	21	12	10	19	17	22	9	14	10	16	11	0	−10	−9	−20	−7	−6	−10	−16	5	....	....	5.3
Dickinson §	Maximum	17	24	28	23	24	18	22	19	40	48	31	31	33	34	29	21	32	22	25	25	19	15	4	5	17	18	23	32	44	....	....	24.9
	Minimum	7	−4	4	18	10	7	1	4	4	17	28	20	8	4	20	14	−8	−3	5	19	4	−12	−10	−25	−24	5	−1	−2	10	....	....	4.1
Dunn Center §	Maximum	24	20	30	24	22	14	16	15	38	46	37	34	26	35	29	22	33	20	27	25	22	15	8	12	17	23	20	23	45	....	....	24.9
	Minimum	6	9	12	20	13	−2	−9	5	−2	25	22	20	5	19	21	11	−8	0	15	17	7	−6	−8	−25	−9	7	−2	2	8	....	....	6.0
Fessenden §	Maximum	22	25	24	26	24	30	15	14	34	46	48	29	29	28	28	26	21	20	23	21	16	12	4	4	13	20	5	10	21	....	....	22.0
	Minimum	4	13	11	19	29	11	−4	−2	5	21	29	14	24	11	22	14	8	12	11	13	9	−3	−7	−22	−12	5	−13	−19	8	....	....	6.7
Fullerton	Maximum	28	30	27	26	30	26	23	20	32	46	40	36	34	31	29	30	23	25	28	26	22	15	13	7	22	22	17	19	30	....	....	25.8
	Minimum	7	15	14	18	21	17	−2	−6	−3	14	24	9	22	19	22	20	15	7	20	17	13	−2	4	−17	−15	10	−1	−6	13	....	....	9.4
Garrison §	Maximum	13	22	25	25	23	20	17	13	38	47	26	28	31	27	31	23	24	20	28	27	19	14	9	13	17	25	12	14	20	....	....	22.4
	Minimum	8	12	15	20	20	11	−9	4	3	19	20	19	17	21	23	11	1	3	13	15	7	−2	−3	−20	−5	12	−5	−11	9	....	....	7.9
Grafton	Maximum	26	22	24	27	28	28	21	20	33	42	38	25	35	35	30	29	26	24	28	29	26	18	13	12	17	16	19	15	20	....	....	25.0
	Minimum	12	0	10	18	21	12	−5	−11	−3	15	22	7	21	19	22	21	17	−1	22	16	12	−6	−11	−15	−10	6	2	−1	−2	....	....	7.2
Grand Forks	Maximum	27	21	24	28	27	20	21	9	29	39	30	22	33	28	28	27	24	24	27	25	21	13	9	11	14	16	8	11	29	....	....	21.9
	Minimum	11	0	11	19	20	4	−5	−14	−1	11	16	9	22	19	19	6	−1	−3	19	16	4	−12	−11	−16	−11	−3	−3	−8	5	....	....	4.2
Jamestown §	Maximum	26	26	23	27	30	26	20	19	37	45	43	27	30	29	27	29	22	23	26	25	19	14	8	7	17	21	12	15	23	....	....	24.0
	Minimum	4	17	10	19	20	13	−2	−7	0	23	20	7	23	10	22	17	16	9	18	14	10	−1	−1	−16	−13	9	−3	−9	11	....	....	8.3
Kenmare	Maximum	20	20	27	26	22	19	15	14	34	44	40	28	31	32	28	22	31	29	23	23	20	15	9	11	14	17	14	11	11	....	....	22.4
	Minimum	7	10	11	16	19	10	−5	−8	7	23	19	20	20	20	20	7	5	0	10	12	7	−5	−9	−18	−6	9	−12	−20	8	....	....	6.1
Langdon	Maximum	19	26	22	28	26	24	20	15	32	39	37	25	35	30	28	30	25	17	25	28	22	17	6	12	16	11	12	15	15	....	....	22.7
	Minimum	8	8	7	9	18	10	−10	−17	1	10	13	−5	17	22	20	12	2	1	16	10	3	−20	−19	−23	5	0	−8	−18	−4	....	....	2.2
Marmarth	Maximum	26	25	28	25	34	28	30	21	42	45	39	32	31	35	30	26	22	23	25	26	18	26	11	11	20	18	23	34	48	....	....	30.4
	Minimum	10	12	21	16	19	9	14	3	4	28	23	22	0	14	20	10	−12	2	15	14	4	−9	−5	−9	0	9	0	9	22	....	....	9.1
Minot	Maximum	17	25	28	25	24	20	16	15	38	48	38	30	38	30	34	29	30	24	25	24	21	16	10	16	18	24	10	15	15	....	....	24.2
	Minimum	8	12	18	18	20	8	−9	3	7	26	21	21	24	22	24	16	1	3	9	14	2	0	−6	−18	−2	9	−10	−15	9	....	....	8.1
Mott	Maximum	29	23	25	29	31	27	30	26	40	52	44	31	36	35	30	28	33	28	28	29	28	20	15	13	20	22	23	25	45	....	....	29.1
	Minimum	8	−2	14	18	12	9	7	3	−1	20	21	20	1	15	11	15	13	7	15	12	4	−10	0	−20	−6	12	−1	8	13	....	....	7.5
Pembina	Maximum	28	23	26	30	30	28	22	13	32	42	30	24	34	32	31	27	30	27	28	27	25	13	6	10	16	15	16	10	25	....	....	24.1
	Minimum	2	−4	9	14	21	9	12	−15	−1	9	14	7	14	12	23	15	−1	2	19	16	10	−15	−11	−15	−15	−1	−5	−9	−3	....	....	3.9
Sharon	Maximum	23	21	20	28	25	22	16	13	33	42	27	25	30	26	25	29	20	21	24	23	20	10	7	5	12	16	10	12	16	....	....	20.7
	Minimum	9	10	8	17	19	9	−5	−9	−2	18	18	2	22	22	20	13	5	2	18	15	7	−13	−7	−19	−14	7	−5	−12	4	....	....	5.5
Steele	Maximum	22	25	25	26	27	21	19	15	44	46	40	26	34	31	31	29	26	22	25	25	20	14	5	9	20	24	20	18	29	....	....	26.0
	Minimum	6	12	12	18	19	7	7	−8	−2	16	18	14	17	10	21	14	6	4	15	12	9	−8	−2	−24	−13	8	−5	−16	12	....	....	6.2
Valley City	Maximum	23	25	24	23	27	26	18	17	32	42	38	25	34	30	26	30	29	24	26	25	22	19	10	9	14	21	20	15	22	....	....	24.0
	Minimum	7	16	11	17	16	4	−8	−5	−5	18	25	−3	22	3	22	23	11	5	16	18	10	−1	2	−14	−13	0	−3	−8	11	....	....	7.1
Wahpeton	Maximum	29	27	27	28	28	27	24	22	34	44	44	30	31	30	28	30	29	32	29	28	25	21	12	10	13	21	21	18	26	....	....	26.5
	Minimum	6	17	12	20	20	16	−4	−6	−4	14	28	14	12	21	21	24	0	0	22	20	11	−7	4	−19	−18	10	2	−4	13	....	....	8.4
Williston	Maximum	13	20	25	23	22	17	16	14	38	46	34	28	27	37	26	21	35	24	27	26	17	8	7	10	15	18	12	20	31	....	....	22.7
	Minimum	7	−2	18	18	15	1	0	5	6	25	23	15	12	22	17	5	2	3	18	15	4	−2	−11	−20	−6	0	−4	−1	14	....	....	6.9
Moorhead, Minn.	Maximum	24	25	24	26	27	25	18	11	32	41	31	24	31	26	27	29	21	30	29	24	20	10	8	9	13	19	13	13	25	....	....	22.6
	Minimum	8	14	13	9	11	10	0	−6	−6	15	19	14	22	22	22	15	7	7	22	19	9	−5	−4	−11	−16	11	0	−4	12	....	....	7.9

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

Climatological Data for February 1940—Continued from page 6.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	......	......	....	....	.....	....	......	0.62	+0.15	0.16	10.0	9	13	7	9	nw.	H. A. Bury.
Amidon	Slope	......	17	16.2	−1.2	47	10	−17	23	33	0.54	+0.06	0.20	9.8	6	9	9	11	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	34	17.8	+1.6	45	10	−16	24	30	0.62	+0.21	0.22	7.9	9	0	20	9	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	16.9	+4.7	49	10	−26	24	43	0.67	+0.27	0.21	6.0	7	8	7	14	ne.	C. L. Hall.
Bowbells	Burke	1,958	11	12.2	......	45	10	−22	24	36	0.55	....	0.30	4.2	2	5	3	21	nw.	Charles Kaufman.
Bowman	Bowman	2,872	25	17.0	−1.5	46	10	−11	23	36	0.11	−0.37	0.04	1.3	5	5	13	11	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	31	14.4	+5.0	44	10†	−23	24	37	0.49	+0.13	0.25	6.2	5	1	11	17	s.	J. H. Phelps.
Dickinson	Stark	2,543	47	14.5	+1.4	48	10	−25	24	41	0.49	+0.06	0.10	6.7	11	8	14	7	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	15.4	+0.8	41	10	−25	24	41	0.37	−0.13	0.11	4.5	7	3	10	16	nw.	O. T. Evenson.
Epping	Williams	2,224	29	11.0	+0.2	39	10	−21	24	27	0.46	+0.05	0.23	9.0	3	6	6	17	se.	T. Beachler.
Fairfield	Billings	......	3	......	......	..	....	.....	..	......	0.33	....	0.11	4.9	5	10	11	8	se.	W. M. Geesaman.
Fryburg	Billings	2,790	21	16.9	......	49	10	−15	24	31	0.84	+0.27	0.23	8.3	8	4	14	11	nw.	Verne King.
Hettinger	Adams	2,675	32	17.4	+0.9	50	10	−19	25	37	0.55	+0.13	0.17	6.6	6	0	12	17	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	11.0	+2.0	42	10	−20	24	29	0.77	+0.21	0.20	9.4	8	1	12	16	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	14.2	......	44	10	−20	28	31	0.77	+0.44	0.34	9.2	10	12	8	9	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	19.8	+2.1	48	29	−12	17	38	0.76	+0.32	0.36	8.6	7	5	10	14	nw.	S. P. Crane.
Mary	McKenzie	......	11	......	......	....	....	.....	....	......	0.33	+0.07	0.16	11.8	7	8	6	15	nw.	Fred Hartman.
Medora	Billings	2,271	24	......	......	....	....	.....	....	......	0.52	+0.04	0.17	7.0	6	6	16	7	nw.	Vernon Thompson.
Mott	Hettinger	2,424	32	18.3	+4.8	45	29	−20	24	41	0.70	+0.08	0.27	2.2	10	2	13	14	se.	P. G. Wick.
New England	Hettinger	2,400	45	18.8	+4.7	51	10	−7	27	34	0.76	+0.27	0.23	10.5	8	8	11	10	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	24	14.8	......	44	10	−27	24	41	0.51	+0.09	0.13	8.5	8	1	12	16	se.	C. E. Shubert.
Portal	Burke	1,954	34	11.3	+5.9	47	10	−23	24	38	0.35	−0.05	0.25	4.2	3	10	5	14	se.	R. G. Wegener.
Powers Lake	Burke	2,205	34	15.0	+2.3	43	10	−17	23	39	0.38	−0.08	0.31	5.6	3	5	9	15	se.	Geo. B. Gee.
Richardton	Stark	2,467	23	17.0	+1.8	48	10	−11	24	31	0.45	+0.05	0.11	5.8	9	7	8	14	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	14	12.4	+3.0	46	10	−29	24	47	0.54	+0.11	0.16	6.6	7	0	8	21	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	2	12.2	......	41	10	−20	24	36	0.67	....	0.33	9.8	4	2	6	21	s.	Leroy Edwards.
Tioga	Williams	2,279	11	......	......	....	....	.....	....	......	1.15	+0.82	0.30	6.9	7	4	7	18	se.	B. V. Olson.
Trotters	Golden Valley	......	14	......	......	....	....	.....	....	......	0.88	+0.51	0.22	8.5	9	0	15	14	nw.	Walter Gunewald
Watford City	McKenzie	2,084	26	17.6	+3.7	47	10	−21	24	42	1.07	+0.65	0.24	15.0	9	5	10	14	w.	J. C. Zeller.
Wildrose	Williams	2,258	12	......	......	....	....	.....	....	......	0.79	....	0.33	11.6	9	5	4	20	sw.	L Holter.
Williston	Williams	1,878	60	14.8	+6.7	46	10	−20	24	33	0.80	+0.37	0.29	8.6	12	5	8	16	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	15.3	+2.0	51	10	−29	24	47	0.60	+0.17	0.40	7.6	7	5	10	14	nw.	....
Average for the State		......	.....	15.0	+5.4	52	10	−29	24	49	0.61	+0.14	0.61	7.8	7	5	8	16	nw.	....

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. XLIX   BISMARCK, N. D., MARCH 1940   No. 3

THE LIBRARY OF

GENERAL SUMMARY

March 1940 was the colder March since 1932. Temperatures were considerably below normal in the eastern division and slightly above normal in the central and western divisions. Minimum temperatures were not as low as usual but maxima were considerably below normal due to the continued cloudy weather. Precipitation averaged slightly above normal, with the greatest amounts in the eastern and southwestern districts. The first 5 days were dry but the precipitation was well distributed throughout the rest of the month. There was a heavy blanket of snow in most sections and, although the subsoil is dry, there is plenty of moisture in the top soil for plowing and seeding and moisture conditions are also excellent for grass. No severe storms were reported and livestock came through the winter in mostly good condition.

TEMPERATURE

The mean temperature for the state was 23.1°, or 0.7° below the 1892-1940 average for March. The mean temperature for the eastern division was 20.3°; for the middle division, 22.8°; and for the western division, 26.1°. The highest mean temperature was 31.2° at Marmarth, and the lowest, 13.6° at Edmore, making a range in mean temperature of 17.6°. The absolute range was 90°, from 64° at Energy on the 16th, to -26° at Edmore on the 25th. The average daily excess in temperature for the state since January 1, 1940, is 0.6°.

PRECIPITATION

The average precipitation for the state was 0.87 inch, or 0.11 inch more than the 1892-1940 average for March. In the eastern division the average amount was 1.19 inches; in the middle division, 0.71 inch; and in the western division, 0.72 inch. The greatest monthly amount reported was 2.57 inches at Carson; the least was 0.17 inch at Epping. The greatest amount recorded in any 24 consecutive hours was 1.12 inches at Ellendale on the 28th. The accumulated deficiency in precipitation for the state since January 1, 1940, is 0.12 inch. The average snowfall was 9.1 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	1	1	..	..	..	..	1	2	1	..	..	..	2	..	..	..	2	20	17	8	2	2	15	14	3
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	13	21	8	14	16	9	3	9	2	1	1	1	3	2	..	..	8	..	1	..	1	..	..	..	3	1	9	9	6	1	1
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	1	2	..	1	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	2	..	..	..	1	1	..	1	..	..	..	..	..	..	..	2	..	3	2	2	..	..	..	..	..	..	..
Sleet	1	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	4	6	1	1	2
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

SILENT OBSERVERS
With deep regret we record their passing.

Dr. C. L. Hall, beloved missionary and founder of the Fort Berthold mission in 1876, died April 2, 1940. He was 93 years old and served as cooperative observer for more than 30 years. The Indians had named him HO Washte, which translated means "Good Voice".

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.08	30.50	12	29.61	29	10.1	37	nw.	19	92	74	72	40
Devils Lake	30.10	30.57	2	29.56	29	7.4	19	n.	13†	96	83	80	66
Williston	30.07	30.52	13	29.62	16	8.2	25	nw.	19	82	68	66	50
Fargo	30.11	30.58	25	29.46	29	.....	.....	.....	.....	.....	.....	.....	.....
Moorhead, Minn	......	......	....	......	....	7.6	20	n.	13	91	76	81	48

† And other dates.

COMPARATIVE DATA FOR MARCH

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	24.2	66	-35	0.87	0.98	0.65	0.83	1.9	4	12	8	11
1893	13.9	68	-35	1.10	1.30	0.46	0.95	10.0	5	13	7	11
1894	24.8	69	-22	1.20	1.71	1.43	1.45	10.1	5	12	9	10
1895	23.2	75	-35	0.07	0.21	0.24	0.17	1.0	2	16	10	5
1896	15.7	70	-35	1.19	1.15	1.06	1.13	8.0	8	12	10	9
1897	11.9	58	-48	1.15	1.04	1.90	1.36	8.0	7	15	7	9
1898	21.3	79	-24	0.77	0.80	0.80	0.79	6.7	5	13	8	10
1899	7.5	72	-30	1.23	0.96	0.68	0.96	10.0	5	12	10	9
1900	20.3	77	-24	0.96	0.96	1.11	1.01	8.5	5	14	7	10
1901	25.3	85	-32	0.95	0.85	0.78	0.86	5.2	5	15	8	8
1902	27.4	65	-25	2.75	2.90	2.55	2.73	11.7	8	10	6	15
1903	22.1	80	-24	0.78	0.44	0.42	0.55	5.1	3	12	6	13
1904	18.2	64	-26	1.26	1.33	1.64	1.41	11.5	5	11	6	14
1905	32.5	81	-25	1.09	0.85	0.32	0.75	2.3	4	11	8	12
1906	18.5	67	-34	0.31	0.39	0.44	0.38	3.1	3	15	6	10
1907	23.1	83	-20	0.57	0.58	1.00	0.72	5.1	4	14	9	8
1908	21.1	68	-31	1.17	0.94	1.53	1.21	12.1	8	10	9	12
1909	24.0	61	-24	0.34	0.40	0.26	0.33	2.7	4	10	9	12
1910	41.3	90	- 7	0.83	0.93	1.08	0.94	0.3	3	18	8	5
1911	30.6	78	-18	0.14	0.26	0.29	0.23	1.6	2	16	10	5
1912	15.4	65	-28	0.28	0.32	0.52	0.37	3.6	3	17	8	6
1913	17.2	70	-31	0.82	0.73	1.00	0.85	8.2	6	12	9	10
1914	25.5	76	-20	0.83	1.06	0.75	0.88	9.2	5	10	9	12
1915	22.9	63	-23	0.38	0.20	0.07	0.22	2.0	2	16	6	9
1916	20.3	69	-45	1.43	1.82	1.00	1.42	13.5	6	11	9	11
1917	22.2	67	-39	0.44	0.33	0.37	0.38	3.9	3	13	10	8
1918	35.0	82	-15	0.32	0.46	0.42	0.40	2.9	2	16	8	7
1919	17.8	67	-35	0.63	0.93	0.78	0.78	6.2	4	12	9	10
1920	22.4	67	-32	0.46	0.83	1.20	0.83	7.1	4	15	8	8
1921	25.2	75	-22	1.07	1.02	0.81	0.97	9.1	6	9	12	10
1922	25.8	60	-30	0.96	0.67	0.50	0.71	6.4	4	12	7	12
1923	18.3	65	-35	0.34	0.44	0.35	0.38	4.8	4	10	10	11
1924	25.5	58	-20	0.32	0.36	0.75	0.48	4.4	4	10	9	12
1925	27.4	75	-26	0.74	0.56	0.75	0.68	6.0	4	14	9	8
1926	25.8	83	-23	0.35	0.19	0.17	0.24	1.8	3	13	10	8
1927	30.4	77	-10	0.90	0.78	0.47	0.72	6.5	5	13	8	10
1928	28.1	85	-17	0.69	0.55	0.31	0.52	4.8	3	15	8	8
1929	30.5	77	-15	0.68	0.65	1.02	0.78	5.3	5	12	8	11
1930	26.1	62	-17	0.17	0.05	0.05	0.09	0.9	1	17	8	6
1931	25.7	63	-24	0.99	0.85	0.99	0.94	4.8	5	11	8	12
1932	18.9	64	-30	0.52	0.60	0.80	0.64	6.0	6	10	11	10
1933	28.5	70	-14	0.46	0.41	0.49	0.45	3.7	3	14	10	7
1934	26.3	74	-12	0.43	0.34	0.71	0.49	3.6	4	11	11	9
1935	26.3	75	-37	2.00	0.89	0.90	1.26	7.0	5	9	11	11
1936	25.4	61	-27	0.73	0.75	0.94	0.81	8.1	6	10	11	10
1937	24.8	72	-20	0.42	0.34	0.42	0.39	4.3	3	12	11	8
1938	33.1	72	-14	0.63	0.57	0.58	0.59	2.5	4	13	10	8
1939	23.3	81	-29	0.33	0.41	0.42	0.39	5.3	3	16	8	7
1940	23.1	64	-26	1.19	0.71	0.72	0.87	9.1	7	9	9	13
Period	23.8	90	-48	0.78	0.75	0.75	0.76	5.8	4	13	9	9

Climatological Data for March 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	22.4	−2.2	43	18	−9	23	29	1.28	+0.79	0.35	11.5	10	13	7	11	ne.	James. H. Erickson.
Cavalier	Pembina	894	30	17.8	...	43	30	−16	22	38	0.99	+0.28	0.80	10.5	3	9	10	12	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	17.4	−6.0	40	5	−17	23	36	1.31	+0.68	0.70	11.6	11	12	8	11	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	...	...	...	...	...	...	...	1.79	...	1.03	14.8	5	8	12	11	e.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	16.6	−3.2	40	4	−13	23	34	0.92	+0.14	0.56	7.1	9	6	9	16	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	25.2	−2.1	46	4	−1	12†	25	1.39	+0.68	0.96	14.0	4	2	19	10	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	16	13.6	−7.4	34	4	−26	25	41	0.44	−0.24	0.31	6.6	6	18	2	11	nw.	Mike Davis.
Ellendale	Dickey	1,457	45	26.2	+0.6	47	18	3	23	31	1.98	+1.07	1.12	14.8	9	4	9	18	ne.	J. E. Demmer.
Fargo	Cass	895	4	19.4	−3.3	40	18	−17	23†	36	1.23	+0.35	0.52	13.1	12	...	...	...	...	W. B. Aerological Sta.
Forman	Sargent	1,249	47	22.8	−4.8	39	18	−2	23	27	1.73	+0.99	0.48	12.8	9	...	...	...	nw.	Helge Dyste.
Fullerton	Dickey	1,439	42	25.8	−1.0	46	18	2	23	28	1.73	+0.53	0.71	12.8	8	5	11	15	nw.	F. O. Alin.
Grafton	Walsh	827	48	18.0	−3.2	38	15	−16	25	34	0.79	+0.14	0.42	7.4	2	11	15	5	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	16.6	−5.8	36	29†	−15	23	38	0.82	+0.08	0.52	6.3	5	5	6	20	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	23.6	−5.8	42	18	2	24	27	1.84	+0.93	0.94	18.5	7	7	4	20	ne.	Joseph Rindt.
Hannah	Cavalier	1,568	48	15.2	−3.6	43	5	−25	23	46	0.45	−0.24	0.30	3.5	3	11	16	4	nw.	Charles McAdams
Hillsboro	Traill	901	40	19.8	−5.8	37	18	−12	23	30	1.10	+0.35	0.62	9.5	6	12	7	12	nw.	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	24.3	+0.3	48	4†	−2	23	28	1.55	+0.68	0.83	15.5	6	8	8	15	ne.	S. G. Calvelage.
Langdon	Cavalier	1,615	44	16.0	−3.6	42	18	−24	23	43	0.64	−0.16	0.29	6.4	7	11	13	7	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	17.3	−5.0	36	4	−15	23	34	1.58	+0.81	0.70	10.5	4	11	5	15	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	36	25.0	−2.1	41	18	−2	23	28	1.41	+0.77	0.55	11.2	8	7	7	17	ne.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	16.4	−6.8	39	4	−19	25	36	0.91	+0.33	0.53	12.0	5	8	10	13	ne.	C. E. Blasky.
McLeod	Ransom	1,075	29	23.9	−3.8	45	18	−3	23	34	1.36	+0.65	0.90	7.6	6	11	7	13	n.	J. G. Carlson.
Mayville	Traill	975	44	20.0	−4.5	57	17	−8	22	38	0.32	−0.37	0.16	4.0	2	10	11	10	n.	H. B. Addicott.
Oakes	Dickey	1,318	11	25.2	−4.0	47	18	0	23	31	1.25	+0.47	0.58	5.6	7	8	10	13	ne.	F. H. Murray.
Park River	Walsh	998	36	17.9	−5.2	34	8†	−9	10	40	0.86	+0.24	0.62	13.5	3	11	15	5	nw.	E. J. Taintor.
Pembina	Pembina	789	66	17.4	−0.8	52	2	−17	23	47	0.63	−0.18	0.50	6.3	3	19	8	4	n.	Harry A Gordon.
Petersburg	Nelson	1,520	10	...	...	...	...	...	...	...	0.96	...	0.63	9.5	5	9	10	12	nw.	T. M. Rykken.
Sharon	Steele	1,516	16	16.4	−8.2	38	30	−17	23	32	1.25	+0.61	0.81	12.9	8	8	7	16	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	24.0	−2.0	42	4†	−4	23	26	1.19	+0.52	0.85	19.8	10	10	6	15	nw.	I. C. Robertson.
Wahpeton	Richland	962	48	22.8	−4.7	43	18	−9	23	27	1.71	+1.06	0.76	16.8	9	11	3	17	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	20.4	−2.3	41	18	−10	25	30	1.33	+0.32	0.60	14.6	12	5	6	20	nw.	U. S. Weather Bureau.
Average for Eastern Division		...	...	20.3	−3.3	57	17	−26	25	47	1.19	+0.41	1.12	11.0	7	9	9	13	nw.	...
Middle Division																				
Ashley	McIntosh	2,001	44	23.3	−1.0	46	16	−5	23	30	1.63	+0.84	0.90	9.8	8	5	3	23	nw.	Henry Doerr.
Bisbee	Towner	1,601	4	17.4	...	40	4	−13	23	33	0.39	...	0.18	2.5	5	19	3	9	w.	I. K. Lund.
Bismarck	Burleigh	1,670	66	26.6	+2.4	59	16	−1	23	32	0.79	−0.10	0.21	7.5	13	2	6	23	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	19.6	−0.5	45	5	−11	25	33	0.75	+0.09	0.20	6.8	10	14	11	6	nw.	N. D. School of Forestry
Carrington	Foster	1,579	42	22.0	−1.4	45	16	−9	23	41	0.85	+0.18	0.65	8.8	3	13	0	18	sw.	Soo Line Agent.
Carson	Grant	2,500	28	26.7	+0.4	57	16	−6	14	36	2.57	+1.82	0.57	20.0	10	6	8	17	e.	J. W. Evens.
Center	Oliver	...	2	26.0	...	61	16	−4	14	38	0.46	...	0.21	5.0	3	15	3	13	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	23.7	−2.7	52	16	−3	22†	33	0.58	0.00	0.20	5.3	5	8	8	15	nw.	R. L. Williams.
Drake	McHenry	1,634	11	21.9	...	50	16	−2	21	36	0.45	...	0.10	6.2	10	6	10	15	nw.	Peter Anton.
Dunseith	Rolette	1,682	44	19.1	−1.1	44	5	−14	25	33	0.41	−0.22	0.18	5.0	5	14	13	4	sw.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	19.1	−3.8	44	2†	−12	14	48	0.50	−0.03	0.15	9.0	6	11	10	10	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	28.0	−1.0	64	16	0	14	39	0.54	−0.23	0.25	3.5	3	8	16	7	se.	H. S. Solenberger.
Fessenden	Wells	1,610	28	20.8	−2.6	45	4	−8	23	36	0.68	−0.07	0.35	5.0	4	17	9	5	n.	John V. Zuber.
Fort Yates	Sioux	1,670	40	27.5	+1.2	59	16	−1	23	31	0.60	−0.25	0.18	6.0	4	6	11	14	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	23.6	−1.6	53	16	−4	13	34	0.46	−0.21	0.19	6.1	8	9	10	12	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	10	22.8	...	44	5	0	23	25	1.06	...	0.94	11.0	4	4	11	16	ne.	A. H. Haut.
Garrison	McLean	1,901	63	26.1	+2.3	60	16	−1	13†	44	0.60	−0.25	0.21	7.2	10	5	17	9	nw.	E. L. Vorachek.
Granville	McHenry	1,504	33	23.5	−0.6	55	16	−3	14†	38	0.68	+0.18	0.27	5.5	5	9	9	13	se.	W. A. Christianson.
Hansboro	Towner	1,597	32	15.5	−5.1	40	8	−19	23†	37	0.26	−0.68	0.17	2.8	4	14	10	7	nw.	W. E. Disher.
Linton	Emmons	1,711	23	28.2	+0.5	60	16	−3	23	33	0.89	+0.10	0.35	7.4	10	5	14	12	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	24.8	−1.3	56	16	−3	23	38	0.66	−0.14	0.46	6.0	5	12	11	8	nw.	F. W. Perry.
Maddock	Benson	1,604	25	18.0	−6.6	40	5	−17	25	34	0.52	−0.01	0.18	5.7	6	8	15	8	nw.	A. T. Felland.
Mandan	Morton	1,750	26	26.3	−0.4	61	16	0	23	38	0.93	+0.08	0.31	10.0	10	5	7	19	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	...	...	...	...	...	...	...	0.74	−.04	0.30	7.5	9	13	9	9	nw.	P. B. Anderson.
Max	McLean	2,093	11	22.6	...	56	16	−2	14	40	0.38	...	0.16	4.2	7	1	8	22	...	A. W. Rice.
Minot	Ward	1,557	44	25.2	+2.4	56	16	−4	14	43	0.51	−0.12	0.18	5.3	10	4	2	25	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	47	20.3	−0.6	50	16	−10	14	40	0.91	+0.27	0.40	6.5	9	11	12	8	e.	Iver Johnson.
Napoleon	Logan	1,955	48	24.2	+1.5	55	16	−5	14†	33	1.32	+0.49	0.40	13.8	8	7	2	22	se.	C. J. Hoof.
New Salem	Morton	2,163	36	24.8	−1.1	61	16	−7	23	37	0.80	−0.05	0.25	10.8	9	9	8	14	nw.	J. Christianson.
Pettibone	Kidder	1,856	31	22.8	−1.5	50	16	−2	23	39	0.82	+0.20	0.62	8.0	6	5	10	16	nw.	Sam Loeppke.
Rolla	Rolette	1,860	3	17.1	...	38	2†	−12	23†	38	0.44	...	0.20	4.4	7	16	5	10	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	...	...	...	...	...	...	...	0.41	+0.06	0.15	6.0	8	10	11	10	se.	W. B Paterson.
Ryder	Ward	2,108	11	...	...	...	...	...	...	...	0.58	+0.28	0.22	5.8	9	13	5	13	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	...	...	...	...	...	...	...	0.61	...	0.10	6.1	13	7	10	14	nw.	J. B. Smith.
Steele	Kidder	1,857	46	24.8	+0.7	56	16	−1	14	32	0.60	−0.21	0.40	7.0	6	8	9	14	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	...	...	...	...	...	...	...	0.38	−0.02	0.15	5.8	9	18	8	8	se.	G. N. Pilgard.
Timmer	Morton	...	3	...	...	...	...	...	...	...	1.46	...	0.63	18.0	6	...	...	...	...	Geo. M. Sinclair.
Towner	McHenry	1,482	38	21.7	−0.4	45	4	−14	25	40	1.05	+0.32	0.50	7.0	4	12	12	7	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	25.8	+1.0	58	16	0	13†	38	0.28	−0.60	0.15	2.5	5	14	7	10	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	32	...	...	...	...	...	...	...	0.57	−0.22	0.31	5.9	10	9	14	8	nw.	Adam Leno.
Velva	McHenry	1,511	13	25.0	−1.8	55	16	−2	14	48	0.43	−0.10	0.19	4.6	6	10	9	12	nw.	Oscar Anderson.
Washburn	McLean	1,731	39	27.2	+2.8	64	16	1	13†	37	0.34	−0.40	0.17	3.0	3	12	6	13	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	18.6	−3.4	43	5	−12	14†	43	0.27	−0.26	0.17	4.0	2	6	11	14	...	John J. Egger.
Willow City	Bottineau	1,471	48	16.1	−3.6	43	4	−22	25	49	0.39	−0.35	0.15	5.5	5	15	7	9	nw.	O. M. Sanderson.
Wilton	McLean	2,159	4	24.4	...	58	16	−1	23	45	0.45	...	0.18	5.7	5	8	9	14	nw.	Soo Line Agent.
Wishek	McIntosh	2,010	19	23.5	−2.8	49	16	−5	22	27	1.21	+0.50	0.45	11.8	11	5	9	17	nw.	H. M. Larson.
Zap	Mercer	1,838	25	...	...	...	...	...	...	...	0.71	+0.10	0.30	5.9	6	14	8	9	nw.	John Kaufman. Jr.
Average for Middle Division		...	...	22.8	−1.2	64	16	−22	25	49	0.71	−0.04	0.94	8.0	7	9	9	13	nw.	...

Continued on page 12

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing: for example, ¹ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for March 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red					T.	.02	.30	T.			.01	.07	.05	.01					.10							.04	T.	.35	.33			1.28
Cooperstown[2]	Sheyenne	.05	T.	T.	T.	T.		.08	.02				.05	.02	.02					.02	.08	.02	T.					T.	.25	.70		T.	1.31
Courtenay[2]	James						.17					.07								.14								.38	1.03				1.79
Devils Lake[1]	Devils Lake	T.				T.	.20	.01	T.	T.		.02	.01					T.	.06	.05	T.	.01						.11	.45				0.92
Edgeley	James						.09					.16															.18		.96				1.39
Edmore	Devils Lake						.06	.02	T.										.01	.02									.31	.02			0.44
Ellendale	James						.06	.08				.15	.09	.12								.06					.19	.11	1.12				1.98
Fargo[1]	Red		T.	T.		T.	.02	.02	T.	T.		.02	.07	.11	.01			T.	.01	.24		T.					.06	.11	.52	.04			1.23
Forman	Sheyenne						T.	.16	T.		T.	.18	.10	.13	.04					T.	T.						.16	.11	.37	.48			1.73
Fullerton	James						.06	.07				.44	.03	.04						T.		.03					.35		.71				1.73
Grafton	Red							T.							T.														.42	.37			0.79
Grand Forks[1]	do	T.	T.	T.	T.	T.	.01	.14	T.	T.		T.	.02	T.	T.			T.	T.	T.		T.						.13	.52	T.			0.82
Hankinson[2]	do								.07				.10		.27					.07							.07		.32	.94			1.84
Hannah	Pembina	T					.10	T.	T	T.			T.					T.	.05										.30				0.45
Hillsboro	Red		T.			T.	T	.13					.03	T.	.01		T	T.		.08		T.							.62	.23			1.10
Jamestown	James							.14				.13	.05								.30	.10								.83			1.55
Langdon[2]	Pembina						.03	.09	.03										.06				.04						.29	.10			0.64
Larimore	Red						T.	.51					.02						T.										.70	.35			1.58
Lisbon	Sheyenne		T.	T.		T.	T.	.13	T.			.05	.06	.07				T.		.04							.10	T.	.55	.41			1.41
McHenry	James						.08	.08		T.			T.							.13		T.						T	.53	.09			0.91
McLeod	Sheyenne						T.		.09				.10		.08					.14								.05		.90			1.36
Mayville	Red						T.	.16												T.									.16				0.32
Oakes	James							.10				.10	.10	.03						T.	T.	T.					.19	T.	.58	.15			1.25
Park River	Red					T	T.	.08		T.																			.62	.16			0.86
Pembina	do						T.	.05											.08										.50				0.63
Petersburg	do						.06	.09					.03																.63	.15			0.96
Sharon	do					T.	.06	.06	.01	T.		T.	.02	T						.08		T						.01	.81	.20			1.25
Valley City	Sheyenne						.02	.10				T	.06	.02	T.					.05		.01					.05	.01	.85	.02			1.19
Wahpeton	Red		T.					.05	T.			.03	.06	.09						.09							.13	.01	.76	.49			1.71
Moorhead, Minn[1]	do		T.	T.			.03	.07	T.			.04	.05	.10	T.			T.	.01	.20		.01					.05	.16	.56	.05			1.33
Middle Division																																	
Ashley[2]	Missouri								.12	T			.20		.04						.07	.04	T.	T.		T.	.24	.02		.90			1.63
Bisbee	Devils Lake						.04	.03		T.			T						.10	.04									.18				0.39
Bismarck[1]	Missouri					T.	.07	T.	T.	.02	T	.17	.03	T.				T.		.12	.01	.01	.04	T.	.01	.02	.08	.13	.08		T.		0.79
Bottineau	Mouse							.20	.10			.02	.03	.02					.08	.10	.02	.01							.17				0.75
Carrington[2]	James						.08					T.	T.							.12	T.								.65				0.85
Carson	Heart						.17			.40	.05	.55									.20		.19		.01	.03	.57		.40				2.57
Center	Missouri									T.		.21		.11						T	T.		T.			T.			.14				0.46
Dogden Butte	Mouse						.04	T.		T.	T.	.15	T					T.	T.	.12	.07	T							.20				0.58
Drake[2]	do						T.	.08	T.		.01	.02	.04	.01					T.	.08	.03	.03							.10	.05			0.45
Dunseith	do						T.	.03		T.		T.	.01					T.	.12	.07	T.								.18				0.41
Eckman	do						.05	.05			T	T.	.06					.05		.14	T.								.15				0.50
Energy	Missouri						.25					T.	T					T.		.06	T.		T.			T.			.23				0.54
Fessenden[2]	James						T.					.10	T.							.19	T.	.04							.35				0.68
Fort Yates	Missouri						T.			T.	T.	.17	T.	T.						T	T		.09		T.	T.	.18	T.	.16				0.60
Foxholm (near)	Mouse						.01	.01		T.	T	.02	.04					.08		.06	.05	T.							.19			T.	0.46
Gackle	James	T.					.07	T.	T.	T	T.	T	.02	T							T.	T.						.03	.94	T.			1.06
Garrison	Missouri						.08	.03		.01	.03	.10	.02							.09	.02	T.	.01						.21				0.60
Granville	Mouse						T.	.06				.05	.06							.27									.24				0.68
Hansboro	Devils Lake						.02	.04		T.			T.						T	T.	.03								.17				0.26
Linton	Missouri						.02			T.	T	.13	.04	T.						.04	.02	T.	.03		T.	.01	.20	.05	.35				0.89
McClusky	do					.05		T.		.05	.08	T							T.	.02	T								.46				0.66
Maddock	Sheyenne						.05	T.	T.	T		.01	.01					T.		.17	.10	T.							.18				0.52
Mandan[2]	Missouri					.10	T.		.04	T.	.12	.13	T.	T.				T		.01	.01	.05	T.	T.	T.	.13	.03	.31	T				0.93
Max[2]	do							.07			.02	.06	.01								.05	.01							.16				0.38
Minot	Mouse	T.					.03	.04		T.	.01	.07	.05	T.				.03		.05	.04	.01							.18				0.51
Mohall	do						.08	.05		T	.02	.14	.06					.02		.40	.01								.13			T.	0.91
Napoleon[2]	Missouri							.05			T		.25	.02							.10	.10						.10	.30	.40			1.32
New Salem	Heart						.07	T.		.08	.03	.25	T	T.						.03	.10		.12		T.	.02		T	.10				0.80
Pettibone	James						.05					.06									.01	.01					.07		.62				0.82
Rolla	Devils Lake						.07	T.		.03		T.	.05					T	.04	.02	.03								.20				0.44
Rugby (near)	Mouse	T.					.02	.03	.01			T.	T.	.01				.02	T.	.15	.05	T.							.12				0.41
Ryder[2]	Missouri					.12				.03	.02	.05	.02	T.				.03				.04						.22			.05	T.	0.58
Selfridge	do						.06		.03	.04	.04	.10	T.	T						.05	.09		.05		.02	.02	.03	.02	.06				0.61
Steele	do						.03	T.		T.		.06	.04	T.						T		.01					.06		.40				0.60
Tagus	Mouse						.08	.01		T.	.05	.04	.01	T				.01	T	.02	.01		T.					T.	.15			T.	0.38
Towner	do						.05			T.	T.	.10		T.						.50	T								.40				1.05
Turtle Lake	Missouri						.04	.02		.02		.05	T							T									.15				0.28
Tuttle	do						.05	T.		.01		.05	.01	T.						.01	T.	.02	.01				.07	.03	.31				0.57
Velva	Mouse						.01	.02		T		.09	T	T.				T.		.10	T	.02							.19				0.43
Washburn[2]	Missouri							T			T.	.12	T							.05	T.						T.		.17				0.34
Westhope	Mouse						T	.10	T.	T			T						T	T.	T								.17				0.27
Willow City	do						T	.06		T		T.	.04	T.				T.	.03	.11		T							.15				0.39
Wishek[2]	Missouri	T.	T.			T.	.05		T.			.03	.05	.03	T					.07	.04	.01	T		T.	.04	.04	.40	.45				1.21
Zap	Knife						.30	T.		.05	T.	.05								T.	T.		.04				.02		.25				0.71
Western Division																																	
Alpha	Lit. Missouri					.07	.03	T.		.11	.05	.03	T.	T.						.05	.06	T.	T	T	T.	.11	.05	T.					0.56
Amidon	do					.02	.05			.35	.24	.19								.20	.07			.02		T	.11						1.25
Beach	do					.01	T.			.10	.04	.10	T.							.08	.08		T	.04	T	T.	.05		.02				0.52
Berthold Agency	Missouri										T												.10				T.		.45				0.55
Bowman[2]	Grand					T			.02		.27	T.	T					.02			.01		T.	T	T.	.25		T.					0.57
Crosby	Mouse					.06	.03	.08					.07				T			.12	.05								.45				0.86
Dickinson[2]	Heart						.07	T.		.15	.03	.12	.02	T	T.			T.			.02	.10	.02	.04	.01	.02	.11	T	T				0.71
Dunn Center	Knife						.07			.05	T	.27	T	.03							.05		.02				.08		.03				0.60
Fairfield[1]	Lit. Missouri					.04	T.			.10	.04	.19	.03									.07	.03				.11						0.61
Fryburg	Heart					.12	T			.25		.36	.03	.02				.02		T	.22	T	.09	T	.03	T	.02	.09	T.				1.25
Hettinger	Grand						.01			.23	.16	.30	.04							.03	.07	.03	T	.03		.06	.24	T.	.15				1.38
Howard (near)	Missouri					T.	.07					.19	T					.01		T	.04		.07						.17			.11	0.66
Kenmare	Mouse						.06	.06		T.		.01	.01					.03	T.	.04	.02	.01						T.	.15			T	0.42
Marmarth	Lit. Missouri					.02	.05			.30		.10	.01							.10	.05	.01		.05			.30		.04			.03	1.06
Mary	do						.03		.02		T.	.11	T								.04						.05	.02					0.27
Medora	do					.04	T			.23	.03	.19	.05	.01			T			T.	.11	.02	.05	.01	T	T	.14		.06			T.	0.94
Mott	Cannon Ball						.06			.11	.02	.16	.03	T.						.01	.09	.01	.01	T	.01	.03	.09		.26				0.89
New England[2]	do					.08			.35		.70	.18							T		.19		.09		.04		.18					T.	1.81
Parshall	Missouri						.12	.05				.05	.02					.02		.01	.03				.14								0.44
Portal[2]	Mouse							.10										T		.05									.16				0.31
Powers Lake	Missouri					.11												.07		.05	.16	.08						.06				.31	0.84
Richardton	Heart					T.	.14	T.	T	.14	.02	.36	T	.03						T.	.05	T	.16	T	.02	.01	.17		.19				1.29
Sanish[2]	Missouri						.09	.10			.01		.20					T.	.01				.02						.09				0.52
Stanley	do					T	.11	T.		T.		.09	T					T.		.09	T	T							.18				0.47
Tioga	do					T.	T				T.	.05	T.							T	T		T						.10			.10	0.25
Trotters	Lit. Missouri					.05		.19				.32	.02	T				.02			.06		.03	.02	.01	.17		.11				T	1.00
Watford City	Missouri					.06		.08		.08	T	.10						.04		T.	.08		.08		T		.04		.09			T.	0.65
Wildrose	do					.05	.04	.04		T.	T.	.02	.01					.05		.01	.03		.03						.18			T	0.46
Williston[1]	do					.03	T.	T.	T	.01	.04	.09	.01	T.				.03		T.	.06	.01	.05		T.			.28	.01			.15	0.77

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement.
T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for March 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley	Maximum	32	36	38	43	44	38	32	40	32	34	23	23	25	30	40	46	38	45	37	28	20	21	23	26	26	22	30	32	41	45	34	33.0
	Minimum	15	9	16	17	17	24	25	17	18	17	10	5	8	0	13	23	28	25	18	9	7	-1	-5	0	9	10	15	17	20	18	18	13.6
Beach	Maximum	44	47	43	48	43	40	39	36	33	28	25	28	27	44	53	63	51	47	37	27	31	21	19	25	24	24	28	47	52	56	49	38.0
	Minimum	23	27	30	26	30	30	28	24	25	23	19	10	13	2	27	34	30	28	25	10	12	12	6	3	17	16	17	21	28	29	32	21.2
Bismarck	Maximum	40	44	45	52	48	38	36	39	32	31	24	23	23	30	44	59	44	45	36	24	20	19	19	27	25	23	30	36	46	45	38	35.0
	Minimum	19	17	26	23	31	30	28	21	25	21	16	10	7	0	19	29	27	26	17	12	12	2	-1	13	14	18	17	22	14	25	27	18.3
Bottineau	Maximum	29	35	36	42	45	32	35	42	32	25	19	21	29	27	31	38	38	38	34	31	17	12	12	15	18	25	26	34	34	35	33	29.7
	Minimum	7	4	16	9	22	25	25	14	19	15	11	11	4	-5	14	11	22	23	15	3	-1	-8	-6	-7	-11	1	-1	22	18	12	15	9.6
Carson	Maximum	46	56	45	52	41	38	37	38	34	38	24	28	21	30	45	57	45	47	35	25	23	23	21	25	22	22	33	38	52	48	41	36.3
	Minimum	19	21	22	22	25	31	25	20	23	20	15	12	-2	-6	16	27	27	26	22	12	9	3	-3	8	13	15	14	25	19	25	26	17.1
Crosby §	Maximum	32	39	39	39	38	36	35	38	33	27	28	28	30	37	40	48	41	38	33	23	16	15	21	25	27	30	30	41	41	37	33	32.8
	Minimum	6	10	26	19	25	30	23	14	22	14	11	11	-5	0	16	26	30	28	18	6	2	6	0	2	7	11	12	22	14	20	25	14.5
Devils Lake	Maximum	31	36	32	40	27	34	31	35	26	19	18	21	22	24	30	36	34	33	27	17	11	9	10	12	15	19	26	31	34	33	31	25.9
	Minimum	11	2	11	17	14	26	24	12	12	0	7	3	0	-2	11	12	22	19	9	1	-6	-8	-15	-6	-14	-4	1	24	19	15	10	7.3
Dickinson §	Maximum	49	57	47	51	48	40	36	38	30	28	22	20	21	36	48	62	44	45	32	24	21	21	16	22	23	21	27	43	53	54	42	36.2
	Minimum	20	20	20	19	23	30	25	19	22	22	18	8	-2	-6	-2	27	28	24	25	10	8	9	2	2	12	15	16	18	24	23	29	16.4
Dunn Center §	Maximum	49	52	42	50	40	39	34	37	32	26	25	20	27	36	50	59	48	34	34	25	21	20	20	25	21	24	27	45	46	47	40	35.3
	Minimum	14	20	27	24	29	33	23	18	22	22	18	11	4	-7	22	29	31	27	24	12	6	8	0	11	10	17	17	25	23	23	26	18.4
Fessenden §	Maximum	35	38	37	45	38	35	35	34	29	23	23	21	20	27	35	42	40	37	35	22	15	15	14	18	23	22	26	34	39	36	33	29.9
	Minimum	8	2	14	10	16	25	29	22	18	5	12	6	5	-4	13	20	26	25	15	9	1	1	-8	2	0	6	9	24	19	16	16	11.7
Fullerton	Maximum	33	36	37	40	40	35	36	40	35	34	27	23	21	28	38	45	39	46	37	34	21	21	21	24	30	25	30	33	39	40	34	33.0
	Minimum	22	25	18	20	26	28	29	27	25	18	17	11	12	5	10	25	27	26	27	16	12	8	2	10	10	18	17	25	23	22	19	18.7
Garrison §	Maximum	41	47	40	50	44	37	34	37	31	29	26	26	24	35	42	60	43	42	35	25	19	20	21	25	28	27	30	41	48	48	35	35.2
	Minimum	13	3	21	18	28	30	26	18	23	16	17	11	-1	-1	21	28	32	27	25	8	6	8	2	11	9	15	16	24	22	25	26	17.0
Grafton	Maximum	27	32	32	31	34	33	33	36	33	21	22	27	24	26	38	33	34	35	32	29	19	13	14	18	18	24	30	33	34	35	36	28.9
	Minimum	-5	0	11	12	18	29	26	21	21	-9	-3	12	10	8	4	7	20	13	13	6	-5	-15	-13	-9	-16	-9	-4	26	24	20	9	7.2
Grand Forks	Maximum	29	32	29	30	31	35	34	33	27	23	23	26	20	23	32	34	32	34	28	17	11	12	12	14	14	24	32	34	36	36	32	26.7
	Minimum	-9	11	9	4	22	27	25	22	0	-12	8	14	7	2	4	9	19	14	8	-1	-6	-12	-15	-10	-12	-6	-4	27	24	16	13	6.4
Jamestown §	Maximum	35	37	35	48	39	34	31	35	33	30	23	22	22	28	36	48	40	44	35	28	18	18	18	23	31	23	27	33	40	40	33	31.9
	Minimum	18	15	20	20	25	26	27	26	25	15	16	8	13	5	16	24	27	26	23	11	6	5	-2	7	4	16	15	25	23	18	15	16.7
Kenmare	Maximum	31	38	38	39	39	38	37	35	32	25	23	21	24	31	39	49	44	45	40	26	21	17	17	21	27	25	29	39	40	41	37	32.5
	Minimum	10	11	28	24	24	29	23	13	19	14	11	7	1	-3	16	25	30	28	24	11	0	4	0	4	4	7	10	23	19	22	25	14.9
Langdon	Maximum	27	28	38	35	35	33	35	37	30	18	18	25	33	31	40	34	40	42	38	29	13	17	18	24	21	23	24	29	35	40	39	30.0
	Minimum	4	-2	-2	6	7	24	20	22	6	-6	-7	2	-2	-12	5	2	20	13	13	-1	-17	-19	-24	-19	-14	-15	-6	21	18	15	9	2.0
Marmarth	Maximum	46	52	48	52	42	40	40	40	30	30	30	30	28	45	55	63	53	50	40	31	30	25	22	28	25	23	28	48	52	60	55	40.0
	Minimum	24	24	26	27	27	33	29	22	25	25	22	14	10	0	29	31	31	33	27	19	16	19	10	10	16	17	20	25	27	29	27	22.4
Minot	Maximum	37	47	41	46	43	38	35	36	32	30	25	23	23	35	42	56	52	41	37	28	21	17	17	22	30	27	31	40	45	43	38	34.8
	Minimum	12	4	21	19	25	29	26	16	20	14	16	11	-3	-4	18	25	30	29	24	14	5	6	2	8	4	8	11	25	19	21	26	15.5
Mott	Maximum	47	51	51	51	49	51	44	43	30	35	33	25	23	35	46	60	59	51	47	33	28	25	23	23	28	28	31	43	53	52	54	40.7
	Minimum	21	18	25	20	25	32	25	19	28	21	18	5	-2	-7	20	30	29	23	24	13	10	12	3	1	12	14	17	25	21	26	29	17.6
Pembina	Maximum	27	52	33	30	35	37	38	38	29	24	28	30	26	27	34	35	33	35	29	25	17	12	14	18	20	25	34	33	35	35	46	30.1
	Minimum	-3	11	11	6	14	29	25	7	14	-12	-2	13	2	3	5	12	15	15	2	0	-12	4	-17	-15	-13	-14	-13	15	13	18	9	4.6
Sharon	Maximum	29	31	32	35	28	31	28	34	25	14	19	19	19	22	31	33	33	35	28	17	5	10	9	14	18	17	25	31	33	28	29	24.9
	Minimum	12	5	14	15	13	26	23	21	14	-1	4	6	9	-2	6	10	23	14	14	1	-7	-9	-17	-10	-14	0	5	24	22	10	12	7.8
Steele	Maximum	37	41	40	48	43	41	36	39	34	30	26	22	22	31	41	56	52	43	33	27	20	16	18	18	30	27	28	32	41	45	32	33.8
	Minimum	15	9	20	17	28	26	26	22	24	15	17	3	7	-1	13	24	29	22	20	8	7	6	1	9	9	15	13	24	15	21	23	15.7
Valley City	Maximum	33	34	38	42	39	33	34	38	37	30	24	22	23	28	35	40	40	42	35	33	31	18	16	22	27	22	28	33	37	37	38	31.9
	Minimum	11	21	19	21	23	27	28	25	25	11	18	11	16	6	14	19	25	25	23	11	6	3	-4	5	1	14	15	26	24	12	21	16.2
Wahpeton	Maximum	31	31	31	33	33	34	33	34	34	31	29	26	22	24	33	37	37	43	37	25	17	15	12	21	28	28	30	33	36	36	36	30.0
	Minimum	21	26	23	20	22	28	26	27	23	14	17	15	15	7	6	16	23	20	22	-1	-1	-3	-9	3	1	15	10	26	27	24	21	15.6
Williston	Maximum	35	46	40	42	41	36	33	35	29	28	25	23	24	42	50	58	43	39	34	25	20	17	18	22	27	30	29	28	51	47	33	34.5
	Minimum	15	10	28	26	32	29	25	24	28	21	19	16	13	7	24	34	32	30	15	12	12	8	5	12	13	18	20	24	24	25	28	20.1
Moorhead, Minn.	Maximum	30	31	27	30	32	34	31	32	30	29	20	25	19	23	31	37	32	41	26	16	6	9	9	14	20	25	30	33	33	33	29	26.4
	Minimum	21	26	20	14	22	26	25	26	17	13	15	14	14	8	8	17	26	23	11	0	0	-6	-9	1	-10	7	18	30	26	23	16	14.3

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for March 1940—Continued from page 10.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	......	......	....	....	....	....	.....	0.56	-0.30	0.11	8.0	9	11	7	13	nw.	H. A. Bury.
Amidon	Slope	......	17	27.4	-0.5	61	17	-5	13	42	1.25	+0.52	0.35	9.6	9	10	7	14	se.	J. G. Jacobson.
Beach	Golden Valley	2,759	34	29.6	+2.4	63	16	2	14	42	0.52	-0.24	0.10	7.0	9	4	10	17	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	29.0	+3.0	64	16	-6	2	61	0.55	-0.01	0.45	4.0	2	11	7	13	nw.	H. W. Chase.
Bowbells	Burke	1,958	11	22.2	......	54	16	-6	14	40	0.36	-0.24	0.16	5.2	4	7	7	17	se.	Charles Kaufman.
Bowman	Bowman	2,872	25	28.5	+0.8	61	30	-5	13	34	0.57	-0.10	0.27	10.9	5	7	7	17	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	31	23.6	+0.1	48	16	-5	13	37	0.86	+0.19	0.45	8.2	7	7	9	15	nw.	J. H. Phelps.
Dickinson	Stark	2,543	47	26.3	+1.0	62	16	-6	14	50	0.71	-0.03	0.15	11.6	12	6	10	15	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	26.8	+1.3	59	16	-7	14	43	0.60	-0.23	0.27	6.9	8	7	6	18	se.	O. T. Evenson.
Epping	Williams	2,224	29	22.2	-1.8	48	16	0	23	25	0.17	-0.42	0.12	1.8	2	17	5	9	se.	T. Beachler.
Fairfield	Billings	......	3	......	......	....	....	....	....	.....	0.61	......	0.19	7.0	8	12	7	12	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	21	28.2	......	62	16	0	13	35	1.25	+0.47	0.36	10.8	11	6	7	18	nw.	Verne King.
Hettinger	Adams	2,675	32	28.6	0.0	57	16	-5	14	45	1.38	+0.68	0.30	13.8	12	5	7	19	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	22.6	+0.7	47	16	-2	23	32	0.66	-0.24	0.19	8.3	7	8	10	13	sw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	23.7	......	49	16	-3	14	34	0.42	-0.21	0.15	4.9	9	19	8	4	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	31.2	+3.5	63	16	0	14	45	1.06	+0.34	0.30	11.4	12	9	4	18	nw.	S. P. Grane.
Mary	McKenzie	......	11	......	......	....	....	....	....	.....	0.27	-0.21	0.11	6.7	6	11	6	14	se.	Fred Hartman.
Medora	Billings	2,271	24	......	......	....	....	....		.....	0.94	+0.04	0.23	9.1	12	9	8	14	se.	Vernon Thompson.
Mott	Hettinger	2,424	32	29.2	+2.3	60	16	-7	14	42	0.89	-0.04	0.26	9.0	13	7	5	19	e.	P. G. Wick.
New England	Hettinger	2,400	45	28.2	+3.0	61	16	-6	13	35	1.81	+1.03	0.70	23.6	8	8	4	19	se.	F. S. Sleight.
Parshall	Mountrail	1,929	24	25.2	......	56	16	-9	14	49	0.44	-0.07	0.14	0.8	8	6	20	5	nw.	C. E. Shubert.
Portal	Burke	1,954	34	20.4	+2.7	55	16	-14	23	44	0.31	-0.29	0.16	3.5	3	14	6	11	e.	R. G. Wegener.
Powers Lake	Burke	2,205	34	23.4	-1.6	50	4	-5	12	33	0.84	+0.15	0.31	11.5	7	11	16	4	e.	Geo. B. Gee.
Richardton	Stark	2,467	23	26.9	-0.2	60	16	0	23	31	1.29	+0.57	0.36	18.1	11	11	4	16	se.	Assumption Abbey.
Sanish	Mountrail	1,835	14	25.5	+1.0	56	16	-5	14	41	0.52	-0.06	0.20	6.2	7	5	18	8	se.	H. J. Bugge.
Stanley	Mountrail	2,258	2	22.3	......	47	16	-9	14	40	0.47	......	0.18	6.0	4	8	4	9	w.	Leroy Edwards.
Tioga	Williams	2,279	11	......	......	....	....	....	....	.....	0.25	-0.36	0.10	3.2	3	14	5	12	nw.	B. V. Olson.
Trotters	Golden Valley	......	14	......	......	....	....	....		.....	1.00	+0.24	0.32	13.2	11	7	6	18	nw.	Walter Gunewald
Watford City	McKenzie	2,084	26	29.2	+3.9	61	16	3	23	39	0.65	-0.03	0.10	9.0	9	9	6	16	e.	J. C. Zeller.
Wildrose	Williams	2,258	12	......	......	....	....	....	....	.....	0.46	......	0.18	3.3	10	9	11	11	nw.	L Holter.
Williston	Williams	1,878	60	27.3	+4.4	58	16	5	23	36	0.77	+0.08	0.29	6.0	12	9	10	12	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	26.1	+0.9	64	16	-14	23	61	0.72	-0.03	0.70	8.3	8	9	8	14	nw.	......
Average for the State		......	.....	23.1	-0.7	64	16	-26	25	61	0.87	+0.11	1.12	9.1	7	9	9	13	nw.	......

[WBO, Minneapolis, 4-30-40—1200

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. XLIX BISMARCK, N. D., APRIL 1940 No. 4

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JUN 8 1940

GENERAL SUMMARY

April was cold and wet. The eastern division was only slightly cooler than normal, but the middle and western divisions were considerably below normal. In some northern and eastern sections snow remained on the ground at the end of the month. It was the wettest April since 1924 and was the second wettest of record in the central division. Four stations in the southwestern section had over 5 inches of precipitation and seven others reported between 4 and 5 inches. This was the greatest April moisture ever recorded at many of these stations. A few places in the northern and eastern districts reported subnormal moisture, but elsewhere amounts were above normal. No severe wind or dust storms occurred, and the sunshine was slightly below normal. Due to wet, cold weather farm work was late and pastures and ranges were backward, but there was considerable moisture in the topsoil generally. Livestock was mostly in good condition throughout the month but much yard feeding was necessary.

TEMPERATURE

The mean temperature for the state was 37.8°, or 3.6° below the 1892–1940 average for April. The mean temperature for the eastern division was 38.5°; for the middle division, 37.5°; and for the western division, 37.4°. The highest mean temperature was 42.1° at Wahpeton, and the lowest, 34.0° at Portal, making a range in mean temperature of 8.1°. The absolute range was 87°, from 78° at Edgeley on the 14th, to -9° at Langdon on the 11th. The average daily deficiency in temperature for the state since January 1, 1940, is 0.4°.

PRECIPITATION

The average precipitation for the state was 2.22 inches, or 0.80 inch more than the 1892–1940 average for April. In the eastern division the average amount was 1.84 inches; in the middle division, 2.36 inches; and in the western division, 2.45 inches. The greatest monthly amount reported was 5.82 inches at Alpha; the least was 0.36 inch at Valley City. The greatest amount recorded in any 24 consecutive hours was 2.83 inches at Medora on the 21st. The accumulated excess in precipitation for the state since January 1, 1940, is 0.68 inch. The average snowfall was 4.1 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	3	5	..	..	..	..	..	..	2	3	8	5	2	..	..	..	..	..	..	1	1	2	..	..	..	..	1	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	4	3	4	2	..	2	2	1	2	..	..	..	..	2	8	6	7	..	2	8	2	..	..	1	3	5	12	10	5	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	4	2	..	..	2	..	..	..	..	..	..	..	..	..	..
Solar halos	1	1	..	..	4	6	..	2	..	2	..	1	2	1	..	1	3	..	.	2	2	3	1	1	..	..	..	..	1	1	..
Sleet	3	26	12	4	..	..	..	1	3	1	..	..	..	..	1	1	..	1	1	..	..	..	..	..	2	..	1	..	4	1	..
Thund'rst'ms	3	29	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	1	..	10	10	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.05	30.81	11	29.50	28	13.6	38	n.	28	88	63	60	37
Devils Lake	30.07	30.74	11	29.52	14	10.7	31	ne.	29	88	68	67	55
Williston	30.07	30.88	11	29.65	27	9.3	26	e.	21	79	59	59	47
Fargo	30.04	30.73	11	29.42	29	.....	.....	.....	....	82	59	60	....
Moorhead, Minn	......	......	....	......	....	9.6	26	se.	2	....	....	....	49

† And other dates.

COMPARATIVE DATA FOR APRIL

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	37.6	75	− 2	2.58	3.09	2.29	2.65	6.3	7	10	6	14
1893	34.3	77	− 8	2.45	1.56	1.09	1.70	7.8	6	7	9	14
1894	42.8	92	12	3.66	2.93	2.50	3.03	4.4	9	8	10	12
1895	49.6	87	10	2.10	2.38	2.20	2.23	0.0	5	13	8	9
1896	40.1	92	2	5.50	3.73	2.18	3.80	5.1	9	9	8	13
1897	40.8	93	7	0.80	1.20	1.24	1.08	1.1	5	12	8	10
1898	41.9	87	− 4	1.38	1.36	1.40	1.38	0.5	5	14	9	7
1899	38.0	86	−22	1.46	1.31	1.31	1.36	6.3	6	12	10	8
1900	49.3	93	11	0.75	0.75	1.05	0.85	T.	3	20	6	4
1901	44.5	92	10	1.40	0.72	0.82	0.98	0.3	4	12	9	9
1902	40.2	87	− 2	1.35	0.88	0.95	1.06	2.9	3	12	8	10
1903	42.5	83	8	1.67	1.10	0.92	1.23	2.7	5	16	6	8
1904	37.4	91	2	2.22	1.21	0.72	1.38	8.1	5	13	5	12
1905	40.2	83	3	1.04	0.38	0.11	0.51	3.7	3	15	8	7
1906	46.7	88	8	1.96	1.06	1.48	1.50	1.3	5	14	7	9
1907	31.9	80	− 6	0.77	0.36	0.44	0.52	4.2	4	10	9	11
1908	43.9	91	−19	1.12	1.53	1.91	1.52	5.9	5	16	6	8
1909	34.2	80	3	0.95	0.71	0.64	0.77	5.1	6	10	9	11
1910	48.0	96	4	1.52	1.03	1.56	1.37	2.9	4	16	8	6
1911	41.5	90	− 5	2.12	0.80	0.64	1.19	6.3	5	15	6	9
1912	44.4	88	2	2.61	2.32	2.22	2.35	1.7	7	14	8	8
1913	46.8	94	11	1.00	0.70	0.23	0.64	2.4	4	16	6	8
1914	40.9	84	2	2.49	1.31	0.58	1.46	2.8	6	9	10	11
1915	50.3	99	5	1.42	0.98	0.68	1.03	T	5	15	8	7
1916	39.2	79	− 6	1.70	1.07	1.54	1.44	2.9	5	10	10	10
1917	37.2	73	5	1.89	1.67	1.49	1.68	5.6	7	9	9	12
1918	41.4	81	0	2.38	1.87	2.28	2.18	3.0	7	12	8	10
1919	42.3	79	6	1.45	1.40	1.72	1.52	6.2	6	11	9	10
1920	32.1	63	−11	0.73	0.67	1.12	0.84	2.1	5	13	8	9
1921	41.1	91	1	1.84	2.07	1.40	1.77	3.8	7	14	7	9
1922	42.3	89	− 2	1.17	0.79	0.79	0.92	2.3	6	10	9	11
1923	38.7	89	−15	1.22	1.63	1.51	1.45	7.2	5	13	8	9
1924	39.3	84	6	3.94	2.31	1.35	2.53	7.5	9	8	9	13
1925	47.8	85	10	2.21	1.37	1.22	1.60	T.	6	11	10	9
1926	42.8	98	− 4	0.17	0.34	0.32	0.28	0.9	3	17	8	5
1927	41.4	95	7	2.05	1.46	1.67	1.73	2.3	7	10	8	12
1928	35.9	84	− 6	0.92	0.88	0.92	0.91	5.0	5	12	10	8
1929	41.5	85	− 9	1.68	1.36	0.88	1.31	3.4	6	12	9	9
1930	47.3	86	8	1.16	1.14	1.45	1.25	0.5	6	14	7	9
1931	44.1	87	3	0.75	0.37	0.18	0.43	0.7	2	18	8	4
1932	44.1	79	0	2.50	2.09	1.84	2.14	0.7	8	9	9	12
1933	40.0	84	2	1.44	1.20	1.35	1.33	7.3	5	11	9	10
1934	43.7	95	7	0.75	0.34	0.24	0.44	1.9	3	15	8	7
1935	38.4	83	0	2.62	1.75	1.42	1.93	3.6	8	9	9	12
1936	35.6	87	−15	0.53	0.26	0.37	0.39	0.5	4	14	10	6
1937	40.7	79	2	3.44	1.56	1.06	2.02	5.8	8	8	9	13
1938	42.8	90	1	1.68	0.96	0.64	1.09	0.1	5	11	10	9
1939	41.6	90	− 1	0.93	0.66	1.03	0.87	0.8	6	12	9	9
1940	37.8	78	− 9	1.84	2.36	2.45	2.22	4.1	8	7	10	13
Period	41.4	99	−22	1.74	1.32	1.21	1.42	3.3	6	12	8	10

Climatological Data for April 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	41.1	−0.9	72	14†	8	11	43	1.35	−0.32	0.77	0.5	6	11	9	10	n.	James. H. Erickson.
Cavalier	Pembina	894	30	36.5	......	69	19	3	10	35	2.11	+0.76	1.00	5.0	5	12	7	11	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	36.0	−4.7	70	19	−3	12	36	1.77	+0.38	0.70	2.0	7	12	5	13	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	......	......	....	....	......	....	......	1.96	......	1.13	0.5	8	9	11	10	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	36.1	−2.7	68	18	3	11	33	2.54	+1.02	1.37	1.9	11	3	6	21	ne.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	38.8	−3.9	79	28	8	11	48	1.92	+0.15	0.73	1.5	9	1	22	7	ne.	O. A. Thompson.
Edmore	Ramsey	1,524	16	34.7	−5.9	65	18	−4	11	33	1.99	+0.77	0.69	2.7	7	21	7	2	ne.	Mike Davis.
Ellendale	Dickey	1,457	45	40.9	−2.7	74	14†	9	11	41	2.26	+0.47	0.55	6.7	10	7	9	14	ne.	J. E. Demmer.
Fargo	Cass	895	4	40.0	−0.6	72	14	9	11	42	0.92	−1.08	0.47	0.2	9	2	12	16	n.	W. B. Aerological Sta.
Forman	Sargent	1,249	47	39.4	−4.8	72	14	10	11	42	1.78	−0.09	0.62	4.0	6	13	5	12	ne.	Helge Dyste.
Fullerton	Dickey	1,439	42	40.8	−2.0	75	14	10	11	44	2.84	+0.70	0.76	3.0	9	5	10	15	n.	F. O. Alin.
Grafton	Walsh	827	48	38.0	−2.6	70	19	3	11	33	2.04	+0.83	1.14	4.0	3	7	12	11	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	37.8	−3.9	67	19	4	11	34	1.48	−0.14	0.55	3.8	8	2	6	22	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	41.8	−2.3	75	14	10	11	41	3.33	+1.16	0.95	6.0	8	12	2	16	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	48	35.4	−2.7	68	19†	−5	11	36	1.85	+0.81	0.75	6.8	4	10	14	6	ne.	Charles McAdams
Hillsboro	Traill	901	40	40.2	−2.6	69	14†	8	11	38	1.64	−0.20	0.91	3.0	8	14	6	10	ne.	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	40.6	−1.5	75	14	8	11	46	1.49	−0.09	1.17	3.0	7	6	9	15	ne.	S. G. Calvelage.
Langdon	Cavalier	1,615	44	34.4	−3.4	67	18	−9	11	42	1.99	+0.84	0.60	7.0	8	7	13	10	ne.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	37.2	−3.2	68	18	1	11	35	1.17	−0.43	0.49	1.4	5	8	3	19	ne.	W. L. Goodison.
Lisbon	Ransom	1,091	36	40.1	−2.3	75	15	8	11	42	1.77	−0.04	0.70	3.0	10	5	14	11	ne.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	35.7	−5.5	70	18	−4	11	38	1.84	−0.08	1.02	T.	9	5	11	14	ne.	C. E. Blasky.
McLeod	Ransom	1,075	29	41.0	−3.2	74	28	9	11	42	1.74	−0.29	0.71	3.8	4	16	7	7	n.	J. G. Carlson.
Mayville	Traill	975	44	38.5	−4.5	65	19	15	10†	31	1.40	−0.17	0.80	T.	5	1	24	5	ne.	H. B. Addicott.
Oakes	Dickey	1,318	11	39.4	−4.0	75	14†	9	11†	49	2.29	+0.33	0.61	5.9	12	5	13	12	n.	F. H. Murray.
Park River	Walsh	998	36	36.9	−4.4	68	20	1	11	35	2.64	+1.36	1.20	8.0	6	13	8	9	nw.	E. J. Taintor.
Pembina	Pembina	789	66	37.2	−1.4	71	19	−2	11	36	2.06	+0.86	0.90	6.0	3	11	10	9	n.	S. W. Douglass
Petersburg	Nelson	1,520	10	......	......	....	....	......	....	......	1.25	......	0.47	3.7	6	8	15	7	ne.	T. M. Rykken.
Sharon	Steele	1,516	16	36.0	−3.9	69	18	2	11	35	1.65	+0.15	0.89	1.0	10	5	11	14	n.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	41.0	−1.6	72	14	8	11	45	0.36	−1.18	0.22	1.0	6	12	9	9	ne.	I. C. Robertson.
Wahpeton	Richland	962	48	42.1	−2.3	72	14†	8	11	46	2.54	+0.61	0.72	0.7	8	6	10	14	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	39.8	−0.8	71	18	8	11	41	1.07	−1.11	0.39	0.7	9	7	10	13	n.	U. S. Weather Bureau.
Average for Eastern Division		......	....	38.5	−3.0	78	14	−9	11	48	1.84	+0.10	1.37	3.1	7	8	10	12	ne.	......
Middle Division																				
Ashley	McIntosh	2,001	44	36.7	−5.9	73	18	8	11	44	2.67	+1.01	0.66	2.4	10	12	4	14	ne.	Henry Doerr.
Bisbee	Towner	1,601	4	35.9	......	68	20†	−3	11	35	1.63	......	0.56	1.5	8	11	9	10	ne.	I. K. Lund.
Bismarck	Burleigh	1,670	66	39.1	−3.0	76	14	9	5	45	2.93	+1.41	1.07	7.5	10	1	12	17	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	35.0	−4.1	68	21	0	12	30	0.81	+0.04	0.36	2.5	9	8	13	9	ne.	N. D. School of Forestry
Carrington	Foster	1,579	42	36.5	−3.1	69	18	4	11	38	3.18	+1.93	1.63	0.2	6	7	7	16	.....	Soo Line Agent.
Carson	Grant	2,500	28	38.6	−4.1	74	14	4	5	40	5.02	+3.78	1.41	5.0	12	3	11	16	se.	J. W. Evens.
Center	Oliver	......	2	37.2	......	71	14†	8	5	44	4.20	......	1.70	6.0	7	9	7	14	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	38.6	−2.8	67	14	7	5	37	2.86	+1.62	0.95	14.0	9	2	11	17	nw.	R. L. Williams.
Drake	McHenry	1,634	11	36.7	......	70	20	9	11	42	2.73	......	1.35	6.5	12	3	9	18	nw.	Peter Anton.
Dunseith	Rolette	1,682	44	35.6	−4.3	69	20	−2	11	40	1.04	+0.22	0.67	6.0	6	3	23	4	n.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	35.8	−4.8	70	20	0	5	40	0.92	+0.06	0.40	10.0	8	7	15	8	ne.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	39.5	−4.5	71	14	7	5	42	2.60	+1.64	1.10	5.0	6	5	13	12	ne.	H. S. Solenberger.
Fessenden	Wells	1,610	28	37.8	−2.9	70	18†	5	11	38	3.08	+1.83	1.96	2.0	5	6	12	12	n.	John V. Zuber.
Fort Yates	Sioux	1,670	40	39.4	−5.5	69	14	12	11	37	3.41	+2.13	1.13	2.0	8	9	10	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	37.3	−3.6	68	20	8	11	35	1.08	−0.27	0.36	4.0	7	5	10	15	ne.	E. C. Bierbaum.
Gackle	Logan	1,951	10	37.8	......	72	18	7	11	39	1.67	......	1.18	0.2	10	5	11	14	nw.	A. H. Haut.
Garrison	McLean	1,901	63	38.2	−4.1	69	14	9	11	38	1.81	+0.72	0.76	7.5	10	3	8	19	n.	E. L. Vorachek.
Granville	McHenry	1,504	33	38.2	−2.6	70	20	6	11	40	1.98	+1.17	0.54	2.5	9	4	13	13	ne.	W. A. Christianson.
Hansboro	Towner	1,597	32	34.6	−4.3	66	19	−5	11	32	1.12	−0.14	0.53	4.0	4	8	14	8	nw.	W. E. Disher.
Linton	Emmons	1,711	23	41.2	−1.5	76	14†	5	5	44	4.82	+3.57	2.50	6.8	11	7	11	12	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	38.2	−2.9	79	19	3	5	42	3.70	+2.5.	1.20	9.0	6	5	11	14	ne.	F. W. Perry.
Maddock	Benson	1,604	25	37.1	−3.9	69	18	3	11	36	1.33	+0.20	0.74	1.0	8	4	15	11	nw.	A. T. Felland.
Mandan	Morton	1,750	26	39.0	−3.7	73	14	9	5	42	4.24	+3.07	1.96	7.2	8	3	7	20	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	......	......	....	....	......	....	......	2.91	+1.67	1.90	5.0	7	7	9	14	nw.	P. B. Anderson.
Max	McLean	2,093	11	35.7	......	68	20	8	11	35	1.68	......	0.27	4.2	12	5	9	16	ne.	A. W. Rice.
Minot	Ward	1,557	44	38.6	−2.2	69	20	10	11	39	1.63	+0.43	0.67	1.9	9	1	3	26	ne.	Kenneth Chatfield.
Mohall	Renville	1,646	47	36.0	−4.5	67	20	4	5	35	1.92	+1.02	0.69	14.0	8	6	17	7	se.	Iver Johnson.
Napoleon	Logan	1,955	48	38.4	−3.0	77	14	7	11	47	2.11	+0.57	0.85	5.0	12	11	5	14	ne.	C. J. Hoof.
New Salem	Morton	2,163	36	38.2	−4.2	73	14	5	5	41	3.47	+2.43	1.78	4.2	10	8	10	12	n.	J. Christianson.
Pettibone	Kidder	1,856	31	38.3	−2.6	72	14	7	11	42	2.00	+0.88	1.52	0.7	4	5	11	14	nw.	Sam Loeppke.
Rolla	Rolette	1,860	3	34.7	......	67	20	−2	11	34	1.51	......	0.44	4.9	6	6	10	14	se.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	......	......	....	....	......	....	......	2.20	+1.37	1.10	0.3	8	8	13	9	ne.	W. B Paterson.
Ryder	Ward	2,108	11	......	......	....	....	......	....	......	1.62	+0.82	0.44	4.0	8	8	8	14	ne.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	......	......	....	....	......	....	......	3.87	......	1.32	1.0	12	1	14	15	nw.	J. B. Smith.
Steele	Kidder	1,857	46	38.2	−5.0	74	14	7	11	43	2.49	+1.33	1.77	1.0	9	4	8	18	ne.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	......	......	....	....	......	....	......	1.08	+0.09	0.67	9.0	9	10	6	14	ne.	G. N. Pilgard.
Timmer	Morton	......	3	......	......	....	....	......	....	......	2.81	......	1.35	4.0	7	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	38	37.6	−4.3	71	18	5	11	47	2.15	+1.28	0.70	6.0	8	6	15	9	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	39.1	−2.4	70	14	4	5	39	2.37	+1.34	1.39	5.1	6	3	11	16	n.	Albert H. Slettum.
Tuttle	Kidder	1,936	32	......	......	....	....	......	....	......	2.71	+1.74	1.70	2.4	8	5	10	15	n.	Adam Leno.
Velva	McHenry	1,511	13	38.8	−3.3	70	20	10	11	41	2.21	−1.30	0.72	5.0	10	5	11	14	ne.	Oscar Anderson.
Washburn	McLean	1,731	39	39.8	−4.0	73	14	10	11	40	2.79	+1.82	1.41	4.0	9	10	4	16	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	36.4	−3.5	69	20	0	5	35	0.96	+0.16	0.65	9.0	4	11	6	13	ne.	John J. Egger.
Willow City	Bottineau	1,471	48	34.9	−4.7	68	20	−1	11	40	1.48	+0.61	0.62	3.0	5	12	10	8	ne.	O. M. Sanderson.
Wilton	McLean	2,159	4	37.6	......	72	14†	8	10	51	2.08	......	1.25	6.0	8	15	4	11	nw.	Soo Line Agent.
Wishek	McIntosh	2,010	19	37.4	−4.5	73	14	9	10	45	2.18	+0.83	0.66	2.0	15	3	9	18	nw.	H. M. Larson.
Zap	Mercer	1,838	25	......	......	....	....	......	....	......	1.99	+1.09	0.61	5.0	5	13	8	9	nw.	John Kaufman, Jr.
Average for Middle Division		......	....	37.5	−4.0	77	14	−5	11	51	2.36	+1.04	2.50	4.7	8	6	10	14	ne.	......

Continued on page 16

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, b represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for April 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red		.01	T.	.01					T.	02									.06			T.						.77	.48	T		1.35
Cooperstown[2]	Sheyenne	T.		.19	.03	T.			T.	T.	.03									T.	T.	T.	.06				T.		.28	.70	.48		1.77
Courtenay	James	.01	.18	.03	T			.03		.01	T																	.10	.47	1.13			1.96
Devils Lake[1]‡	Devils Lake	.02	.24	.07	.03			.08	T.	.05	T.					T.			T.	.01		.03		T.			T.	.02	1.00	.99			2.54
Edgeley	James		.18	.12	.03					.04										.34		.15	.23						.10	.73			1.92
Edmore	Devils Lake		T.	.60	.01			.07															.05					.11	.69	.46			1.99
Ellendale	James		.18	.55	.11					.04	T.									.02		.17	.32			.05			.43	.39			2.26
Fargo	Red	T.	.15	.34	T.			T.	T.	.02	T.									.05		.03						.01	.19	.11	.02		0.92
Forman	Sheyenne		.16	.32																		.05	.09						.62	.54			1.78
Fullerton	James		.32	.36	.14					.18	T.									.76		.18	.34			T.		T.	.30	.26			2.84
Grafton	Red			1.14				T.															T.						.72	.18			2.04
Grand Forks[1]‡	do	T.	.35	.37	.03			T.		.04												T.	T.					.03	.55	.09	.02		1.48
Hankinson[2]	do		.45	.95	.70					.05										T		T.		.04					.95	.17	.02		3.38
Hannah	Pembina			.75							T											T.		T.				.38	.47	.25			1.85
Hillsboro	Red	T.	.35	T.	T.					.02	.02									T.		.01	.02					T.	.91	.26	.05		1.64
Jamestown	James		T	.21	.02			.02		.03	.02												.02					T.		1.17			1.49
Langdon	Pembina			.60	.12																	.15	.02		T.			.05	.59	.45	.01		1.99
Larimore	Red			.40	.02			T.		T.												T.							.49	.22	.04		1.17
Lisbon	Sheyenne		.21	.02	.12	.03				.01	.27	T								.07	.03			T.					.70		.31		1.77
McHenry	James	.03	.01	.02	.02			T.		.02	T.											.02						.04	.66	1.02			1.84
McLeod	Sheyenne			.34	T.						.04									T.									.65	.71			1.74
Mayville	Red		T.	.02						T.												T.	.02					.05	.51	.80	T.		1.40
Oakes[2]	James		.16	.02	.38	.04				T.	.12									.01	.18		.32	.01					.61	.01	.43		2.29
Park River	Red		.08	1.20	.03																							T.	.85	.40	.08		2.64
Pembina	do				.60			T.																				T.	.56	.90			2.06
Petersburg	do		.26	.22	.09					.03																		T.	.47	.18			1.25
Sharon	do	.02	.06	.34	.03			.01		.02	T											.07	T.	T.				.03	.18	.89	T.		1.65
Valley City	Sheyenne		.01	.04	.01					.04										T.									.04	.22			0.36
Wahpeton	Red		.37	.60	.04					T.	.14									.04								T.	.72	.61	.02		2.54
Moorhead, Minn[1]‡	do		.18	.27	.01			T		.03										.02		.02						T.	.39	.13	.02		1.07
Middle Division																																	
Ashley[2]	Missouri		.02		.49	.03					.07									.03			.66		.04	T.			.16	.63	.54		2.67
Bisbee	Devils Lake	T.	T.	.35	.05			.05		.01		T.											.05					.06	.56	.50			1.63
Bismarck[1]‡	Missouri	T.	.18	.45	.04			.03	T.	T.	T	T		T.					T.			.45	.01		T.	.01	T.	.02	1.05	.69			2.93
Bottineau[2]	Mouse		.09	.36	.07					.03	0.01						.02			.01								T.	.13	.09			0.81
Carrington[2]	James		.03	.10						.03				T															.56	1.63	.83		3.18
Carson	Heart		.27	.53	.10					.06								.13				1.15	.81		.12	.15			1.41	.19	.10		5.02
Center	Missouri		.08	.60							T.											20	.18			T			1.70	1.32	.12		4.20
Dogden Butte	Mouse	.17	T.	.54	.05			T.		.07	T					T				.02		.10	.06			T.		T.	.90	.95			2.86
Drake[2]	do	.10		.05	.12			.02		.04		.01								.02			.08			T.		.01	.29	1.35	.64		2.73
Dunseith	do	T	T.	.67	.02					T.	T.					T.				T.		.02						.01	.30	.02			1.04
Eckman	do	.10	.10	.40	.05					.05	T									.05			T.					.01	.16				0.92
Energy	Missouri	T.	.10	.20	.40					T										T.		T.				.05		T.	1.10	.75			2.60
Fessenden	James	T	T	.26	.09					.08	T					T.			T.			T						T.	.69	1.96			3.08
Fort Yates	Missouri		.24	.28	T.			T.		.10												.32	1.13		.17	T.			.17	1.00			3.41
Foxholm (near)	Mouse	.36	.26	.13	.02					T.	T								T.	.02		T.	.10					T.	.19				1.08
Gackle	James		.04	.20	02			.01		T.	T									.07		.03	T.			.02		.03	.07	1.18	T.		1.67
Garrison[1]	Missouri		.04	.42	.32		T			.02	T.									.03		.04	.07			.06		T.	.76	.05			1.81
Granville	Mouse	.04	T	.54	.06			T		.11	T.					T.				.04		.12				.02		T.	.52	.53			1.98
Hansboro	Devils Lake		.06	.18							T.																	T.	.53	.35			1.12
Linton	Missouri		.02	.55	.05					.03										.01		.15	.73		T.	.03			.72	2.50	.03		4.82
McClusky	do		T.	.66	.64										T.					.16							T.		1.20	.95	.09		3.70
Maddock	Sheyenne	T.	.01	.05	.02			.03		.03	T.					T.				T.		.11						T.	.34	.74			1.33
Mandan[2]	Missouri	T.	.58	.11	T.		.02		T.		T.				T.				T.		T.	.45			.03	T.	T	.61	1.96	.48			4.24
Max[2]	do	.03		.24	.14			.18		.02									.03			.22			.02		.03	.26	.24	.27			1.68
Minot[1]	Mouse	.23	.23	.25	.02					.03	T.	T.		T.		T.				.03		.11	T.			T		T.	.67	.06			1.63
Mohall	do	.26	.27	.69	.50					.05	T									.03		.06						T.	.06				1.92
Napoleon[2]	Missouri		.05	.15	.15	.05				.01										.03			.20	.04		.02			.16	.85	.40		2.11
New Salem	Heart		.14	.19	.15						T.			T.						.01	T.	.35	.33			.14			1.78	.33	.05		3.47
Pettibone	James	T.	T.		.04			T.								T.				.02		T							.42	1.52			2.00
Rolla	Devils Lake	T.	T	.43	.06					T.	T.					T.						.18						.01	.44	.39			1.51
Rugby (near)	Mouse	.02	.15	.07			.03			.03	T.			T						.02		T						T.	.78	1.10			2.20
Ryder	Missouri		.35	.07			.03		.03		T								.10			.44					T.	.20	.40	T.			1.62
Selfridge	do		.12	.08	.04				T.	.05	T.	T.			T.		.08				.73	1.32	.05		.40	T.	T.	.20	.55	.25			3.87
Steele	do		T.	.09	.02			T		.01										.03		.01	T.			.01			.53	1.77	.02		2.49
Tagus	Mouse	.18		.67	.02				T.	.03	.01			T.		T.	T.			T		.02	.02			.07		T.	.06				1.08
Towner	do		.10	.30	.10			T.		.10						T.				.14		.05					T.	T	.66	.70			2.15
Turtle Lake	Missouri		.02	.40	.06			T		.02																		T.	1.39	.48			2.37
Tuttle	do		.03	.12	.04			.01		.01	T								T	.30		T.				T.			.50	1.70	T.		2.71
Velva	Mouse	.28	.13	.16	.05					.06	T.								T	.06		.20	.02			T			.53	.72			2.21
Washburn	Missouri	.04	T.	.37	.06					T	T.									.10		T	.08			.02		T.	1.41	.63	.08		2.79
Westhope	Mouse	.21		.65						.05																			.05				0.96
Willow City	do	.08		.35						.12	T.					T						T						T	.62	.31			1.48
Wishek[2]	Missouri	.05	.15	.18	.05			.03	T.	.02	.01		T.		T		T.		.06	T.	.09	.40	.02	T.	.04	T		.07	.66	.35			2.18
Zap	Knife	T.		.50																		.45				.18			.61	.25			1.99
Western Division																																	
Alpha	Lit. Missouri	.02	.25	.11	.02		.11		T.	.02							T				.05	2.63	.18		.05	.01	T.	2.11	.26		T		5.82
Amidon	do		.12	.15	.02		T.	.03		.04							.06	.09				1.70	.70		.15	.03			1.67				4.76
Beach[2]	do		.16	.06	.04			.03	T.	T.	T.						T		T		T.	1.01	.67		.03	.04		.06	.16				2.26
Berthold Agency	Missouri			T.	.16	.32																.19					.56						1.23
Bowman[2]	Grand	T	.04	T.			.01											.08		.05		1.24	1.09			.13	T.	.03	1.20	.16			4.03
Crosby[2]	Mouse	.35		.36	.35					.07																.14							1.27
Dickinson[2]	Heart	.07	T.	.40	.07			.03	T.		T.	T	T.				.02	.03		T		.60	1.77	.02		.25	.05	.01	1.33	.37			5.02
Dunn Center[2]	Knife			.15	.10							T.						T		.04			.98			.48	.03	.02	.50	.14			2.44
Epping	Missouri			.30																					.22								0.52
Fairfield	Lit. Missouri	T.	.07	.18				T.	T	T.								.05				.87	.13		.33	.43	T.	.41					2.47
Fryburg	Heart	T.	.17	.37	.07		.03	.02	T.	T.	T.	T.				T.	T				T.	2.10	.33		.09	.21		.13	1.02				4.54
Hettinger	Grand	T.	.17	.14	T			T.		T.							.06	.03	T.			1.01	.62		.20	.07	.02		.66				2.98
Howard (near)	Missouri		.20	.30					T.																.10	.51							1.11
Kenmare[2]	Mouse	.27		.49	.30					.04													.04			.05			.03				1.22
Marmarth[2]	Lit. Missouri		.22	.04			.13		.03	.04						.04	.09		T.		1.15	.36	.04		.07	T.		.96	.01				3.18
Mary	do	T.	.10	.33						T												.43	.14		.15	.10		.04	.06				1.35
Medora	do		.25	.17	T		.02	.03	T.	T.	T	T					T.		T.			2.83	.19		.20	.05	T.	.33	.33				4.40
Mott	Cannon Ball		.11	.22	T.				.03	.05	T	T.					T	.04				1.21	.44	T	.02	.22	T		.63	.01	T.		2.98
New England[2]	do		.46	.04				.03	.05								.11				.69	1.88			.57			1.21	.08				5.12
Parshall[2]	Missouri	.01		.26	.08					.01	T	T								.05	.03		.35			.06	.02	.01	.17	.02			1.07
Portal[2]	Mouse	.18		.14	.55											T.										.01							0.88
Powers Lake	Missouri		.41						.03	.19														.36	.34								1.33
Richardton	Heart	.04	.17	.36	.27			.01	T	T.		T.					T.		T.			.97	.44		.06	.14	T		1.36	.04			3.86
Sanish[2]	Missouri	.02		.45	.12															.05			.35		.28	.11	.04	.03	.02				1.47
Stanley	do	.19	.26	.12						.11													.06			.14		.06	.07				1.01
Tioga	do		.20	.20					.10													.05			.03	.50	T.	T.					1.08
Trotters	Lit. Missouri	T.	.50	.38							T.						T		T.			1.64			.23	.08	.03						2.81
Watford City	Missouri		.12	.24	.18					.09												.32	.06		.36	.22		.04	.03				1.66
Wildrose	do																																
Williston[1]‡	do		.22	.29	.01				.05	.02						T.			T.			.05			.34	.07		.02	.02				1.09

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for April 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley §	Maximum	39	34	35	35	38	48	38	48	42	34	29	43	64	72	50	48	54	73	66	67	50	49	46	47	44	47	54	65	45	45	....	48.3
	Minimum	19	25	23	12	9	18	30	24	27	12	8	10	21	30	30	27	25	29	38	32	37	35	22	22	31	24	33	42	30	27	....	25.1
Beach	Maximum	42	37	33	34	38	40	36	43	40	35	26	51	70	69	54	42	58	72	60	66	57	51	49	43	43	45	67	55	54	53	....	48.8
	Minimum	27	27	25	22	15	31	25	27	30	18	6	14	32	41	33	29	23	38	39	35	42	35	28	32	31	34	44	44	33	27	....	29.7
Bismarck	Maximum	38	35	33	32	40	53	38	47	42	36	29	50	66	76	51	45	55	70	64	70	52	53	48	47	43	47	64	53	40	48	....	48.8
	Minimum	26	32	28	16	9	33	31	27	28	15	12	16	32	31	31	32	26	40	37	34	45	33	25	26	35	34	47	39	32	30	....	29.4
Bottineau§	Maximum	34	34	40	32	42	35	42	38	42	30	19	21	41	49	52	46	40	54	67	63	68	60	49	44	47	52	53	54	47	41	....	44.5
	Minimum	24	24	28	14	12	21	26	18	21	14	2	0	15	30	33	26	20	28	42	34	44	32	21	27	34	36	38	45	33	25	....	25.6
Carson	Maximum	40	34	34	33	40	42	45	47	41	37	28	52	71	74	55	44	54	72	66	70	58	44	48	40	38	45	67	55	45	50	....	49.0
	Minimum	24	28	25	15	4	25	29	23	33	19	8	12	31	39	31	32	25	33	35	40	42	32	25	29	32	32	43	38	31	28	....	28.1
Crosby §	Maximum	34	33	30	37	40	40	36	40	35	21	21	43	56	56	40	41	57	66	61	65	61	51	50	45	45	47	62	57	53	51	....	45.8
	Minimum	25	24	26	15	2	6	19	18	18	19	2	4	12	34	32	25	25	25	34	35	39	30	24	24	26	29	34	43	28	24	...	23.4
Devils Lake	Maximum	34	34	31	33	36	44	38	40	27	26	24	39	50	60	43	39	51	68	65	66	54	49	40	48	49	55	55	51	38	43	....	44.3
	Minimum	24	28	28	20	12	25	28	23	20	6	3	13	29	30	31	30	26	35	44	37	41	34	32	25	33	36	43	40	34	27	....	27.9
Dickinson §	Maximum	42	34	31	32	41	45	32	45	42	32	27	25	71	70	50	40	56	72	65	69	46	51	51	41	38	47	74	49	51	50	....	48.2
	Minimum	26	27	27	24	6	13	30	21	21	23	8	9	15	33	31	32	20	24	36	35	36	32	26	28	31	31	35	44	32	28	....	26.1
Dunn Center §	Maximum	38	29	25	35	44	31	40	32	27	28	55	70	71	37	40	57	65	64	63	43	45	43	33	35	47	58	48	45	50	60	....	44.5
	Minimum	25	23	28	23	10	14	30	20	26	23	7	10	20	36	31	30	19	30	34	34	42	33	24	27	32	32	35	45	32	27	....	26.8
Fargo	Maximum	37	38	34	36	48	54	45	46	35	32	28	39	54	72	50	47	49	71	60	68	61	57	46	53	53	60	61	68	59	35	....	49.9
	Minimum	26	33	31	28	22	34	33	29	29	11	9	19	24	30	32	26	26	29	39	29	43	37	29	21	31	40	47	52	35	30	....	30.1
Fessenden §	Maximum	33	35	33	31	37	52	46	44	36	26	26	44	56	69	45	45	56	70	70	67	62	51	46	51	51	54	54	55	43	45	....	47.8
	Minimum	23	29	28	22	9	28	31	25	22	14	5	15	29	32	31	31	24	32	41	32	42	35	25	24	35	27	44	43	32	27	....	27.9
Fullerton	Maximum	38	37	34	34	42	51	48	48	44	37	28	45	61	75	63	47	52	72	69	65	61	51	46	51	51	55	58	72	60	45	....	51.3
	Minimum	23	32	32	28	19	27	31	28	28	20	10	20	25	32	31	27	27	28	46	34	44	40	28	25	37	28	46	51	28	30	....	30.2
Garrison §	Maximum	37	35	32	36	40	46	37	47	31	29	27	47	63	69	44	46	54	68	66	68	55	52	49	48	46	46	64	49	43	49	....	47.4
	Minimum	24	29	28	26	13	30	31	24	28	20	9	15	36	31	30	31	23	37	37	37	42	32	24	24	33	30	43	43	34	29	...	29.1
Grafton	Maximum	42	41	39	38	37	40	39	40	32	30	25	37	43	51	51	44	48	67	70	68	65	62	50	51	52	59	58	58	48	43	....	47.6
	Minimum	23	29	29	23	17	22	33	22	21	16	3	15	19	30	32	29	26	34	41	35	41	39	33	29	33	35	43	36	39	29	....	28.5
Grand Forks	Maximum	39	39	35	36	38	48	38	39	27	26	27	37	49	64	46	39	46	66	67	66	63	52	43	49	50	59	60	60	47	37	....	46.5
	Minimum	25	32	30	23	15	26	30	23	23	8	4	15	27	30	29	26	27	32	43	39	45	32	32	26	31	38	51	46	35	30	....	29.1
Jamestown §	Maximum	36	36	35	35	44	49	49	48	44	31	29	44	58	75	62	47	52	69	68	72	67	56	54	53	51	56	57	63	53	43	....	51.2
	Minimum	24	31	30	28	15	29	32	28	26	18	8	18	27	29	32	27	26	32	48	36	43	40	26	25	37	27	47	47	35	30	....	30.0
Kenmare §	Maximum	27	34	36	30	36	37	37	37	40	31	21	22	44	57	57	41	42	53	63	60	66	59	50	46	45	46	45	57	54	51	....	44.1
	Minimum	23	24	27	8	1	5	21	22	24	21	8	10	16	33	32	26	25	33	35	32	36	31	24	23	30	33	36	44	30	26	....	24.6
Langdon	Maximum	37	36	35	44	40	38	45	35	32	32	26	34	43	49	45	40	45	67	65	65	62	59	45	46	47	55	53	50	46	49	....	45.5
	Minimum	21	21	26	15	7	19	28	12	16	13	− 9	6	18	25	29	24	23	34	23	34	37	32	27	21	30	33	40	41	32	23	....	23.4
Marmarth §	Maximum	43	39	37	37	42	42	30	43	32	35	34	53	74	68	40	40	60	75	64	66	48	48	48	40	45	47	75	53	58	53	....	49.3
	Minimum	31	27	27	21	25	28	28	27	28	8	12	30	34	32	27	27	29	35	34	40	38	32	33	34	35	40	47	32	27	28	....	29.9
Minot	Maximum	38	38	32	34	41	50	39	44	37	28	26	50	60	64	58	45	55	67	66	69	65	50	49	50	53	51	61	58	46	48	....	49.1
	Minimum	25	30	29	16	14	28	31	26	24	17	10	13	33	33	29	30	22	35	35	30	41	32	23	22	35	31	45	44	34	27	....	28.1
Mott	Maximum	47	47	34	33	44	52	40	45	45	42	39	55	72	72	69	53	53	75	76	71	69	48	53	49	40	44	71	69	49	52	....	53.6
	Minimum	39	29	22	23	9	31	27	25	31	23	8	12	34	34	29	33	28	37	33	31	44	34	27	31	32	35	42	33	32	27	....	29.2
Pembina	Maximum	46	45	45	48	40	46	47	37	33	30	28	36	43	41	42	41	50	65	71	68	70	54	47	50	51	59	59	55	47	46	...	48.0
	Minimum	17	26	36	29	6	19	33	15	15	9	− 2	12	21	27	29	29	26	35	35	38	34	37	31	28	31	34	30	43	37	28	....	26.3
Sharon	Maximum	33	34	31	31	39	40	39	40	27	22	24	35	48	63	45	41	47	69	64	65	54	50	42	48	47	56	56	56	42	38	....	44.2
	Minimum	22	26	28	25	13	25	30	20	20	9	2	12	24	29	31	29	26	34	47	36	42	38	29	26	31	33	44	42	32	27	....	27.7
Steele	Maximum	32	32	33	33	42	52	49	50	45	32	27	47	63	74	58	43	56	73	65	69	69	48	43	50	47	49	60	60	43	45	....	49.6
	Minimum	22	29	28	25	13	29	30	25	25	15	7	11	26	31	28	26	21	30	35	33	40	38	21	18	31	22	43	43	32	27	....	26.8
Valley City	Maximum	35	35	35	35	45	53	52	47	47	31	31	42	57	72	68	47	50	70	70	66	65	59	55	51	51	55	60	68	53	40	....	51.5
	Minimum	25	31	32	29	16	30	32	27	27	22	8	19	25	27	33	27	25	32	48	32	45	41	28	28	35	28	46	51	38	30	....	30.6
Wahpeton	Maximum	40	39	38	40	47	54	53	47	46	43	29	42	55	72	72	51	51	67	70	67	67	57	53	55	54	57	59	69	64	44	...	53.4
	Minimum	28	31	32	30	25	31	36	29	29	22	8	18	26	26	31	27	27	29	36	31	47	41	26	22	35	33	44	51	42	30	....	10.8
Williston	Maximum	36	36	31	34	39	42	35	40	34	30	24	50	68	58	42	43	61	70	61	67	58	52	48	38	42	46	64	58	55	51	....	47.1
	Minimum	27	29	25	18	18	28	27	25	30	12	7	17	35	37	34	30	26	37	42	44	44	34	29	32	34	38	45	43	32	27	....	30.2

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for April 1940—Continued from page 14.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	......	......	....	...	....	....	......	5.82	+4.65	2.63	4.0	13	9	8	13	se.	H. A. Bury.
Amidon	Slope	......	17	38.2	−3.0	71	14†	4	11	41	4.76	+3.50	1.70	1.0	12	4	13	13	nw.	J. G. Jacobson.
Beach	Golden Valley	2,759	34	39.2	−2.8	72	18	6	11	38	2.26	+1.11	1.01	2.7	10	1	12	17	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	40.0	−3.5	71	19	10	12	40	1.23	+0.22	0.56	6.0	4	10	5	15	nw.	H. W. Chase.
Bowbells	Burke	1,958	11	34.9	−6.5	66	20	1	5	36	0.66	−0.31	0.43	4.0	3	4	8	18	nw.	Charles Kaufman.
Bowman	Bowman	2,872	25	38.6	−4.0	72	19	10	11†	29	4.03	+2.91	1.24	0.8	10	8	3	19	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	31	34.6	−5.6	66	18	2	5†	44	1.27	+0.29	0.36	10.8	5	6	9	15	e.	J. H. Phelps.
Dickinson	Stark	2,543	47	37.2	−4.9	74	27	6	5	56	5.02	+3.94	1.77	3.7	14	6	7	17	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	35.6	−6.2	71	14	7	11	50	2.44	+1.18	0.98	3.0	9	7	6	17	n.	O. T. Evenson.
Epping	Williams	2,224	29	36.0	−6.2	70	18	4	11	38	0.52	−0.51	0.30	2.0	2	14	6	10	ne.	T. Beachler.
Fairfield	Billings	......	3	......	......	...	....	....	....	......	2.47	....	0.87	5.5	8	8	10	12	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	21	38.2	......	73	18	7	11	40	4.54	+3.37	2.10	4.6	11	3	10	17	nw.	Verne King.
Hettinger	Adams	2,675	32	40.2	−2.6	73	18	8	11	40	2.98	+2.01	1.01	3.0	10	1	11	18	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	35.6	−3.5	68	19	− 6	11	37	1.11	−0.01	0.51	10.1	4	8	9	13	ne.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	34.4	......	66	21	1	5	35	1.22	+0.27	0.49	3.0	7	12	10	8	ne.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	39.6	−3.4	75	18†	8	10	40	3.18	+2.16	1.15	2.6	13	3	6	21	nw.	S. P. Grane.
Mary	McKenzie	......	11	......	......	....	....	....	....	......	1.35	+0.46	0.43	5.0	8	8	8	14	nw.	Fred Hartman.
Medora	Billings	2,271	24	......	......	....	...	....	...	......	4.40	+3.37	2.83	3.0	10	5	13	12	nw.	Vernon Thompson.
Mott	Hettinger	2,424	32	41.4	−0.4	76	19	8	11	43	2.98	+1.77	1.21	2.2	11	6	8	16	se.	P. G. Wick.
New England	Hettinger	2,400	45	39.8	−2.5	75	18	9	4†	44	5.12	+4.11	1.88	4.5	10	3	9	18	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	24	36.6	......	68	19	8	11	34	1.07	+0.12	0.35	2.0	12	2	18	10	nw.	C. E. Shubert.
Portal	Burke	1,954	34	34.0	−7.4	67	20	2	6†	37	0.88	−0.09	0.55	9.5	4	14	7	9	n.	R. G. Wegener.
Powers Lake	Burke	2,205	34	35.0	−5.3	64	18†	− 2	10	34	1.33	+0.12	0.41	11.5	5	12	11	7	e.	Geo. B. Gee.
Richardton	Stark	2,467	23	38.2	−2.9	71	18	7	11	37	3.86	+2.72	1.36	7.0	11	10	8	12	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	14	38.4	−3.4	60	18	6	11	40	1.47	+0.40	0.45	2 0	10	3	15	12	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	2	35.4	......	66	19	4	11	34	1.01	....	0.26	3.1	8	5	11	14	nw.	Leroy Edwards.
Tioga	Williams	2,279	11	......	......	....	....	....	....	.....	1.08	+0.42	0.50	5.0	6	9	8	13	nw.	B. V. Olson.
Trotters	Golden Valley	......	14	......	......	...	....	....	....	......	2.81	+1.78	1.64	6.0	6	5	12	13	se.	Walter Gunewald
Watford City	McKenzie	2,084	26	38.6	−2.5	71	18	8	11	36	1.66	+0.50	0.36	3.0	10	7	11	12	n.	J. C. Zeller.
Wildrose	Williams	2,258	12	....	......	..	....	....	....	......	......	... ..	.....	.....	.....	.....	.....	.....	.....	L Holter.
Williston	Williams	1,878	60	38.6	−3.4	70	18	7	11	35	1.09	−0.11	0.41	5.3	10	8	9	13	e.	U. S. Weather Bureau.
Average for Western Division		......	.....	37.4	−4.2	76	19	− 6	11	56	2.45	+1.24	2.83	4.5	9	7	9	14	nw.	....
Average for the State		......	.....	37.8	−3.6	78	14	− 9	11	56	2.22	+0.80	2.83	4.1	8	7	10	13	ne.	....

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

Vol. XLIX BISMARCK, N. D., MAY 1940 No. 5

PRICE: 5 CENTS A COPY; 25 CENTS A YEAR (NOT STAMPS)
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GENERAL SUMMARY

The temperature averaged considerably above the May normal in the western division and slightly above normal in the eastern and central divisions. Only a few stations, mostly in the northeastern part of the state, recording readings below freezing after the 15th. The precipitation was well distributed throughout the month and although it averaged slightly below normal it was sufficient for crops due to more generous amounts during April. The greatest amounts occurred in the northwestern and north-central sections, while the least occurred in the northeastern and southwestern sections. A tornado in Morton, Oliver, and Burleigh Counties on May 5 caused considerable property loss, but crops were not sufficiently advanced to be damaged. May was an excellent month for outdoor work. By the close of the month small grains were coming up with good stand, and pastures and ranges, though late, were greening rapidly.

TEMPERATURE

The mean temperature for the state was 54.9°, or 1.3° above the 1892-1940 average for May. The mean temperature for the eastern division was 54.5°; for the middle division, 54.6°; and for the western division, 55.5°. The highest mean temperature was 59.9° at Bowman, and the lowest, 51.6° at Edmore and Hansboro, making a range in mean temperature of 8.3°. The absolute range was 79°, from 96° at Berthold Agency on the 11th, to 17° at Mohall on the 1st. The average daily deficiency in temperature for the state since January 1, 1940, is 0.1°.

PRECIPITATION

The average precipitation for the state was 1.97 inches, or 0.32 inch less than the 1892-1940 average for May. In the eastern division the average amount was 1.60 inches; in the middle division, 2.26 inches; and in the western division, 2.06 inches. The greatest monthly amount reported was 4.58 inches at Portal; the least was 0.44 inch at Hettinger. The greatest amount recorded in any 24 consecutive hours was 2.31 inches at Garrison on the 13th. The accumulated excess in precipitation for the state since January 1, 1940, is 0.36 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	2	1	..	1	..	..	..	1	3	3	3	2	..	1	1	..	2	1	..	..	1	1	3	6	5	1	2	2	2	..	..
Dust storms	..	..	..	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	..	..	..	1	6	..	4	1	8	..	..	1	..	1	1	..	..	1	1	1	..	..	1	..	..	1	..	1	1	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	1	..	..	..	..	3	..	..	..	..	..	1	..	..	..	1	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..
Hail	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	1	..	1	5	11	1	1	..	..	..	1	8	5	..	..	6	4	2	..	2	1	1	1	..	..	..	..	..	..	2	2

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.99	30.40	8	29.53	5	10.6	38	w.	5	83	45	42	60
Devils Lake	29.98	30.35	10	29.48	5	8.5	33	n.	5	80	54	50	66
Williston	29.97	30.36	8	29.56	19	7.3	25	e.	13	81	44	39	75
Fargo	29.96	30.34	10	29.50	20	....	....	....	....	78	46	46	....
Moorhead, Minn	....	....	....	....	....	8.6	27	w.	5	....	....	....	64

† And other dates.

COMPARATIVE DATA FOR MAY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	46.6	96	13	3.43	1.84	1.33	2.20	3.9	12	6	8	17
1893	52.2	97	19	1.29	1.14	2.40	1.61	0.2	6	11	8	12
1894	54.6	98	23	1.40	1.24	1.88	1.51	0.0	5	16	9	6
1895	54.4	101	15	2.60	2.88	2.57	2.48	0.0	8	10	11	10
1896	56.9	103	22	5.44	3.70	5.81	4.95	0.0	13	6	14	11
1897	55.4	97	16	0.85	0.61	0.60	0.67	T.	4	16	10	5
1898	52.7	92	14	1.95	1.84	2.15	1.98	0.0	5	15	9	7
1899	50.6	91	16	3.40	4.80	2.27	3.49	0.4	8	9	9	13
1900	59.2	106	15	0.78	0.70	0.59	0.69	0.0	3	18	8	5
1901	60.0	99	19	0.35	0.24	0.33	0.31	T.	2	21	4	6
1902	55.9	94	24	4.31	3.33	3.06	3.57	0.4	10	13	6	12
1903	54.3	96	11	2.52	3.35	3.50	3.12	T.	4	14	8	9
1904	54.2	93	20	2.05	1.64	1.10	1.60	T.	6	14	9	8
1905	50.1	88	10	4.24	2.78	1.72	2.91	4.0	8	12	8	11
1906	50.8	99	11	4.41	4.74	5.59	4.91	0.4	12	9	8	14
1907	44.0	84	6	1.52	1.02	1.39	1.31	3.1	6	12	10	9
1908	50.8	88	9	3.54	2.58	2.57	2.90	0.9	8	13	7	11
1909	51.0	98	5	4.78	3.92	4.68	4.46	0.1	10	12	9	10
1910	50.7	94	10	0.86	0.95	1.28	1.03	0.1	6	12	11	8
1911	55.0	99	6	4.06	2.25	2.39	2.90	T.	8	14	9	8
1912	54.2	90	16	4.17	4.59	4.42	4.39	0.7	11	10	10	11
1913	51.2	100	11	1.75	1.63	1.74	1.71	0.2	9	10	10	11
1914	55.2	95	16	1.83	2.56	1.98	2.12	1.0	8	16	8	7
1915	51.1	98	15	3.37	3.21	2.81	3.13	0.4	9	10	10	11
1916	51.0	95	7	2.95	1.70	1.64	2.10	0.3	8	11	11	9
1917	51.2	98	15	0.21	0.29	0.53	0.34	0.1	2	20	7	4
1918	51.7	99	6	2.58	2.40	1.83	2.27	0.5	9	10	11	10
1919	55.5	101	16	4.29	3.14	1.91	3.11	0.4	9	16	8	7
1920	53.9	89	20	2.40	1.34	1.54	1.76	0.1	7	13	10	8
1921	53.8	90	21	2.75	2.22	2.36	2.44	T.	9	13	10	8
1922	56.3	93	24	4.29	2.81	3.08	3.39	0.1	12	10	11	10
1923	54.1	100	13	2.56	1.57	1.17	1.77	0.2	6	15	10	6
1924	46.9	84	15	1.05	0.57	0.81	0.81	0.0	5	12	10	9
1925	53.6	111	10	1.94	1.17	1.22	1.44	T.	4	17	9	5
1926	58.5	105	10	2.07	2.09	2.45	2.20	0.0	7	13	11	7
1927	48.0	87	13	5.21	6.06	5.77	5.68	3.2	14	6	8	17
1928	58.2	107	16	1.02	1.23	1.00	1.08	0.0	5	18	7	6
1929	49.1	92	8	2.00	2.69	4.28	2.99	0.4	7	16	9	6
1930	50.8	98	18	3.76	2.40	1.69	2.62	0.7	9	12	8	11
1931	53.1	100	10	2.17	1.09	0.98	1.41	0.3	6	16	7	8
1932	55.9	98	25	2.66	2.02	1.76	2.15	2.2	6	13	9	9
1933	54.8	98	19	2.78	3.18	3.50	3.15	T.	9	9	10	12
1934	63.6	111	18	0.46	0.32	0.29	0.36	0.0	3	17	10	4
1935	49.5	89	20	2.11	2.93	2.79	2.61	1.5	12	6	11	14
1936	61.0	100	20	1.05	0.66	0.70	0.80	T.	4	19	9	3
1937	56.9	99	19	2.35	1.67	1.27	1.76	T.	7	12	11	8
1938	52.0	88	18	2.93	2.07	2.66	2.55	0.2	11	8	12	11
1939	60.1	104	18	1.33	1.60	1.71	1.55	0	8	13	11	7
1940	54.9	96	17	1.60	2.26	2.06	1.97	0.1	8	14	11	6
Period	53.6	111	5	2.51	2.18	2.19	2.29	0.5	8	13	9	9

Climatological Data for May 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	55.2	+1.2	88	31	27	1	44	1.52	−1.35	0.97	0	7	14	9	8	nw.	James. H. Erickson.
Cavalier	Pembina	894	30	55.2	......	88	11†	28	1†	38	1.25	−1.15	0.38	0	6	18	6	7	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	54.0	+1.7	88	31	20	1	45	1.28	−1.32	0.35	T.	12	21	6	4	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	......	......	......	......	......	......	......	1.36	......	0.47	0	10	10	17	4	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	53.0	+0.4	86	11	27	1	40	1.93	−0.10	0.67	T.	11	7	14	10	n.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	53.1	−0.6	88	31	26	1	47	1.49	−1.14	0.96	0	8	4	24	3	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	16	51.6	−0.8	86	11†	25	1	47	1.32	−0.60	0.46	0	7	18	8	5	ne.	Mike Davis.
Ellendale	Dickey	1,457	45	56.3	+0.6	89	31	27	1	45	0.99	−1.78	0.57	0	5	15	11	5	n.	J. E. Demmer.
Fargo	Cass	895	4	54.9	......	88	31	24	2	45	1.18	−1.39	0.75	T.	8	5	16	10	n.	W. B. Aerological Sta.
Forman	Sargent	1,249	47	54.6	−0.8	88	31	27	1	42	2.06	−1.09	1.52	0	8	21	7	3	n.	Helge Dyste.
Fullerton	Dickey	1,439	42	55.6	+1.6	90	30	27	1	48	1.58	−1.60	0.54	0	8	7	19	5	nw.	F. O. Alin.
Grafton	Walsh	827	48	55.4	+2.1	89	31	28	1	47	0.95	−1.22	0.33	0	7	7	16	8	nw.	Dr. J. C. Lamont.
Grand Forks ††	Grand Forks	831	49	54.0	+0.3	88	31	26	2	43	1.71	−0.88	0.52	0	11	1	9	21	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	57.0	−0.8	89	31	30	1	42	2.34	−0.24	1.50	0	9	14	4	13	se.	Joseph Rindt.
Hannah	Cavalier	1,568	48	52.4	+1.8	86	31	25	1†	40	1.62	−0.50	0.63	1.5	6	18	8	5	ne.	Charles McAdams
Hillsboro	Traill	901	40	55.4	+1.5	87	31	30	1	47	1.83	−1.26	0.78	0	11	20	4	7	ne.	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	56.8	+3.3	90	31	28	1	46	1.45	−1.55	0.95	0	6	17	4	10	ne.	S. G. Calvelage.
Langdon	Cavalier	1,615	44	52.9	+2.0	86	31	24	1†	44	1.32	−0.70	0.43	0	11	17	7	7	n.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	54.8	+2.2	88	31	27	1	41	2.03	−0.86	0.44	0	10	14	5	12	ne.	W. L. Goodison.
Lisbon	Ransom	1,091	36	54.4	+0.5	85	12	28	1†	36	2.95	+0.03	1.23	T.	11	7	15	9	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	52.5	+0.2	87	11†	25	1	52	1.26	−1.57	0.42	0	10	13	9	9	n.	C. E. Blasky.
McLeod	Ransom	1,075	29	55.6	+1.1	88	31	26	1	42	1.90	−1.37	1.41	0.3	6	16	12	3	n.	J. G. Carlson.
Mayville	Traill	975	44	55.1	+0.4	87	31	26	1	51	1.91	−1.00	0.66	0	9	5	25	1	ne.	H. B. Addicott.
Oakes	Dickey	1,318	11	54.4	−2.2	89	31	25	1	47	1.63	−0.25	0.96	0	9	12	10	9	nw.	F. H. Murray.
Park River	Walsh	998	36	53.2	+0.2	88	11†	28	7	47	0.73	−1.33	0.24	0	5	16	7	8	nw.	E. J. Taintor.
Pembina	Pembina	789	66	55.0	+2.2	91	31	25	1†	53	0.58	−1.78	0.22	0	5	13	8	10	nw.	S. W. Douglass
Petersburg	Nelson	1,520	10	......	......	......	......	......	......	......	1.59	......	0.38	0	8	10	15	6	n.	T. M. Rykken.
Sharon	Steele	1,516	16	53.4	−0.5	86	31	27	1	41	1.78	−1.09	0.58	0	10	11	10	10	ne.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	55.8	+2.3	87	31	26	2	45	2.10	−0.70	0.60	0	9	18	8	5	ne.	I. C. Robertson.
Wahpeton	Richland	962	48	55.8	+0.2	87	12	28	1	37	2.97	+0.31	2.02	0.1	11	9	11	11	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	55.0	−0.1	86	31	30	2	43	1.40	−1.49	0.96	0	9	14	8	9	n.	U. S. Weather Bureau.
Average for Eastern Division		......	....	54.5	+1.0	91	31	20	1	53	1.60	−0.91	2.02	0.1	9	12	11	8	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	44	53.8	+0.3	87	11	23	1	43	1.25	−1.29	0.50	0	6	15	9	7	nw.	Henry Doerr.
Bisbee	Towner	1,601	4	53.5	......	88	11	26	1	47	2.02	......	0.53	1.0	10	20	3	8	n.	I. K. Lund.
Bismarck	Burleigh	1,670	66	55.6	+1.1	91	11	26	1	47	1.04	−1.28	0.74	0	6	7	19	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	53.6	+2.3	89	11	27	1	46	2.61	+0.54	0.97	1.0	11	15	8	8	nw.	N. D. School of Forestry
Carrington	Foster	1,579	42	53.6	+1.1	86	12†	27	1	36	2.07	−0.50	1.03	1.0	13	12	7	12	......	Soo Line Agent.
Carson	Grant	2,500	28	56.0	+2.9	93	11	26	1	49	0.90	−1.55	0.76	0	4	9	20	2	nw.	J. W. Evens.
Center	Oliver	......	2	54.6	......	92	11	22	1	53	3.04	......	1.11	0	8	15	10	6	nw.	B. Wilcox.
Dogden Butte ††	McLean	1,880	14	54.6	0.0	92	11†	20	1	47	2.97	0.00	1.30	0.0	7	12	10	9	nw.	R. L. Williams.
Drake	McHenry	1,634	11	53.9	......	91	11	26	1	48	2.32	......	1.45	T.	7	8	14	9	se.	Peter Anton.
Dunseith	Rolette	1,682	44	53.5	+1.4	89	11†	22	1	48	1.79	−0.05	0.44	T.	10	6	21	4	ne.	Geo. Gehres.
Eckman ††	Bottineau	1,500	35	54.6	+3.2	92	11	19	1	47	2.89	+0.97	1.40	1.0	10	13	12	6	ne.	B. C. Phipps.
Energy ††	McLean	1,750	25	56.7	+0.6	93	11	25	1	47	2.80	+0.64	1.53	0	7	14	15	2	n.	H. S. Solenberger.
Fessenden	Wells	1,610	28	54.6	+2.6	88	11	26	1	45	2.12	−0.19	0.59	0	12	13	12	6	n.	John V. Zuber.
Fort Yates	Sioux	1,670	40	55.4	−0.7	86	31	27	1	39	1.08	−1.22	0.72	0	4	21	5	5	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	55.2	+1.2	91	11	24	1	44	3.36	+1.39	1.65	0.5	9	12	10	9	ne.	E. C. Bierbaum.
Gackle	Logan	1,951	10	53.6	......	87	11†	24	1	44	1.71	......	0.60	0	7	8	16	7	nw.	A. H. Haut.
Garrison	McLean	1,901	63	55.2	+2.5	92	11	25	1	46	3.85	+1.52	2.31	0	8	10	14	7	nw.	E. L. Vorachek.
Granville	McHenry	1,504	33	54.9	+3.3	91	11	25	1	45	3.29	+1.35	1.36	0	8	12	12	7	ne.	W. A. Christianson.
Hansboro	Towner	1,597	32	51.6	+0.9	87	31	24	1	39	1.11	−0.98	0.34	T.	9	7	18	6	ne.	W. E. Disher.
Linton	Emmons	1,711	23	57.3	+3.1	91	11†	26	1	50	1.55	−0.86	0.61	0	7	18	10	3	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	54.0	+0.4	90	11	25	1	50	2.87	+0.39	1.19	T.	6	16	10	5	ne.	F. W. Perry.
Maddock	Benson	1,604	25	54.3	+1.6	88	11	25	1	47	1.37	−0.74	0.42	0	10	15	12	4	ne.	A. T. Felland.
Mandan	Morton	1,750	26	55.4	+1.5	93	11	26	1	50	1.20	−1.24	0.47	0	9	11	10	10	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	......	......	......	......	......	......	......	1.92	−0.34	0.60	T.	7	15	11	5	nw.	P. B. Anderson.
Max	McLean	2,093	11	53.2	......	92	11	22	1	50	3.22	......	1.22	T.	10	8	10	13	nw.	A. W. Rice.
Minot	Ward	1,557	44	56.4	+4.2	93	11	22	1	45	3.66	+1.52	1.72	T.	12	11	6	14	ne.	Kenneth Chatfield.
Mohall	Renville	1,646	47	54.0	+1.7	90	11	17	1	45	3.21	+1.36	1.23	1.0	10	19	7	5	se.	Iver Johnson.
Napoleon	Logan	1,955	48	55.0	+2.6	89	11	21	1	47	1.88	−0.55	0.90	T.	8	15	9	7	nw.	C. J. Hoof.
New Salem	Morton	2,163	36	54.1	+1.7	91	11	26	1	52	1.68	−0.44	1.12	0	8	17	12	2	nw.	J. Christianson.
Pettibone	Kidder	1,856	31	53.8	+2.0	86	11	24	1	46	1.22	−1.18	0.68	0	6	15	7	9	nw.	Sam Loeppke.
Rolla	Rolette	1,860	3	53.0	......	88	11	25	1	48	1.97	......	0.50	2.0	10	11	12	8	n.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	......	......	......	......	......	......	......	2.31	+0.89	0.83	1.0	11	9	13	9	ne.	W. B. Paterson.
Ryder	Ward	2,108	11	......	......	......	......	......	......	......	3.75	+1.57	1.92	0	7	17	7	7	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	......	......	......	......	......	......	......	1.04	......	0.40	0	4	8	15	8	nw.	J. B. Smith.
Steele	Kidder	1,857	46	54.4	+1.0	87	11	24	1	48	1.36	−1.31	0.70	T.	7	12	12	7	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	......	......	......	......	......	......	......	3.72	+2.13	1.32	1.0	9	19	8	4	ne.	G. N. Pilgard.
Timmer	Morton	......	3	......	......	......	......	......	......	......	0.87	......	0.56	0	4	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	38	55.2	+2.0	90	11†	25	1	45	3.20	+1.06	1.00	0	8	15	12	4	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	55.4	+2.6	92	11	25	1	47	2.58	+0.35	1.42	0	9	21	3	7	ne.	Albert H. Slettum.
Tuttle	Kidder	1,936	32	......	......	......	......	......	......	......	1.48	−1.03	0.88	8	8	16	10	5	nw.	Adam Leno.
Velva	McHenry	1,511	13	55.4	−0.5	92	11	22	1	44	3.27	+0.64	1.19	0.5	10	12	12	7	nw.	Oscar Anderson.
Washburn	McLean	1,731	39	56.8	+3.0	92	11	28	1	45	2.50	+0.21	1.67	0	8	15	11	5	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	55.9	+4.1	94	11	20	1	54	3.01	+1.18	1.05	5.5	7	13	10	8	ne.	John J. Egger.
Willow City	Bottineau	1,471	48	52.8	+1.3	92	11	26	1	49	2.85	+1.01	0.90	0	9	14	14	3	nw.	O. M. Sanderson.
Wilton	McLean	2,159	4	54.0	......	88	11	24	1	49	2.24	......	1.58	0	11	......	......	......	......	Soo Line Agent.
Wishek	McIntosh	2,010	19	54.4	+3.7	86	11†	27	1	38	2.00	−0.84	0.70	0.5	10	8	11	12	nw.	H. M. Larson.
Zap	Mercer	1,838	25	......	......	......	......	......	......	......	1.84	−0.51	0.91	0	5	23	6	2	se.	John Kaufman, Jr.
Average for Middle Division		......	......	54.6	+1.9	94	11	17	1	54	2.26	+0.08	2.31	0.2	8	13	11	7	nw.	......

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EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. †† Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for May 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	T.			T.		0.16		.01	T.				.02	.97				.14		.14	T.	T.				.08						1.52
Cooperstown	Sheyenne				.07	.07		.25	.11	.07				.05	.35	T.		T.	.08		.03	.15	T.	.04			T.					.01	1.28
Courtenay [2]	James				.02	.04		.26	.01	.02				T.	.47			.12	T.		.39	T.		.02								.01	1.36
Devils Lake [1]‡	Devils Lake				T.	.15		.48	.01	.15		T.	.01	.35	.32			.02	.06	T.	.34	.04	T.								T.		1.93
Edgeley	James							.10		.05				.96				.05	.10		.16		.04				.03						1.49
Edmore	Devils Lake					.09		.32		.21			.01		.46				.13		T.	.10	T										1.32
Ellendale	James							.05						.03	.57			.05				.29											0.99
Fargo	Red				T.			.13	T	.10				.04	.71			.04	.05		.08	T.	T		T.		.03						1.18
Forman	Sheyenne									.06					1.52			.12	.10		.10	.08		.03			.05						2.06
Fullerton	James									.04				.22	.54			.42	.16		.12	.04	T.	.04			T.						1.58
Grafton	Red					T.		.12		.23			.02		.33			.01	.20		.04												0.95
Grand Forks [1]‡	do				.06	.05	T.	.42	.03	.25			.01	T.	.52			.21	.03		.04	T.			T.		.09				T.		1.71
Hankinson [2]	do				.04			.07		.02				.25	1.50				.29		.03		.03					.11					2.34
Hannah	Pembina					.25		.25	T	.16				T.	.63				.23		.10												1.62
Hillsboro	Red				.02	.03		.20	.32	.11				.04	.78			.21	.04		.06	T.					.02						1.83
Jamestown [2]	James						.21								.95			.09	T.		.06		.08									.06	1.45
Langdon	Pembina					.05	.02	.24	.07	.15			.07		.43				.21		.05	.01										.02	1.32
Larimore	Red				.01	.03		.20	.44	.29					.33				.22		.30	.20					.01						2.03
Lisbon [2]	Sheyenne								.08		.03				1.16	.20			.09		.01	1.23		.07	.02		.02	.04					2.95
McHenry	James				.05	.08		.23		.03				.02	.42				.13		.18	.01										.11	1.26
McLeod	Sheyenne	.03						.06		T.					1.41				.18			.15		T.		.07							1.90
Mayville	Red						.03		.28		.15			.03	.66				.63	.06		.02					T.				.05		1.91
Oakes [2]	James								.03		.03				.96	.12			.15	.01		.17	T	.14				.02					1.63
Park River	Red						.07	.13		.15					.24				.14														0.73
Pembina	do					.15		.07		.09					.22						.05												0.58
Petersburg	do					.07		.13	.34	.33				T.	.38				.16		.08											.10	1.59
Sharon	do				.01	.04		.39	.19	.12				.10	.58				.23		.11		T.				.01						1.78
Valley City	Sheyenne							.15			.03			.19	.60			.18	.37		.53	.02		.03			T.						2.10
Wahpeton	Red	.01			.04			.09	.01	T.	.02			.03	2.02				.32		.36		.01				.06						2.97
Moorhead, Minn [1]‡	do				T.			.11	T	.05	.01			.02	.94			.02	.14		.06	T.					.05						1.40
Middle Division																																	
Ashley [2]	Missouri							T.	.03				.24	.38					.05	.05		T.										.50	1.25
Bisbee	Devils Lake					.14	.02	.53	.07	.17			.17	.29	.41			T.	.09		.13												2.02
Bismarck [1]‡	Missouri				.04			.17		T.				.72	.02			T.	.04	T.	.04	T.		.01									1.04
Bottineau [2]	Mouse					.33	.06	.04	.56	.04	.02				.97			.07	.28	.20		.04											2.61
Carrington [2]	James				.03	.07	.06	.05	.24	.02	.01				1.03	.06						.20	.09	.05								.16	2.07
Carson	Heart													.76	.09						.03			.02									0.90
Center	Missouri				.08	1.11								1.08	.32			.08	.08		.20			.09									3.04
Dogden Butte	Mouse					.20		.30		T.				1.30	.79			.02	.26	T.	.10												2.97
Drake [2]	do					.10		.25	.09					.07	1.45	T		.02	.04	.11		.19	T.										2.32
Dunseith	do					.44		.40	.02	.16			T.	.33	.07			.07	.25		.03	T.		.02									1.79
Eckman	do					.20		.53		.01				1.40	.25		.01	.10	.26		.12	.01											2.89
Energy	Missouri					.20		.20						1.53	.32			.10	.15		.30												2.80
Fessenden	James				.01	.15		.27	.03					.43	.59				.04		.20	.80		.04							.05	.23	2.12
Fort Yates	Missouri							T.						.72	.25				.05	.06											T.		1.08
Foxholm (near)	Mouse					.21		.63						1.65	.21		T.	.08	.31		.13	.02		.13									3.36
Gackle	James									T.				.44	.60			.46	.02		.09	.01	T.									.09	1.71
Garrison [1]	Missouri					.20		.35						2.31	.35			.13	.18		.18			.15							T		3.85
Granville	Mouse		T.			.33		.47		T.				1.36	.48		.03	.09	.37		.16	T.											3.29
Hansboro	Devils Lake					.34	.03	.34		.07				.04	.11			.09	.08		.01												1.11
Linton	Missouri							.04						.61	.55				.03			.12		.02							.18		1.55
McClusky	do				T.	.24		.23						1.19	.85			T.	.26			.10					T.				T.		2.87
Maddock	Sheyenne					.06		.42	T.	.01			.02	.37	.25				.01		.16	.03									.04		1.37
Mandan [2]	Missouri			.02			.20	T.		.01			.38	.47			T	T	.03	T.	.03	.01		T							.05		1.20
Max [2]	do		.02			.22		.33	.04					.63	1.22				.23	.31	T.	.17		.05									3.22
Minot [1]	Mouse				.02	.42	.01	.59		.01				1.72	.11		.10	.31	.27		.08			.02							T		3.66
Mohall	do					.45		.67		.02				1.23	.22		T.	.14	.30	.01	.10			.07							T.		3.21
Napoleon [2]	Missouri								.07					.25	.90	.02			.05	.13		.06										.40	1.88
New Salem	Heart				.01			.06		T.				1.12	.26		T.	.02	.03		.11										.07		1.68
Pettibone	James					.14		.14							.68						.08	.14									.04		1.22
Rolla	Devils Lake					.36		.50	.02	.09			T	.15	.37			.15	.15		.17	.01											1.97
Rugby (near)	Mouse				.14	.01	.36	T.	.05				.06	.83	.43		.04		.26		.11				.02								2.31
Ryder	Missouri				.39		.36							1.92			T.	.25	.21	T.	.35			.21							T		3.75
Selfridge	do							.05		T.			.40	.21					T.		T.			T.							.38		1.04
Steele	do							.11		T.				.28	.70			.03	.07		T.	.15									.02		1.26
Tagus	Mouse					.44		.53	T.				T.	1.32	.09		.33	.12	.40		.18	T.		.31							T.		3.72
Towner	do					.36		.50	.04	.05				1.00	.69		T.	T.	.26		.30												3.20
Turtle Lake	Missouri					.36		.20		.03				1.42	.26			.06	.18		.05	.02											2.58
Tuttle	do				.03	.02		.16		.14				.88					.09		.05	.11											1.48
Velva	Mouse					.31		.43		.03				1.19	.49		.18	.06	.47		.09	.02											3.27
Washburn	Missouri					.22	T.	.14		.03				1.67	.24			.04	.12		.04										T.		2.50
Westhope	Mouse					.34		.63						1.05	.34			.20	.37		.08												3.01
Willow City	do					.24		.69		.05				.90	.29		.02	T.	.50		.11	.05											2.85
Wishek [2]	Missouri		.03				.03	.05	T.				.25	.70	.05	T.		.58	.10		.03										.18		2.00
Zap	Knife					.27		.10						.91	.11			T.			.45												1.84
Western Division																																	
Alpha	Lit. Missouri				.16	.12		.05						.31			.01	.24			T.									T.			0.89
Amidon	do				.04			.03						.46				.14			T			T.									0.67
Beach [2]	do				.08	T.	T.	.23						.39	.02		T	.13			.08									.01			0.94
Berthold Agency	Missouri					.34								1.00	.02			.25	.05		.90												2.56
Bowman [2]	Grand				.10			.06						.39	.16				.01												.03		0.78
Crosby [2]	Mouse					1.20	.07	1.37	.21	.03					.40				.02			.23											3.53
Dickinson [2]	Heart				.02	.09	T.	.10						.52	.07			T.	.20		.01	T.									T.	T.	1.01
Dunn Center [2]	Knife				.08	.27	.01	.09						.94	.07				.27		.10	.15											1.98
Epping	Missouri																																
Fairfield	Lit. Missouri				.09	.28		.21						.33	.08			.25		.17											T.		1.41
Fryburg	Heart			.02	.07			.18						.97				.35		T.	T										.15	T.	1.74
Hettinger	Grand							.05						.37	.02			T.						T.									0.44
Howard (near)	Missouri			T.		.99	.10		T.			T.						.10			.18										T.		1.37
Kenmare [2]	Mouse					.43	.09	.44	.52					.44	1.05			T.	.06	.32	.02	.35		.23									3.95
Marmarth [2]	Lit. Missouri			.09			.09						.59	T.				.17			.01			.03						.08			1.06
Mary	do					.32		.34						.98	.06			.10	T.		.34										.02		2.16
Medora	do				.04	.21		.14						.62	T.			.20	T.	T.	T.			T.							.11	T.	1.32
Mott	Cannon Ball				.05			.02						.50	.05	T.		.07			T.												0.69
New England [2]	do			.03		.07							.21	.19				.11												.03			0.64
Parshall [2]	Missouri					.48	.03	.26	.03					.48	1.17			T.	.20	.04	.04	.44	T.	.03								.04	3.23
Portal [2]	Mouse					1.03	.21	.73	.50					.51	.96			.26			.10	.27		.01									4.58
Powers Lake	Missouri					.51		1.17	.04					1.46	.09		T.				.24												3.51
Richardton	Heart				.01	.02		.11										.10			.09			T.							.06		1.35
Sanish [2]	Missouri					.46	.02	.41	.05					.62	.49				.17		.08	.40											2.70
Stanley	do					.48	.36	.70						1.35	.07		.05	.06		.05	.30												3.42
Tioga	do						.46		.80	T.				1.35	.09		T.	.12	T.	T.	.33												3.15
Trotters	Lit. Missouri			T.	.08	T.	.26							.50			T.	.08		.07	T.			T.							T.		0.99
Watford City	Missouri					.37	T.	.62						.63	.16			.13			.46												2.37
Wildrose	do					.92		.91		.02				.80	.07		T.	.16	.02		.36												3.26
Williston [1]‡	do				.29	.48	.10	.81					T.	.50				.16	.01	T	.19			T.									2.54

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for May 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley §	Maximum	54	69	66	73	61	67	68	62	72	68	87	84	59	51	56	72	74	60	71	66	67	72	75	62	63	63	62	75	77	82	86	68.5
	Minimum	23	28	31	40	48	34	39	38	39	39	44	55	32	32	27	29	47	38	38	50	42	46	42	35	33	38	45	35	42	47	52	39.0
Beach	Maximum	67	77	78	74	65	63	61	71	77	73	90	83	68	56	69	72	67	67	78	67	66	71	80	68	67	72	71	77	82	77	91	72.4
	Minimum	31	43	45	41	42	33	40	33	45	42	48	55	40	33	33	44	42	37	40	51	54	35	43	36	35	36	38	44	51	53	50	41.9
Bismarck	Maximum	59	74	71	71	60	68	63	68	77	68	91	84	64	44	61	70	69	61	78	64	68	73	71	66	64	68	68	75	78	79	89	69.8
	Minimum	26	37	37	51	41	37	41	40	45	38	44	56	40	34	29	37	42	41	37	51	48	41	43	37	35	38	48	40	45	50	52	41.3
Bottineau §	Maximum	59	66	68	70	50	55	41	61	59	67	89	79	50	49	57	69	57	59	72	62	69	73	67	67	69	71	67	75	78	80	88	65.9
	Minimum	27	38	40	42	37	32	33	34	39	33	43	56	49	32	29	40	41	37	36	51	42	39	46	34	40	47	51	43	53	55	58	41.2
Carson	Maximum	64	78	72	73	60	68	64	70	81	69	93	85	68	52	61	70	64	62	77	68	68	74	76	69	67	75	69	76	80	83	91	71.8
	Minimum	26	36	42	45	37	33	43	32	42	40	44	52	43	32	27	38	44	35	39	46	38	43	44	33	35	35	48	41	46	54	51	40.1
Crosby §	Maximum	68	76	75	70	58	63	48	68	69	69	89	80	55	51	63	72	60	66	77	59	66	74	70	68	70	74	75	79	82	80	88	69.7
	Minimum	24	28	38	41	39	32	35	33	36	38	42	49	54	31	32	34	44	42	44	51	40	39	48	36	38	39	48	47	47	53	51	40.4
Devils Lake	Maximum	52	63	67	70	58	50	48	59	59	67	86	79	58	45	56	69	73	56	70	57	66	70	65	63	66	63	66	74	75	78	86	65.0
	Minimum	27	34	36	49	41	33	32	40	39	34	46	56	39	32	30	35	46	41	38	47	39	42	45	38	37	44	50	44	47	51	55	40.9
Dickinson §	Maximum	65	75	75	71	52	65	60	69	77	69	90	80	61	54	63	70	60	65	75	59	67	69	73	67	66	68	68	74	80	74	87	69.2
	Minimum	25	30	40	43	43	33	39	30	34	35	43	47	54	33	29	34	37	35	38	40	39	34	39	31	32	33	37	38	46	53	42	37.6
Dunn Center §	Maximum	60	70	71	64	52	63	58	66	77	67	89	78	55	54	54	61	51	61	72	54	61	64	68	60	65	62	63	78	78	71	84	65.6
	Minimum	25	39	43	43	46	35	45	34	44	36	43	54	54	34	30	39	40	38	40	52	39	38	47	34	36	34	39	48	42	55	47	41.1
Fargo	Maximum	53	63	66	76	72	59	56	61	63	69	84	84	71	53	60	67	75	66	68	75	69	73	67	62	67	58	70	69	74	81	88	68.4
	Minimum	30	24	27	49	41	34	37	42	39	35	39	51	52	38	33	34	44	48	49	50	45	39	43	42	39	47	38	42	42	50	60	41.4
Fessenden §	Maximum	55	65	69	73	68	59	59	61	73	70	88	86	67	45	58	71	73	58	75	72	68	72	68	65	67	66	67	77	79	75	85	68.8
	Minimum	26	35	34	46	47	37	36	40	44	33	43	56	43	32	28	32	43	40	36	52	38	40	47	36	37	38	50	44	42	49	53	40.5
Fullerton	Maximum	54	66	70	74	67	69	68	62	74	70	85	83	74	55	58	70	78	66	71	70	68	71	70	61	63	58	69	73	75	90	85	69.9
	Minimum	27	30	32	43	48	37	41	40	40	40	37	56	55	37	31	31	45	42	43	49	42	45	46	36	36	41	41	42	42	59	48	41.4
Garrison §	Maximum	62	75	72	72	51	63	60	68	76	68	92	81	57	46	58	72	56	58	74	57	66	72	70	67	67	71	70	76	78	76	87	68.3
	Minimum	25	40	39	44	41	37	38	37	48	34	46	57	45	33	30	39	43	40	38	48	45	38	51	37	39	49	49	44	47	52	52	42.1
Grafton	Maximum	55	64	65	73	72	49	48	63	63	51	87	88	79	61	63	69	77	76	71	70	69	72	67	68	71	70	72	75	77	82	89	70.2
	Minimum	28	29	29	46	43	34	29	39	41	35	40	57	47	37	31	31	41	46	47	52	41	39	39	40	40	48	42	41	44	46	58	40.6
Grand Forks	Maximum	53	63	65	75	70	50	52	61	62	67	84	80	69	49	60	69	77	66	68	62	69	73	65	60	67	59	72	73	16	80	88	67.2
	Minimum	29	26	30	43	41	35	32	42	39	31	41	53	49	38	31	34	43	44	48	49	42	38	50	41	41	49	40	40	45	49	60	40.7
Jamestown §	Maximum	54	64	71	72	72	68	64	62	73	71	88	88	80	57	59	70	75	63	72	76	67	73	70	67	64	65	77	73	77	84	90	71.1
	Minimum	28	31	34	45	46	39	39	42	43	37	42	60	54	35	31	33	45	41	41	50	42	42	50	37	39	42	49	50	44	49	59	42.5
Kenmare §	Maximum	66	73	71	70	53	58	41	67	68	66	87	78	54	48	58	69	61	61	73	55	65	72	66	64	65	68	71	72	78	76	89	66.5
	Minimum	24	34	46	43	41	33	36	32	40	39	43	54	45	32	32	37	45	43	42	51	44	44	51	37	40	40	46	50	53	54	50	42.0
Langdon	Maximum	55	65	63	74	71	48	46	59	58	69	85	84	76	51	62	68	75	65	72	68	71	75	68	67	70	79	73	75	76	00	86	68.8
	Minimum	24	30	31	44	37	29	28	36	39	30	41	54	44	31	24	31	40	46	36	49	31	40	33	31	32	39	37	31	47	47	55	37.0
Marmarth §	Maximum	60	78	80	76	52	61	61	73	79	71	92	82	62	60	69	72	61	68	78	60	67	70	68	68	68	69	72	75	78	78	89	71.0
	Minimum	35	45	46	40	35	40	40	42	39	48	56	52	36	37	33	40	38	35	40	34	37	40	39	37	34	37	41	49	47	48	61	41.3
Minot	Maximum	62	73	74	71	69	59	57	68	70	69	93	90	77	47	60	73	60	60	76	73	66	74	71	66	68	69	70	77	81	81	88	70.7
	Minimum	22	44	44	44	40	34	38	38	50	35	48	59	44	32	28	40	44	44	39	50	42	38	50	36	35	43	50	45	52	54	46	42.2
Mott	Maximum	67	79	81	75	79	65	67	70	83	81	93	92	87	53	66	71	76	64	78	74	69	74	81	73	65	71	72	74	82	75	87	75.0
	Minimum	26	40	44	46	45	33	43	30	45	38	45	53	50	34	28	40	40	34	36	52	39	37	40	35	33	32	37	42	44	56	47	40.1
Pembina	Maximum	56	62	67	76	66	45	50	65	63	72	88	85	74	58	65	72	78	70	72	68	73	74	68	65	73	69	73	80	80	83	91	70.4
	Minimum	25	29	25	47	39	32	28	40	41	30	35	54	42	37	27	32	42	59	46	52	35	38	34	36	30	49	50	47	46	46	58	39.7
Sharon	Maximum	51	62	65	72	66	55	48	58	61	67	84	77	67	46	58	67	77	60	69	65	67	72	65	71	66	55	68	72	73	79	86	65.8
	Minimum	27	29	35	45	42	34	30	40	41	37	43	54	46	35	31	33	41	42	43	41	41	42	45	38	41	47	47	47	44	50	52	41.1
Steele	Maximum	55	70	70	73	59	67	64	63	78	70	87	81	60	52	58	67	70	61	75	69	63	70	70	65	64	65	67	75	78	79	84	68.7
	Minimum	24	32	34	47	43	33	39	38	42	35	39	53	50	32	28	32	43	36	37	50	44	38	47	36	37	38	46	42	45	47	53	40.0
Valley City	Maximum	53	64	68	75	73	63	62	61	69	70	85	82	79	62	57	67	76	76	75	70	67	72	70	64	63	63	67	72	73	79	87	69.8
	Minimum	28	26	30	47	49	36	39	41	36	37	40	58	52	38	32	30	45	42	46	52	43	43	50	41	39	42	45	41	41	47	58	41.7
Wahpeton	Maximum	52	61	66	77	75	63	61	59	68	69	81	87	79	60	57	66	78	70	67	77	69	72	70	65	65	64	71	69	73	81	86	69.6
	Minimum	28	29	29	44	48	35	40	37	35	38	45	58	51	40	32	33	43	48	48	53	45	41	50	39	41	45	39	43	41	50	57	42.1
Williston	Maximum	68	75	78	69	55	64	50	69	74	69	91	78	68	52	64	72	61	66	77	59	65	73	73	67	68	70	72	76	80	78	90	70.0
	Minimum	30	44	50	43	42	40	41	35	49	49	52	56	33	34	38	45	46	45	44	48	40	41	51	38	39	40	52	48	51	60	53	44.2

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

Climatological Data for May 1940—Continued from page 18.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.: Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Precipitation in inches: Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	Number of days: With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Western Division																				
Alpha	Golden Valley	......	13	......	......	...	...	...	...	......	0.89	−1.54	0.31	0	6	24	3	4	nw.	H. A. Bury.
Amidon	Slope	......	17	56.0	+3.2	90	11†	28	15	46	0.67	−1.85	0.46	0	4	15	11	5	nw.	Stanley W. Bale.
Beach	Golden Valley	2,759	34	57.2	+5.8	91	31	31	1	42	0.94	−1.38	0.39	0	7	5	24	2	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	57.8	+3.7	96	11	23	1	47	2.56	+0.32	1.00	0	6	21	5	5	nw.	H. W. Chase.
Bowbells	Burke	1,958	11	54.0	......	90	11	22	1	43	3.84	......	1.11	T.	10	6	17	8	nw.	Charles Kaufman.
Bowman	Bowman	2,872	25	59.9	+7.7	90	11†	35	14	39	0.78	−1.51	0.39	0	6	21	4	6	nw.	Wm. E. Tomlin.
Crosby	Divide	1,954	31	55.0	+3.8	89	11	24	1	48	3.53	+1.59	1.37	T	8	6	17	8	s.	J. H. Phelps.
Dickinson	Stark	2,543	47	53.4	+1.2	90	11	25	1	47	1.01	−1.32	0.52	0	7	16	13	2	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	53.4	+0.7	89	11	25	1	46	1.98	−0.41	0.94	0	9	12	17	2	nw.	O. T. Evenson.
Epping	Williams	2,224	29	55.6	+2.8	90	11	28	1	43	2.78	+0.60	0.92	T.	7	22	7	2	se.	T. Beachler.
Fairfield	Billings	......	3	......	......	...	...	...	...	......	1.41	......	0.33	0	7	17	11	3	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	21	55.0	......	91	11	29	15	47	1.74	−0.65	0.97	0	6	15	12	4	......	Verne King.
Hettinger	Adams	2,675	32	56.6	+3.0	91	11†	27	1	47	0.44	−1.94	0.37	0	3	7	20	4	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	54.5	+4.7	87	11	30	14	42	1.37	−0.90	0.99	0	4	15	11	5	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	54.2	......	89	31	24	1	44	3.95	+1.99	1.05	1.5	11	19	4	8	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	56.2	+5.0	92	11	33	15	40	1.06	−1.26	0.59	0	7	17	8	6	nw.	S. P. Grane.
Mary	McKenzie	......	11	......	......	...	...	...	...	......	2.16	−0.02	0.98	0	7	23	3	5	nw.	Fred Hartman.
Medora	Billings	2,271	24	......	......	...	...	...	...	......	1.32	−1.24	0.62	0	6	12	18	1	nw.	Vernon Thompson.
Mott	Hettinger	2,424	32	57.6	+4.1	93	11	26	1	48	0.69	−1.71	0.50	0	5	16	9	6	nw.	P. G. Wick.
New England	Hettinger	2,400	45	56.6	+4.6	95	12	29	14	50	0.64	−1.34	0.21	0	6	11	14	6	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	24	53.4	......	92	11	22	1	57	3.23	+1.06	1.17	0	12	8	21	2	nw.	C. E. Shubert.
Portal	Burke	1,954	34	53.5	+3.0	88	31	22	1	45	4.58	+2.52	1.03	1.0	10	10	16	5	se.	R. G. Wegener.
Powers Lake	Burke	2,205	34	54.2	+1.0	88	31	28	14	36	3.51	+1.33	1.46	0	6	13	14	4	e.	Geo. B. Gee.
Richardton	Stark	2,467	23	54.8	+2.2	91	11	32	14	47	1.06	−1.52	0.11	0	6	20	8	3	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	14	54.8	−0.2	92	11	28	1	43	2.70	+1.43	0.62	0	9	15	10	6	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	2	53.4	......	90	11	20	1	45	3.42	......	1.35	0.5	9	17	10	4	n.	Leroy Edwards.
Tioga	Williams	2,279	11	......	......	...	...	...	...	......	3.15	+1.37	1.35	0	6	11	14	6	nw.	B. V. Olson.
Trotters	Golden Valley	......	14	......	......	...	...	...	...	......	0.99	−1.33	0.50	0	5	10	20	1	nw.	Walter Gunewald
Watford City	McKenzie	2,084	26	57.7	+5.0	92	11	28	1	42	2.37	+0.40	0.63	0	6	14	16	1	nw.	J. C. Zeller.
Wildrose	Williams	2,258	12	......	......	...	...	...	...	......	3.26	......	0.92	0	8	18	7	6	nw.	L Holter.
Williston	Williams	1,878	60	57.1	+3.1	91	11	30	1	39	2.54	+0.48	0.91	T.	8	19	9	3	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	55.5	+3.1	96	11	20	1	57	2.06	−0.13	1.46	0.1	7	15	12	4	nw.	....
Average for the State		......	.....	54.9	+1.3	96	11	17	1	57	1.97	−0.32	2.31	0.1	8	14	11	6	nw.	....

[WBO, Minneapolis, 7-9-40—1200

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THE [illegible]
AUG 6 1940

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. XLIX BISMARCK, N. D., JUNE 1940 No. 6

PRICE: 5 CENTS A COPY; 25 CENTS A YEAR (NOT STAMPS)
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GENERAL SUMMARY

The precipitation during June was well distributed throughout the month, but it averaged below the seasonal normal in all sections and was considerably below normal in the northeastern part of the state. Only a few stations, mostly in the north-central and extreme western counties, reported amounts above the 49-year June average. The temperature averaged normal in the eastern division, 0.5° above normal in the central division, and 1.2° above normal in the western division. The highest temperature occurred at most places on the 16th, while the lowest occurred on the 10th, 19th, and 20th. Only one station, Lisbon, reported a reading above 100°. Frost occurred at a few stations in eastern North Dakota on the 19th and 20th, but only a few reports of damage were received. Crops were very good, especially in the western sections, at the beginning of the month, but by the close rain was badly needed and small grains in many sections were suffering due to lack of moisture. Wind and insect damage was slight. Pastures and livestock continued in good condition throughout the month.

TEMPERATURE

The mean temperature for the state was 63.1°, or 0.1° above the 1892–1940 average for June. The mean temperature for the eastern division was 63.2°; for the middle division, 62.9°; and for the western division, 63.2°. The highest mean temperature was 66.6° at Berthold Agency, and the lowest, 60.0° at Hansboro, making a range in mean temperature of 6.6°. The absolute range was 75°, from 102° at Lisbon on the 16th, to 27° at Hannah on the 19th. The average daily deficiency in temperature for the state since January 1, 1940, is 0.1°.

PRECIPITATION

The average precipitation for the state was 2.24 inches, or 1.15 inches less than the 1892–1940 average for June. In the eastern division the average amount was 2.02 inches; in the middle division, 2.10 inches; and in the western division, 2.60 inches. The greatest monthly amount reported was 4.96 inches at Mary; the least was 0 52 inch at Pettibone. The greatest amount recorded in any 24 consecutive hours was 2.05 inches at Wishek on the 22d. The accumulated excess in precipitation for the state since January 1, 1940, is 0.79 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	1	..	1	2	4	5	1	1	..	..	1	..	1	3	..	..	1	..	..	..	..	3	6	2	1	1	..	1	..	.
Dust storms	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	..	2	1	2	5	1	..	2	1	..	..	..	..	..	..	..	..	..	..	..	5	2	..	..	..	..	1	..	..	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Hail	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	4	2	..	..	..	1	..	..	..	..
Thund'rst'ms	10	15	1	..	4	..	1	6	2	1	1	1	..	1	..	5	9	2	..	2	23	16	5	..	1	6	12	..	1	1	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.90	30.30	19	29.57	14	12.3	49	nw.	2	78	46	43	68
Devils Lake	29.90	30.32	20	29.51	14	8.9	30	nw.	14	82	50	45	72
Williston	29.89	30.27	19	29.50	8	8.1	29	w.	1	82	49	44	75
Fargo	29.87	30.33	20	29.57	14	.....	......	......	....	83	53	51	....
Moorhead, Minn	......	....	....	....	....	8.8	24	n.	2	....	....	....	67

† And other dates.

COMPARATIVE DATA FOR JUNE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	60.5	94	28	3.59	4.44	2.03	3.35	0	8	11	9	10
1893	67.4	103	33	3.25	4.28	2.60	3.38	0	9	13	10	7
1894	68.8	103	25	4.08	2.31	3.93	3.44	0	7	17	6	7
1895	59.7	97	29	5.37	4.54	4.11	4.67	0	12	8	13	9
1896	65.6	97	37	3.06	4.33	4.68	4.02	0	9	16	9	5
1897	61.7	109	20	4.40	4.40	2.45	3.75	0	9	11	10	9
1898	62.6	105	26	3.17	3.21	3.18	3.19	0	9	10	10	10
1899	62.2	105	30	3.20	4.25	3.98	3.81	0	10	12	11	7
1900	66.9	109	27	1.59	1.54	1.04	1.39	0	5	15	11	4
1901	61.6	95	22	7.20	5.31	5.90	6.14	0	15	10	11	9
1902	58.0	97	28	3.67	3.75	3.53	3.65	0	11	12	9	9
1903	62.4	96	27	1.02	1.52	1.78	1.44	0	4	17	8	5
1904	61.4	100	30	5.95	5.92	4.82	5.56	0	11	13	8	9
1905	59.7	97	32	4.49	4.64	3.87	4.33	0	12	10	7	13
1906	62.0	95	32	3.80	4.21	6.34	4.78	0	11	13	8	9
1907	61.9	95	25	3.47	2.53	2.80	2.93	0	10	12	10	8
1908	60.4	93	27	2.91	3.63	3.70	3.41	0	10	12	9	9
1909	62.9	98	28	3.94	2.49	3.92	3.45	0	10	12	11	7
1910	67.3	111	19	1.26	1.85	3.00	2.04	0	6	16	9	5
1911	66.9	108	25	3.13	3.42	2.61	3.05	0	9	13	10	7
1912	61.8	104	28	2.27	2.11	1.65	2.01	0	6	16	8	6
1913	65.8	101	27	2.85	1.98	2.52	2.45	0	8	16	9	5
1914	62.2	93	29	5.67	7.13	6.64	6.48	0	13	9	11	10
1915	56.7	94	20	5.59	5.11	3.73	4.81	0	12	9	12	9
1916	58.0	92	29	4.06	3.51	4.05	3.87	0	11	10	11	9
1917	59.7	103	19	2.38	1.88	1.96	2.07	0	8	13	11	6
1918	63.3	102	27	2.23	1.53	0.97	1.58	0	7	14	11	5
1919	67.2	108	22	3.15	1.99	1.50	2.21	0	5	15	10	5
1920	62.2	98	26	3.64	3.74	3.20	3.53	0	11	12	12	6
1921	68.2	108	30	3.28	2.83	4.74	3.62	0	9	14	10	6
1922	63.5	108	30	3.38	3.55	4.44	3.79	0	9	15	8	7
1923	66.1	100	30	4.79	2.83	4.21	3.94	0	8	13	12	5
1924	58.6	89	26	3.45	4.51	4.17	4.04	0	11	10	12	8
1925	61.5	98	30	7.72	5.43	4.84	6.00	0	14	11	10	9
1926	60.7	104	22	2.66	2.47	2.71	2.61	0	9	13	9	8
1927	61.2	99	22	3.81	2.34	2.30	2.82	0	9	11	13	6
1928	58.2	92	24	4.83	5.30	4.53	4.89	0	12	10	10	10
1929	61.4	98	21	1.10	1.10	2.12	1.44	0	7	16	9	5
1930	63.3	96	30	2.31	3.42	3.53	3.09	0	10	13	11	6
1931	68.4	110	27	2.93	2.05	2.07	2.35	0	8	14	10	6
1932	67.0	98	34	3.33	3.61	4.83	3.92	0	10	14	10	6
1933	70.7	110	33	1.99	1.66	1.67	1.77	0	7	18	10	2
1934	64.3	100	29	3.74	2.85	2.54	3.04	0	11	12	10	8
1935	60.3	99	25	3.65	2.70	2.77	3.04	T.	10	11	12	7
1936	66.4	110	28	1.41	1.40	1.20	1.34	0	6	16	10	4
1937	63.5	109	25	3.04	5.62	3.43	4.03	T.	7	15	9	6
1938	64.2	99	27	1.82	2.87	3.49	2.73	0	9	11	11	8
1939	60.1	99	29	5.44	4.67	3.67	4.59	0	12	10	11	9
1940	63.1	102	27	2.02	2.10	2.60	2.24	0	9	13	11	6
Period	63.0	111	19	3.49	3.36	3.31	3.39	T.	9	13	10	7

Climatological Data for June 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	63.8	+0.4	95	16	35	20	39	3.19	−0.52	0.72	0	8	16	9	5	nw.	James. H. Erickson.
Cavalier	Pembina	894	30	61.6	......	90	1	36	19	44	1.50	−1.70	0.55	0	9	15	6	9	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	62.0	−0.4	93	16	32	14	51	1.85	−1.48	0.46	0	8	16	12	2	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	......	......	...	...	...	...	......	2.94	......	1.41	0	9	4	22	4	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	61.4	−0.5	89	17	36	19	36	1.80	−1.76	0.89	0	14	8	14	8	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	65.4	+2.5	98	16	35	20	44	3.71	+0.05	1.27	0	7	12	17	1	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	16	60.2	−2.8	89	16†	28	19	43	1.10	−2.16	0.41	0	7	22	5	3	nw.	Mike Davis.
Ellendale	Dickey	1,457	45	65.2	−0.8	99	16	40	20	40	2.36	−0.92	1.41	0	7	18	7	5	nw.	J. E. Demmer.
Fargo	Cass	895	4	63.0	......	95	16	33	20	41	2.06	−1.64	0.96	0	9	6	13	11	nw.	W. B. Aerological Sta.
Forman	Sargent	1,249	47	62.4	−2.4	96	16	39	20	48	1.73	−1.76	0.85	0	7	17	10	3	nw.	Helge Dyste.
Fullerton	Dickey	1,439	42	65.0	+1.6	99	16	38	20	42	2.95	−0.82	1.39	0	7	14	13	3	n.	F. O. Alin.
Grafton	Walsh	827	48	63.4	+0.6	91	16	31	20	40	0.94	−2.46	0.37	0	6	2	20	8	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	62.4	−0.6	93	16	32	20	42	0.85	−2.50	0.34	0	8	3	11	16	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	65.7	−1.5	100	16	42	20	49	1.29	−1.46	0.57	0	11	4	24	2	se.	Joseph Rindt.
Hannah	Cavalier	1,568	48	60.2	+0.3	85	1†	27	19	43	2.90	−0.49	0.75	0	8	13	14	3	nw.	Charles McAdams
Hillsboro	Traill	901	40	63.3	−0.9	95	16	36	20	39	1.78	−1.59	0.44	0	8	22	6	2	n.	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	66.2	+3.0	92	2†	40	19	49	3.49	−0.12	1.75	0	11	12	9	9	se.	S. G. Calvelage.
Langdon	Cavalier	1,615	44	60.5	+0.6	89	16	31	20	42	1.87	−1.53	0.67	0	10	15	10	5	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	63.1	+0.7	94	16	33	20	41	1.04	−2.82	0.25	0	9	4	10	16	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	36	64.6	+1.1	102	16	39	20	46	1.96	−1.88	0.58	0	10	13	8	9	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	60.8	−1.4	91	17	30	19	41	2.96	−0.43	1.23	0	10	11	14	5	nw.	C. E. Blasky.
McLeod	Ransom	1,075	29	64.9	+0.4	98	16	37	20	47	2.06	−1.95	0.68	0	4	16	10	4	sw.	J. G. Carlson.
Mayville	Traill	975	44	61.2	−2.8	92	16	34	23	42	1.66	−1.69	0.38	0	8	1	29	0	ne.	H. B. Addicott.
Oakes	Dickey	1,318	11	63.8	−3.8	96	16	39	20	43	1.84	−0.74	1.02	0	8	19	5	6	nw.	F. H. Murray.
Park River	Walsh	998	36	61.2	−1.7	91	16	31	20	46	1.22	−2.17	0.45	0	6	10	18	2	nw.	E. J. Taintor.
Pembina	Pembina	789	66	64.4	+1.7	88	1†	33	19†	42	2.33	−1.00	0.52	0	10	15	8	7	nw.	S. W. Douglass
Petersburg	Nelson	1,520	10	......	......	...	...	...	...	......	0.79	......	0.20	0	11	16	7	7	nw.	T. M. Rykken.
Sharon	Steele	1,516	16	62.0	−1.6	93	16†	35	19†	38	1.33	−2.40	0.30	0	9	10	12	8	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	24	64.2	+1.1	93	16	38	19	39	2.81	−0.65	0.94	0	9	19	5	6	nw.	I. C. Robertson.
Wahpeton	Richland	962	48	65.8	+0.7	97	16	38	20	42	1.54	−2.17	0.48	0	8	11	13	6	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	63.3	−1.1	93	16	39	20	..	1.75	−2.30	0.80	0	9	9	11	10	n.	U. S. Weather Bureau.
Average for Eastern Division		......	....	63.2	0.0	102	16	27	19	51	2.02	−1.47	1.75	0	9	12	12	6	nw.	......
Middle Division																				
Ashley	McIntosh	2,001	44	63.7	+1.3	96	16	40	24	37	3.06	−0.18	1.12	0	10	16	4	10	ne.	Henry Doerr.
Bisbee	Towner	1,601	4	61.6	......	88	11	34	20	44	1.90	......	0.77	0	9	22	6	2	w.	I. K. Lund.
Bismarck	Burleigh	1,670	66	64.4	+0.7	93	16	41	7	42	2.13	−1.22	0.66	0	9	12	13	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	61.6	+0.3	86	1	39	19	35	3.48	+0.16	1.21	0	9	15	12	3	nw.	N. D. School of Forestry
Carrington	Foster	1,579	42	62.5	−0.5	93	17	38	19†	42	1.09	−2.43	0.32	0	10	12	3	15	sw.	Soo Line Agent.
Carson	Grant	2,500	28	64.2	+1.8	94	16†	36	10	45	1.41	−2.09	0.45	0	8	13	11	6	se.	J. W. Evens.
Center	Oliver	......	2	63.2	......	95	17	37	9	49	1.18	......	0.46	0	4	20	7	3	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	62.3	−0.4	87	17	37	19	36	2.50	−0.75	0.90	0	9	13	13	4	nw.	R. L. Williams.
Drake	McHenry	1,634	11	62.4	......	92	17	39	20	39	2.70	......	0.84	0	12	8	12	10	......	Peter Anton.
Dunseith	Rolette	1,682	44	60.4	−0.5	87	16	33	6	42	3.28	+0.16	1.07	0	13	4	24	2	nw.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	61.8	+0.2	90	13	32	19	44	3.56	+0.56	0.88	0	12	13	15	2	nw.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	64.6	+0.1	98	21	41	7†	45	1.71	−1.69	0.65	0	6	17	10	3	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	28	63.1	+1.4	92	17	38	19†	41	1.44	−2.25	0.49	0	10	13	9	8	n.	John V. Zuber.
Fort Yates	Sioux	1,670	40	64.8	−1.4	96	16	41	7†	45	1.73	−1.73	0.95	0	4	18	9	3	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	62.3	+0.2	89	13	38	20	41	2.68	−0.41	1.12	0	7	7	16	7	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	10	63.2	......	93	16	40	20	39	1.83	......	1.16	0	12	8	18	4	nw.	A. H. Haut.
Garrison	McLean	1,901	63	63.8	+1.6	92	13	41	10	41	2.31	−1.23	0.88	0	10	11	16	3	nw.	E. L. Vorachek.
Granville	McHenry	1,504	33	62.0	−0.2	91	13	35	19	43	2.20	−1.02	0.68	0	10	13	11	6	nw.	W. A. Christianson.
Hansboro	Towner	1,597	32	60.0	−0.4	87	1	31	20	44	2.72	−0.66	1.00	0	8	6	20	4	nw.	W. E. Disher.
Linton	Emmons	1,711	23	66.0	+1.7	94	16†	40	10	47	1.51	−1.65	0.81	0	6	21	5	4	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	63.4	+1.2	91	17	41	24	39	1.73	−1.64	0.61	0	7	10	17	3	ne.	F. W. Perry.
Maddock	Benson	1,604	25	63.0	+1.9	91	17	36	19	42	1.91	−1.46	0.66	0	8	18	11	1	nw.	A. T. Felland.
Mandan	Morton	1,750	26	65.2	+1.9	94	17	42	10	41	1.95	−1.34	0.60	0	7	15	6	9	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	......	......	...	...	...	...	......	1.21	−2.36	0.30	0	8	21	5	4	nw.	P. B. Anderson.
Max	McLean	2,093	11	62.2	......	90	13	38	10	41	2.57	......	1.00	0	12	11	11	8	nw.	A. W. Rice.
Minot	Ward	1,557	44	62.4	+0.1	92	13	37	19	45	2.75	−0.45	0.89	0	9	10	9	11	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	47	60.8	−0.3	89	13	33	20	47	2.99	+0.10	0.71	0	11	10	16	4	nw.	Iver Johnson.
Napoleon	Logan	1,955	48	63.6	+1.2	92	16†	40	10	43	1.44	−1.85	0.72	0	11	17	5	8	nw.	C. J. Hoot.
New Salem	Morton	2,163	36	62.4	−0.5	90	13†	37	10	42	1.19	−2.28	0.61	0	7	22	6	2	nw.	J. Christianson.
Pettibone	Kidder	1,856	31	63.0	+1.5	93	16	40	5†	41	0.52	−2.73	0.28	0	5	13	12	5	nw.	Sam Loeppke.
Rolla	Rolette	1,860	3	61.0	......	87	16	35	20	44	2.52	......	0.92	0	9	9	12	9	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	......	......	...	...	...	...	......	2.03	−0.28	0.68	0	8	10	15	5	nw.	W. B Paterson.
Ryder	Ward	2,108	11	......	......	...	...	...	...	......	2.97	+0.46	1.12	0	7	19	8	3	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	......	......	...	...	...	...	......	1.78	......	0.70	0	6	11	13	6	nw.	J. B. Smith.
Steele	Kidder	1,857	46	63.0	+0.5	94	1	39	29	45	2.08	−1.43	0.79	0	10	15	11	4	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	......	......	...	...	...	...	......	3.76	+1.88	1.60	0	10	20	6	4	nw.	G. N. Pilgard.
Timmer	Morton	......	3	......	......	...	...	...	...	......	1.21	......	0.42	0	7	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	38	62.2	−0.6	89	16	36	18	45	2.98	−0.17	0.90	0	8	15	11	4	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	64.3	+2.5	95	17	40	29	42	1.15	−2.49	0.45	0	8	21	4	5	nw.	Albert H. Slettum.
Tuttle	Kidder	1,936	32	......	......	...	...	...	...	......	1.28	−2.06	0.54	0	9	17	8	5	nw.	Adam Leno.
Velva	McHenry	1,511	13	63.6	−0.9	90	13	38	19	41	1.55	−0.89	0.63	0	10	12	14	4	nw.	Oscar Anderson.
Washburn	McLean	1,731	39	65.8	+1.7	92	16	43	10	40	1.16	−2.23	0.31	0	9	17	9	4	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	62.1	+0.1	90	13	31	20	44	2.84	−0.19	0.93	0	10	19	9	2	ne.	John J. Egger.
Willow City	Bottineau	1,471	48	60.6	−0.4	88	17	30	19	44	3.02	−0.13	0.91	0	9	17	9	4	nw.	O. M. Sanderson.
Wilton	McLean	2,159	4	63.0	......	90	17	41	6	40	1.54	......	0.60	0	9	18	7	5	nw.	Soo Line Agent.
Wishek	McIntosh	2,010	19	62.3	0.0	93	15†	39	4†	44	3.05	+0.05	2.05	0	12	14	10	6	nw.	H. M. Larson.
Zap	Mercer	1,838	25	......	......	...	...	...	...	......	1.02	−2.92	0.38	0	4	20	8	2	w.	John Kaufman, Jr.
Average for Middle Division		......	.....	62.9	+0.5	96	16	30	19	49	2.10	−1.26	2.05	0	9	14	11	5	nw.	......

Continued on page 24

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for June 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red			T	.55		.44	.44		.72							T.					.43		.44			.06	.11	T.				3.19
Cooperstown	Sheyenne	T.	.03	.05	.46	T	.30											T.				.30	T.	.11			.24	.36					1.85
Courtenay [2]	James			.03	.27		.28			1.41								T.				.25		.31			.20	.16	.03				2.94
Devils Lake [1]‡	Devils Lake	T	.36	T.	.01	T.	.01		.35	.54	.01	T					T.	.04				.02	.06	.03		.04	.16	.14	.03				1.80
Edgeley	James			.38	1.27					.23									.24					1.21			.04	.34					3.71
Edmore	Devils Lake		.41				T.			.21												.05	.17	.10			.02	.14					1.10
Ellendale	James			.21	.45	.02				.14									.07					1.41				.06					2.36
Fargo	Red			T.	.96	T.	.15		T	.10	T.				.01		T.	T				.44		.14	T.	T.	.03	.20	.03				2.06
Forman	Sheyenne				.10					.28	.16							.09	T.					.85			.12	.13					1.73
Fullerton	James			.24	.60	.06	T.			.23							T.	.33				T.		1.39	T.			.10					2.95
Grafton	Red	.19	.29		.04					.37												T.	.05										0.94
Grand Forks [1]‡	do		.08	T.	.17		.16		T.	.34								T.				.05		.01		.01	T.	T.	.03				0.85
Hankinson [2]	do				.02	.09	.01	.01		.32	.06							.09							.57	.01			.10	.01			1.29
Hannah	Pembina		.75				.17	T	T.	.61								T.				.53	.50	.04		.05	.25	T.	T.				2.90
Hillsboro	Red		T		.44		.34			.31								.02				.30		.09				.25	.03				1.78
Jamestown [2]	James			.13	.24	.03	.09			1.75							.12	.03			.07			.98			.03	.02					3.49
Langdon	Pembina		.67				.03			.20	.08											.20	.31	.07			.05	.20	.06				1.87
Larimore	Red		.25		.22		.14			.15	.15							.02				.05						.05	.01				1.04
Lisbon [2]	Sheyenne				.04	.25	.02	.02		.10									.05					.58	.35		.10		.45	T.	T.		1.96
McHenry	James		.22		.19		.15		.01	1.23								.08				.34		.05			.22	.47					2.96
McLeod	Sheyenne				.19	T.				.66														.68			T.	.53					2.06
Mayville	Red				.25		.38	T.		.33								.16			.24			.06				.19	.05				1.66
Oakes [2]	James				.13	.11	.06	T.		.15	T							T	.01					1.02	.28				.08				1.84
Park River	Red	.10	.43		T.		.05			.45	.02												T.	.17									1.22
Pembina	do		.40				T.			.52	.20											.52	.21	.02				.16	.06	.02	.22		2.33
Petersburg	do		.20		.12		.09			.04	.12							.08				.01	.02				.02	.05	.04				0.79
Sharon	do		T.	T.	.24	T.	.30			.19							T.	.01				.26	T.	.04		.01	.08	.20	T.				1.33
Valley City	Sheyenne			.55	.94		.12			.06	.01						T					.33		.64			.13	.03					2.81
Wahpeton	Red			T	.10	T	.02			.33								.07	T.			T		.48	.02		.04	.48	T.	T			1.54
Moorhead, Minn [1]‡	do			T.	.80		.10			.17	.01				T.		T.	T.				.20		.20	T.	T.	.03	.20	.04				1.75
Middle Division																																	
Ashley [2]	Missouri			.30	1.12	.03	.07			.03	.04								.16					1.06	.19	.06							3.06
Bisbee	Devils Lake		.77				.24		T.	.26	.05											.10	.25				.02	.18	.03				1.90
Bismarck [1]‡	Missouri			T.	.12	T.	.03		.53	.12								.14				.66	.48	.04				.01					2.13
Bottineau [2]	Mouse		.62				.40		.43	.01												.22	1.21				.19	.35	.02				3.48
Carrington [2]	James		.07		T.	.12	T	.32		.08	.02											.08		.05	.05		.15	.15					1.09
Carson	Heart				.24	.07	.15		.45	.03												.07	.37	.03									1.41
Center	Missouri		T.		.46		.24		.27	T.													.21										1.18
Dogden Butte	Mouse	.21	.89		.06		.10		.06	.16													.90	T.			.02	.10	T.				2.50
Drake [2]	do		.84			.01	.04	.06		.36	.01								.43			.03	.48	.39			.02	.03	T				2.70
Dunseith	do	.10	.65				.43		T.	.17	.02	.02									T.	.38		1.07	.06	.02	.02	.28	.06				3.28
Eckman	do	.15	.50		.35		.50		.15	.20												.17	.88		.02		.28	.32	.04				3.56
Energy	Missouri	T.	.65		.05		.34		.10	.12													.45										1.71
Fessenden	James		.32		T.		.10		.02	.49	.01							T.				.04	.04	.18			.11	.13					1.44
Fort Yates	Missouri			.60	.08	.10	T.		T.	T								T.						.95									1.73
Foxholm (near)	Mouse	.30	.55		.02	T.	.44		.22	.03												T.	1.12				T.	T.					2.68
Gackle	James			.10	.17	.01	.02			.06	.05						.02	.10	.01			.03		1.16			.10	T					1.83
Garrison [1]	Missouri	.11	.88		.03		.24		.08	.06												.05	.74				.03	.09					2.31
Granville	Mouse	.15	.66		.02	T.	.35		.07		.12											.05	.68			T.	.08	.02					2.20
Hansboro	Devils Lake		.45				.35			.27												.28	1.00				.03	.25	.09				2.72
Linton	Missouri			.34	.13	T.	.13		T.	.05								T.						.81				.05	T.				1.51
McClusky	do		.32		.04		.25		.03	.61													.33					.15					1.73
Maddock	Sheyenne		.66	T.			.03		.01	.31								.41					.06				.35	.08					1.91
Mandan [2]	Missouri			.08	T	.18	T.	T	.33	.18											.60	.57	.01	T.				T.					1.95
Max [2]	do		1.00		.03	.03	.14	.02		.20	.16											.02	.68				.01	.24	.04				2.57
Minot [1]	Mouse	.11	.89		.09	.34	.33		.24	.10												T	.62			T.	T.	.03					2.75
Mohall	do	.20	.46		.01	.09	.47		.11	.12												.15	.43				.24	.71	T.				2.99
Napoleon [2]	Missouri				.10	.03	.18	.03		.05	.08								.08			.01		.72	.11				.05				1.44
New Salem	Heart			T.	.17		.04		.21	.12	.01												.61	.03									1.19
Pettibone	James				.02					.28												.08		.07			T	.07					0.52
Rolla	Devils Lake		.56		T		.35		.01	.18	.01										T.	.13	.92	T		T.		.26	.10				2.52
Rugby (near)	Mouse	.01	.68		T	.22				.37												.14	.28				.25	.08					2.03
Ryder	Missouri	1.12			.08		.53		.52	.10												.57					.05	T					2.97
Selfridge	do		.48	15		.25	.10			.10								T.					T	.70									1.78
Steele	do				.08		.26		T	.79	.04						.05	.10				.37	.02	.35				.02					2.08
Tagus	Mouse	.16	.55		.07	.05	.69		.28	.30	T.										T.	.03	1.60				T.	.03					3.76
Towner	do	.05	.65			T.	.22		.01	.90												.20	.60				.35		T				2.98
Turtle Lake	Missouri		.45	T.	.05		.11		.07	.04													.31				.09	.03					1.15
Tuttle	do		T.		.06	.01	.23		.54	.09												.09	.14	.06		T.	T.	.06					1.28
Velva	Mouse	.05	.63		.04		.14		.08	.03	.03							.07					.40					.08					1.55
Washburn	Missouri	.02	.09	.16			.31		.05	.07												T	.18	.10				.18					1.16
Westhope	Mouse	.08	.40		.07		.40		.07	.30												.19	.93				.20	.20					2.84
Willow City	do	.13	.57				.28		.15	.25												.24	.91				.17	.32					3.02
Wishek [2]	Missouri		.12	.19	.02	.05	.02		.20	.10								.20					2.05	.02			.03	.05	T.				3.05
Zap	Knife		.38			T.	.26		.11														.27										1.02
Western Division																																	
Alpha	Lit. Missouri			T.	.29	.16	.27	.09	.03	.02												.14	.89					.01					1.90
Amidon	do				.25	.03	.25			.30												.16	1.17	.03									2.19
Beach [2]	do				.11	.16	.65	T.	.70	.55												.50	.86					.03					3.56
Berthold Agency	Missouri		.65			.10	.34		.10	.15												.08	.45				.02						1.89
Bowman [2]	Grand			.62	.88		.30		.03		.33												.57	.41									2.54
Crosby [2]	Mouse	.40	.55		.69		.05		.25	.51	.28		.17								.38							.27	.02				2.97
Dickinson [2]	Heart			T.	.06	.01	.28	.04	.05	T.	.14											.26	.64		T.				.05				1.53
Dunn Center [2]	Knife		.50		.05		.36	.02	.04	.02	.23											.15	.42										1.79
Fairfield	Lit. Missouri		.28			.42	.34		.20	.38												.41	.65										2.68
Fryburg	Heart		.10		.15	.09	.37	T.	.05	.31												.45	.73					.03					2.28
Hettinger	Grand			.17	.26	T.	.30			T.													1.31	.19									2.23
Howard (near)	Missouri	.15	.62			T.		T.	.77	.22	T.		.04								T.	.49	.05				T.	T					2.34
Kenmare [2]	Mouse	.22	.39		T.	.02	.65			.33	.43											.18	.34										2.56
Marmarth [2]	Lit. Missouri		.02	.70	.05	.30	T.	.15	.08	.13											.40	.68	.19								.03		2.73
Mary	do		.99		.09	1.07	.60		.20	.57												.47	.87					.10					4.96
Medora	do				.06	.22	.17	T	.15	.35												.44	.64					T			T.		2.03
Mott	Cannon Ball			.02	.08	.15	.12		.26	.03												.09	.64	.07									1.46
New England [2]	do						.20			.19											.12	.55	.11										1.17
Parshall [2]	Missouri	.01	1.04		.07	.03	.70	.06		.38	.13											.06	.85				.09	.07	T.	T.			3.49
Portal [2]	Mouse	.24	.32				.51			.41	.20											.51	.13				.06	.15	.03				2.56
Powers Lake	Missouri	.27	.44	.05		T.	.54		.67	.28		.18											.11	.34									2.88
Richardton	Heart				.06	.07	.21		.32	.16												.20	.43					.02					1.47
Sanish [2]	Missouri	.33	.58		.05	.02	.70	.03	.03	.37	.05											.04	.53					.10					2.83
Stanley	do	.34	.58		.10	.09	.76		.26	.21			.06									.01	.58					.01					3.00
Tioga	do	.22	.50		T	.13	.37	T	.48	.17			.10									.17	.18										2.32
Trotters	Lit. Missouri	.70		.08	T.	1.03		.63	.13	.49											.45	.44						T.					3.95
Watford City	Missouri	T	.88		.15	.17	1.00		.13	.43												.30	1.40					.29	.03				4.78
Wildrose	do	.25	.65	.02		.14	.14	T.	.59	.38			.35									.32	.28										3.12
Williston [1]‡	do	.71	.28	T.	.10	.16	.18	T.	.40	.12	T	T.									.21	.02	.17				.03	T.					2.38

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement.
T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for June 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley §	Maximum	88	82	71	70	64	70	71	71	61	70	82	85	85	77	82	96	93	80	78	74	87	91	65	75	79	72	75	69	82	84	....	77.6
	Minimum	54	59	54	45	42	52	42	44	46	43	46	52	52	65	45	59	57	49	42	45	57	58	54	40	48	49	53	48	45	50	....	49.8
Beach	Maximum	87	80	70	72	62	70	70	64	57	74	89	78	92	89	86	86	88	79	79	82	85	76	68	76	89	86	71	72	87	81	....	78.2
	Minimum	60	56	50	53	49	53	47	50	46	40	50	54	54	55	44	55	56	46	46	54	57	56	50	46	49	51	55	44	44	49	....	50.6
Bismarck	Maximum	87	78	71	69	63	70	74	70	63	75	84	84	89	79	83	93	92	80	75	79	87	83	70	78	82	77	76	72	86	82	....	78.4
	Minimum	55	60	52	48	42	48	41	47	50	42	54	59	51	54	44	61	56	48	45	45	55	62	50	45	47	52	58	50	44	48	....	50.4
Bottineau §	Maximum	86	84	65	66	69	72	70	68	65	62	71	82	80	85	75	85	85	80	71	72	70	79	75	69	74	73	72	68	68	75	....	73.9
	Minimum	61	53	46	49	50	55	45	48	47	40	52	53	45	52	44	55	58	45	39	43	50	55	49	48	46	53	56	47	44	48	....	49.2
Carson	Maximum	85	79	68	70	61	70	73	68	58	76	87	85	93	79	86	94	94	83	77	79	93	85	75	79	88	79	75	75	80	89	....	79.4
	Minimum	61	57	50	49	45	49	44	49	46	36	46	52	50	59	43	58	57	43	44	48	54	60	50	43	45	48	50	46	45	44	....	49.7
Crosby §	Maximum	80	62	71	77	71	62	66	60	61	75	83	77	87	71	76	79	75	66	77	76	79	68	71	76	82	78	68	70	79	78	....	73.4
	Minimum	46	53	52	51	56	50	49	46	46	41	46	54	53	51	44	48	50	45	39	47	52	60	47	45	45	48	49	43	43	45	....	48.1
Devils Lake	Maximum	88	67	62	67	71	70	68	70	62	68	83	82	82	76	76	88	89	75	70	72	79	77	68	75	75	74	72	68	78	75	...	74.2
	Minimum	59	50	45	43	48	51	42	43	50	44	54	55	46	53	46	59	53	46	36	36	55	54	50	46	44	54	55	50	46	45	....	48.6
Dickinson §	Maximum	87	69	69	70	59	68	72	71	56	75	85	78	95	75	87	90	92	78	77	81	87	79	69	77	83	77	71	70	85	80	....	77.1
	Minimum	55	55	51	50	45	48	38	47	46	36	44	47	47	60	38	50	47	44	41	50	52	58	53	43	45	48	51	46	41	50	....	47.5
Dunn Center §	Maximum	80	63	68	68	58	58	71	66	55	67	79	80	90	67	81	81	77	85	69	72	70	81	78	63	75	79	74	74	63	78	....	72.3
	Minimum	58	55	52	52	45	54	42	50	49	39	48	53	50	58	43	47	49	44	44	49	55	61	53	45	48	49	55	47	41	45	....	49.3
Fargo	Maximum	90	83	66	60	70	73	69	75	70	64	79	87	81	82	79	95	92	82	72	74	73	76	63	78	76	76	74	71	80	79	....	76.3
	Minimum	64	57	52	47	42	53	46	48	56	48	45	51	48	57	49	63	57	47	38	33	52	51	51	45	43	56	50	50	44	46	....	49.6
Fessenden §	Maximum	86	83	64	67	69	69	70	70	68	72	83	84	84	83	79	90	92	87	73	76	83	81	77	72	78	73	75	72	82	79	....	77.4
	Minimum	56	55	46	46	44	54	41	42	48	41	53	56	47	62	49	57	51	43	38	38	53	59	54	43	43	52	56	47	43	48	....	48.8
Fullerton	Maximum	92	89	70	63	68	73	72	76	67	71	82	87	87	84	86	99	91	81	77	80	84	90	80	77	80	76	80	70	84	82	....	79.9
	Minimum	53	52	50	51	44	50	46	44	54	47	43	50	49	63	47	11	57	48	42	38	60	54	53	47	48	53	53	51	44	55	....	50.2
Garrison §	Maximum	86	69	66	70	66	69	72	65	62	75	84	80	92	76	81	90	90	77	75	78	88	88	70	76	80	76	73	70	33	79	...	76.8
	Minimum	58	58	50	52	46	56	43	48	51	41	52	55	51	60	46	55	53	47	47	45	54	61	52	47	46	51	57	48	45	49	...	50.8
Grafton	Maximum	88	87	65	64	74	73	73	74	72	66	86	87	83	80	78	91	90	78	70	71	73	71	70	77	75	78	78	75	79	78	....	76.8
	Minimum	60	50	46	45	44	57	49	45	54	48	47	61	44	66	50	60	54	46	38	31	55	50	56	44	43	54	55	52	48	46	...	49.9
Grand Forks	Maximum	89	68	64	63	74	72	69	75	70	65	86	89	79	80	78	93	92	82	71	71	68	78	74	80	78	78	79	74	83	81	....	76.8
	Minimum	61	51	44	44	42	52	45	45	52	47	45	53	46	57	49	60	50	43	33	32	53	50	48	43	40	53	55	50	48	46	...	47.9
Jamestown §	Maximum	90	92	71	65	68	67	70	76	76	69	85	85	89	86	83	92	91	84	89	82	87	85	77	80	74	76	77	82	82	82	....	80.4
	Minimum	65	63	48	49	42	50	47	46	52	45	48	52	49	68	58	61	56	47	40	52	58	55	46	47	54	56	50	55	55	58	....	52.1
Kenmare §	Maximum	84	62	69	70	71	68	68	59	55	73	81	78	88	73	75	83	74	71	71	77	84	74	70	76	75	74	72	73	80	76	...	73.5
	Minimum	59	54	50	52	52	54	43	48	48	42	50	55	50	55	47	58	54	49	40	42	50	61	49	52	47	52	55	46	48	46	....	50.3
Langdon	Maximum	88	86	66	68	77	72	71	68	66	67	83	83	80	79	77	89	87	76	71	69	73	71	68	75	75	78	69	71	78	76	....	75.2
	Minimum	54	46	41	41	43	54	40	40	52	42	50	55	38	59	42	57	50	42	32	31	48	49	57	41	40	48	52	47	41	42	....	45.8
Marmarth §	Maximum	87	68	68	67	61	68	70	69	56	74	82	82	94	75	85	89	79	81	81	81	82	79	68	78	86	80	73	71	88	86	...	76.9
	Minimum	58	56	52	52	52	45	54	46	38	46	54	52	61	45	54	52	47	52	56	57	60	52	44	46	62	59	50	41	50	56	....	51.6
Minot	Maximum	85	65	69	70	72	70	71	62	67	75	84	80	92	75	79	85	82	75	71	79	84	77	70	75	77	75	73	70	82	75	....	75.5
	Minimum	59	57	50	53	53	47	41	47	46	40	55	58	47	49	43	57	50	45	57	42	53	56	50	48	44	53	57	46	44	48	...	49.2
Mott	Maximum	88	79	69	62	69	71	74	70	63	78	86	75	87	84	88	94	84	81	85	85	89	84	79	86	87	86	83	71	89	89	...	80.5
	Minimum	61	58	52	52	44	51	41	56	44	37	49	52	49	40	40	63	55	48	43	51	59	59	51	42	52	49	59	49	41	51	....	49.9
Pembina	Maximum	88	86	76	69	79	73	70	75	72	66	85	87	79	79	77	88	86	80	73	75	70	72	71	77	75	76	76	72	80	76	...	76.9
	Minimum	63	50	43	63	42	63	46	66	60	46	49	67	40	64	59	59	49	47	33	33	64	59	55	46	40	43	55	52	45	52	....	51.8
Sharon	Maximum	86	75	61	62	68	69	65	74	66	68	84	86	81	78	78	93	93	79	73	73	75	81	66	78	78	79	73	70	79	80	....	75.7
	Minimum	57	53	45	45	43	53	47	44	55	45	49	55	45	43	48	60	58	45	35	35	49	52	55	42	47	51	55	48	43	48	...	48.3
Steele	Maximum	94	90	69	68	66	67	71	69	64	71	80	82	85	77	81	91	90	80	77	78	85	85	74	76	79	80	74	69	84	81	....	77.9
	Minimum	54	58	46	47	40	48	43	41	45	40	47	53	47	59	42	59	53	47	45	41	52	59	52	42	45	49	53	47	39	51	....	48.1
Valley City	Maximum	88	86	72	66	68	69	69	75	74	68	82	87	85	83	78	93	90	86	78	74	75	79	79	76	77	74	76	75	79	79	....	78.0
	Minimum	54	57	49	50	42	53	40	47	56	48	45	52	50	66	47	62	59	47	38	43	52	56	56	45	44	54	54	50	45	50	....	50.4
Wahpeton	Maximum	89	87	78	65	71	76	75	76	75	69	76	86	85	84	80	97	94	85	81	74	78	81	81	82	80	77	77	75	79	81	...	79.8
	Minimum	59	60	53	56	45	54	45	46	59	59	56	49	49	65	47	59	61	53	39	38	57	49	56	46	45	55	48	52	54	54	...	51.9
Williston	Maximum	83	63	72	70	67	68	68	66	60	76	84	78	91	74	84	84	77	73	73	82	84	72	70	76	82	76	71	71	84	78	....	75.2
	Minimum	57	56	54	56	54	54	49	50	50	47	53	56	59	55	47	56	55	47	54	55	61	55	52	53	51	52	52	45	47	52	....	52.8

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for June 1940—Continued from page 22.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	.....	......	....	...	.....	....	......	1.90	−1.50	0.89	0	9	19	6	5	w.	H. A. Bury.
Amidon	Slope	......	17	65.7	+4.7	95	13	41	11	41	2.19	−0.90	1.17	0	7	17	4	9	nw.	Stanley W. Bale.
Beach	Golden Valley	2,759	34	64.4	+2.7	92	13	40	10	43	3.56	−0.14	0.86	0	8	7	18	5	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	66.6	+3.8	97	13†	38	10	48	1.89	−1.98	0.65	0	8	22	5	3	nw.	H. W. Chase.
Bowbells	Burke	1,958	11	60.2	......	89	13	36	19	40	2.40	−0.80	0.47	0	12	4	16	10	nw.	Charles Kaufman.
Bowman	Bowman	2,872	25	64.1	+1.6	92	18	42	15	42	2.54	−0.41	0.88	0	7	20	8	2	sw.	Wm. E. Tomlin.
Crosby	Divide	1,954	31	60.8	−0.3	87	13	39	19	38	2.97	−0.39	0.55	0	11	3	15	12	w.	J. H. Phelps.
Dickinson	Stark	2,543	47	62.3	+0.6	95	13	36	10	49	1.53	−1.84	0.64	0	9	12	13	5	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	60.8	−1.2	90	13	39	10	41	1.79	−2.08	0.50	0	9	14	12	4	nw.	O. T. Evenson.
Epping	Williams	2,224	29	63.8	+1.3	91	1	39	10†	47	2.68	−0.89	0.62	0	10	13	14	3	se.	T. Beachler.
Fairfield	Billings	......	3	.....	......	....	...	.....	....	.....	2.68	....	0.65	0	7	18	9	3	nw.	W. M. Geesaman.
Fryburg	Billings	2,790	21	62.9	......	94	13	42	7†	45	2.28	−1.02	0.73	0	9	18	9	3	nw.	Verne King.
Hettinger	Adams	2,675	32	65.3	+2.4	95	16†	38	10	49	2.23	−0.97	1.31	0	5	14	12	4	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	61.4	+1.2	90	13	40	27†	38	2.34	−0.72	0.77	0	7	15	15	0	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	61.9	......	88	13	40	19	38	2.56	−0.50	0.65	0	8	13	10	7	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	64.2	+2.2	94	13	38	9	38	2.73	−0.33	0.70	0	11	14	7	9	nw.	S. P. Grane.
Mary	McKenzie	......	11	....	......	....	...	.....	...	.....	4.96	+2.51	1.07	0	9	21	5	4	sc.	Fred Hartman.
Medora	Billings	2,271	24	.....	......	....	...	.....	..	.....	2.03	−1.13	0.64	0	7	18	8	4	nw.	Vernon Thompson.
Mott	Hettinger	2,424	32	65.2	+0.8	94	16	37	10	48	1.46	−1.76	0.64	0	9	17	7	6	se.	P. G. Wick.
New England	Hettinger	2,400	45	65.4	+2.8	99	15	39	4†	40	1.17	−1.79	0.55	0	5	10	13	7	se.	F. S. Sleight.
Parshall	Mountrail	1,929	24	61.3	......	91	14	32	15	44	3.49	−0.07	1.04	0	12	5	24	1	nw.	C. E. Shubert.
Portal	Burke	1,954	34	61.1	+1.9	88	13	36	19	40	2.56	−0.73	0.51	0	10	10	16	4	w.	R. G. Wegener.
Powers Lake	Burke	2,205	34	62.8	+1.5	91	13	36	19	37	2.88	−0.72	0.67	0	9	12	16	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	23	64.0	+1.4	92	13	41	10	38	1.47	−1.94	0.43	0	8	9	13	8	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	14	62.3	−1.4	91	13	37	10	49	2.83	−0.03	0.70	0	12	15	10	5	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	2	61.6	......	89	13	37	10	39	3.00	....	0.76	0	11	14	10	6	nw.	Leroy Edwards.
Tioga	Williams	2,279	11	.....	......	....	...	.....	...	.....	2.32	+0.24	0.50	0	9	12	8	10	nw.	B. V. Olson.
Trotters	Golden Valley	......	14	.....	......	....	...	.....	...	.....	3.95	+0.47	1.03	0	8	15	11	4	nw.	Walter Grunewald
Watford City	McKenzie	2,084	26	64.3	+2.6	91	13	42	10	41	4.78	+1.58	1.40	0	10	14	12	4	nw.	J. C. Zeller.
Wildrose	Williams	2,258	12	.....	......	....	...	.....	...	.....	3.12	....	0.65	0	10	19	4	7	nw.	L Holter.
Williston	Williams	1,878	60	64.0	+1.3	91	13	45	28	37	2.38	−1.05	0.94	0	11	20	5	5	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	63.2	+1.2	99	15	32	15	49	2.60	−0.71	1.40	0	9	14	11	5	nw.	....
Average for the State		......	.....	63.1	+0.1	102	16	27	19	51	2.24	−1.15	2.05	0	9	13	11	6	nw.	....

[WBO, Minneapolis, 7-30-40—1200

UNIVERSITY OF

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. XLIX BISMARCK, N. D., JULY 1940 No. 7

PRICE: 5 CENTS A COPY; 25 CENTS A YEAR (NOT STAMPS)
REMITTANCE PAYABLE TO SUPERINTENDENT OF DOCUMENTS, WASHINGTON, D. C.

GENERAL SUMMARY

Temperatures were above normal in all sections, continuing a warm July trend which has persisted in the state for the past 12 successive years. The warmest period was from the 17th to the 24th. Readings above 100° were not numerous, but there was an average of 13 days when the maximum temperature reached or exceeded 90°. The month opened dry and continued dry until the 4th. After the 4th the precipitation was well distributed both geographically and throughout the month. Rain fell on all days somewhere in all sections from the 13th to the the 31st. Much of the precipitation occurred during the night so sunshine was normal or above in most places. More than the normal number of thunderstorms occurred. Hail damage was above average and some crops were damaged near the close of the month by excessive rainfall. No dust or wind storms of importance were reported. Small grains deteriorated somewhat early in the month due to the dry weather, but corn and potato crops made good progress as a result of the above average temperature and the generous showers during the second and third decades. Pastures held up well and livestock was mostly in good condition throughout the month.

TEMPERATURE

The mean temperature for the state was 71.6°, or 2.6° above the 1892-1940 average for July. The mean temperature for the eastern division was 71.9°; for the middle division, 71.2°; and for the western division, 71.7°. The highest mean temperature was 75.4° at Hettinger, and the lowest, 67.0° at Willow City, making a range in mean temperature of 8.4°. The absolute range was 70°, from 107° at Jamestown and Lisbon on the 22d, to 37° at Edmore on the 1st. The average daily excess in temperature for the state since January 1, 1940, is 0.3°.

PRECIPITATION

The average precipitation for the state was 3.70 inches, or 1.25 inches more than the 1892-1940 average for July. In the eastern division the average amount was 4.29 inches; in the middle division, 3.75 inches; and in the western division, 3.05 inches. The greatest monthly amount reported was 7.24 inches at Devils Lake; the least was 1.18 inches at Wildrose. The greatest amount recorded in any 24 consecutive hours was 3.57 inches at Fessenden on the 28th. The accumulated excess in precipitation for the state since January 1, 1940, is 2.04 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	3	2	2	..	..	1	1	..	..	..	..	1	..	..	..	..	..	..	1	1	..	1	..	..	..	1	5	5	1
Dust storms	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Fogs	..	..	..	..	..	..	1	..	1	4	3	..	..	..	..	..	1	4	5	6	2	1	6	..	1	3	2	2	2	1	1
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..
Solar halos	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hail	..	..	..	..	1	4	2	..	..	..	1	..	7	..	..	..	..	1	..	1	4	4	..	3	1	..	..	..	..	1	2
Thund'rst'ms	..	..	1	2	10	27	16	5	12	21	1	..	11	23	3	11	21	20	17	2	12	30	19	20	19	3	17	28	1	9	7

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.96	30.30	2	29.63	28	10.4	36	n.	19	82	45	43	73
Devils Lake	29.98	30.32	12	29.57	28	7.5	38†	w.	23	83	51	51	74
Williston	29.92	30.29	11	29.63	23	6.5	33†	w.	19	78	47	40	67
Fargo	29.97	30.33	12	29.56	28	....	.....	......	....	57	49	45	....
Moorhead, Minn	......	......	....	....	....	7.6	31	nw.	22	....	....	....	77

† And other dates.

COMPARATIVE DATA FOR JULY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	68.7	108	31	3.44	2.98	3.28	3.23	0	8	19	8	4
1893	69.5	112	35	2.54	1.94	1.64	2.04	0	7	17	10	4
1894	71.7	107	38	0.92	0.73	0.25	0.63	0	3	20	8	3
1895	66.1	102	29	3.12	2.44	3.13	2.90	0	8	14	11	6
1896	67.5	107	31	1.67	1.48	1.37	1.51	0	6	15	10	6
1897	68.9	109	38	6.46	4.43	2.40	4.43	0	9	13	11	7
1898	67.6	106	28	3.07	2.40	2.00	2.49	0	7	15	11	5
1899	68.3	109	32	2.37	2.30	2.35	2.34	0	6	18	9	4
1900	67.9	107	33	2.89	2.26	1.60	2.25	0	6	16	10	5
1901	70.8	110	40	5.10	4.08	3.66	4.28	0	6	18	7	6
1902	67.6	106	34	2.34	2.00	2.10	2.15	0	5	20	7	4
1903	66.7	109	26	2.59	1.77	2.32	2.23	0	7	17	8	6
1904	64.4	102	34	2.96	2.83	0.60	2.13	0	6	17	8	6
1905	65.6	100	32	4.27	3.90	3.17	3.78	0	8	17	9	5
1906	66.9	102	34	2.90	1.32	0.45	1.56	0	11	13	8	10
1907	65.8	103	31	2.69	3.90	2.60	3.06	0	9	16	11	4
1908	68.6	103	31	1.89	2.37	1.46	1.91	0	6	19	9	3
1909	67.1	99	34	3.45	2.94	1.80	2.73	0	8	15	9	7
1910	70.0	114	33	1.30	2.10	1.40	1.60	0	5	18	9	4
1911	65.1	107	23	2.25	1.76	1.10	1.70	0	6	18	10	3
1912	66.0	106	30	4.52	3.07	3.38	3.66	0	10	12	13	6
1913	65.6	103	35	2.64	2.38	1.65	2.22	0	8	17	8	6
1914	72.1	109	36	2.62	1.85	2.03	2.17	0	6	19	9	3
1915	62.3	97	30	2.42	2.66	4.30	3.13	0	11	12	11	8
1916	73.1	105	33	4.71	2.76	1.41	2.96	0	7	19	9	3
1917	70.9	114	27	1.96	1.80	0.87	1.54	0	7	17	11	3
1918	65.5	102	34	2.84	2.90	2.46	2.73	0	7	14	10	7
1919	71.2	105	37	3.15	1.11	1.32	1.86	0	5	18	10	3
1920	68.3	103	31	2.27	2.33	1.73	2.11	0	7	18	11	2
1921	71.4	110	35	4.47	2.87	1.88	3.07	0	7	17	10	4
1922	65.6	100	30	2.28	2.44	2.72	2.48	0	8	16	11	4
1923	71.2	103	35	2.90	3.34	2.91	3.05	0	8	16	11	4
1924	65.5	99	32	1.93	2.04	1.83	1.93	0	6	18	9	4
1925	66.7	106	29	1.43	1.33	1.30	1.35	0	6	18	9	4
1926	70.3	108	32	2.35	1.78	1.99	2.04	0	7	18	8	5
1927	65.4	97	28	2.33	3.11	3.09	2.84	0	9	15	10	6
1928	67.4	96	38	4.65	5.32	4.49	4.82	0	10	16	10	5
1929	70.6	109	34	1.93	1.09	0.78	1.27	0	5	21	8	2
1930	72.3	107	34	1.83	0.80	0.49	1.04	0	5	21	8	2
1931	70.6	111	37	2.89	3.20	3.01	3.03	0	8	17	8	6
1932	70.0	108	36	1.95	2.22	1.68	1.95	0	7	19	8	4
1933	71.9	109	36	2.04	2.13	1.83	2.00	0	7	19	9	3
1934	71.8	112	29	1.58	1.30	0.77	1.18	0	6	18	10	3
1935	73.8	110	45	3.90	5.44	3.90	4.41	0	10	17	11	3
1936	79.9	121	38	0.71	0.48	0.92	0.70	0	4	22	8	1
1937	71.7	111	40	3.70	2.70	2.40	2.93	0	9	15	10	6
1938	69.7	104	39	3.11	3.85	3.05	3.34	0	9	15	13	3
1939	72.6	108	37	1.57	1.82	2.04	1.81	0	7	19	9	3
1940	71.6	107	37	4.29	3.75	3.05	3.70	0	11	14	13	4
Period	69.0	121	23	2.80	2.49	2.08	2.46	0	7	17	10	4

Climatological Data for July 1940

				Temperature, in degrees Fahr.							Precipitation, in inches				Number of days					
Stations	Counties	Elevation, feet	Length of record, years	Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Eastern Division																				
Casselton	Cass	961	44	72.8	+4.1	100	22	46	1	43	5.05	+2.26	1.65	0	12	20	10	1	nw.	James. H. Erickson.
Cavalier	Pembina	894	30	70.2	....	100	23	48	12	40	5.49	+2.82	1.50	0	11	18	7	6	s.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	72.4	+4.2	104	22	41	1	40	2.88	+0.42	0.77	0	12	27	4	0	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	.....	....	....	..	....	....	.....	3.44	....	1.43	0	12	6	21	4	e.	G. H. Hauawalt.
Devils Lake	Ramsey	1,471	43	70.2	+2.8	98	22	44	1	38	7.24	+4.67	1.84	0	15	10	16	5	e.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	73.6	+4.8	100	22	45	2	38	3.75	+0.98	1.94	0	10	7	24	0	se.	O. A. Thompson.
Edmore	Ramsey	1,524	16	67.6	+1.2	95	5†	37	1	47	5.90	+3.15	1.03	0	14	23	6	2	e.	Mike Davis.
Ellendale	Dickey	1,457	45	73.5	+2.8	102	22	45	1	40	2.96	+0.22	0.81	0	11	19	10	2	se.	J. E. Demmer.
Fargo	Cass	895	4	72.4	....	102	22	45	1	38	4.12	+0.59	1.37	0	11	8	15	8	n.	W. B. Aerological Sta.
Forman	Sargent	1,249	47	74.0	+3.9	104	22	48	3	42	5.10	+2.13	3.19	0	9	24	7	0	sw.	Helge Dyste.
Fullerton	Dickey	1,439	42	73.6	+4.6	103	22	44	1	42	3.12	00.0	1.37	0	9	16	15	0	ne.	F. O. Alin.
Grafton	Walsh	827	48	71.2	+3.5	99	22	44	2	43	5.08	+2.53	1.35	0	12	8	18	5	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	70.8	+3.3	98	22	41	1	42	6.32	+3.57	2.31	0	14	7	12	12	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	73.7	−1.0	104	22	48	2†	38	1.48	−1.26	0.67	0	12	15	8	8	e.	Joseph Rindt.
Hannah	Cavalier	1,568	48	70.8	+6.1	96	5	43	15	36	7.12	+4.77	1.95	0	9	14	12	5	sw.	Charles McAdams
Hillsboro	Traill	901	40	72.3	+2.7	102	22	46	1	42	3.76	+1.08	1.39	0	12	25	6	0	ne.	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	75.0	+6.5	107	22	45	1	44	2.99	+0.21	1.43	0	9	8	17	6	se.	S. G. Calvelage.
Langdon	Cavalier	1,615	44	68.2	+3.6	97	5	41	1	41	5.25	+2.88	1.18	0	12	21	5	5	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	70.8	+3.8	99	22	45	1	43	6.78	+3.56	3.00	0	13	5	9	17	ne.	W. L. Goodison.
Lisbon	Ransom	1,091	36	75.3	+6.0	107	22	45	1	42	2.87	−0.32	1.22	0	11	14	12	5	ne.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	70.2	+2.5	100	22	39	1	44	4.77	+1.69	3.05	0	13	14	16	1	ne.	C. E. Blasky.
McLeod	Ransom	1,075	29	73.4	+3.2	102	22	48	2†	42	4.23	+1.26	1.58	0	11	21	9	1	sw.	J. G. Carlson.
Mayville	Traill	975	44	71.9	+2.9	103	22	45	12	45	2.09	−0.67	0.66	0	7	3	27	1	n.	H. B. Addicott.
Oakes	Dickey	1,318	11	72.8	−1.4	102	22	44	1	40	2.44	+0.16	0.72	0	10	22	7	2	se.	F. H. Murray.
Park River	Walsh	998	36	68.9	+1.0	98	22	38	12	45	4.63	+2.13	1.78	0	11	18	7	6	se.	E. J. Taintor.
Pembina	Pembina	789	66	70.0	+2.5	100	21	43	2	45	4.12	+1.77	0.99	0	15	8	14	9	.....	S. W. Douglass
Petersburg	Nelson	1,520	10	.....	.....			....	....	.....	5.32	....	1.77	0	13	11	14	6	se.	T. M. Rykken.
Sharon	Steele	1,516	16	71.7	+0.8	104	22	48	1	38	3.79	+1.70	2.00	0	10	15	12	4	ne.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	72.8	+3.9	99	22	46	2	37	4.80	+1.99	1.73	0	10	21	8	2	ne.	I. C. Robertson.
Wahpeton	Richland	962	48	73.7	+3.9	102	22	46	1†	37	2.39	−0.83	0.95	0	11	19	10	2	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	72.6	+4.7	101	22	48	1	40	3.66	+0.23	1.44	0	10	13	14	4	s.	U. S. Weather Bureau.
Average for Eastern Division		......	....	71.9	+3.8	107	22	37	1	47	4.29	+1.49	3.19	0	11	15	12	4	ne.	....
Middle Division																				
Ashley	McIntosh	2,014	44	72.2	+4.0	100	22	45	1†	40	2.00	−0.83	0.68	0	9	14	9	8	se.	Henry Doerr.
Bisbee	Towner	1,601	4	68.8	.....	96	5	41	2	44	7.02	....	......	0	.....	19	7	5	n.	I. K. Lund.
Bismarck	Burleigh	1,670	66	73.5	+3.7	99	23	47	2	42	3.35	+1.11	1.32	0	11	7	14	10	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	69.3	+2.7	95	5	49	15†	32	3.58	+1.21	0.78	0	14	15	14	2	se.	N. D. School of Forestry
Carrington	Foster	1,579	42	71.5	+2.8	99	22	42	1	46	4.04	+1.46	1.54	0	11	15	3	13	sw.	Soo Line Agent.
Carson	Grant	2,500	28	74.4	+5.6	105	13	48	15	47	2.07	+0.04	0.61	0	10	6	23	2	se.	J. W. Evens.
Center	Oliver	.....	2	71.1	....	97	13	41	1	45	4.55	....	1.46	0	8	17	13	1	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	70.0	+0.9	95	5	45	1	34	4.60	+1.46	1.39	0	10	15	9	7	se.	R. L. Williams.
Drake	McHenry	1,634	11	70.6	....	99	9	48	1	42	3.31	.....	0.62	0	13	9	19	3	se.	Peter Anton.
Dunseith	Rolette	1,682	44	69.2	+3.3	95	5	40	1	36	4.83	+2.28	1.30	0	13	10	20	1	sw.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	69.2	+2.4	97	5	44	1	43	3.69	+1.46	0.93	0	14	12	12	2	ne.	B. C. Phipps.
Energy ‡‡	McLean	1,759	25	72.2	+0.2	98	13	44	2	42	3.21	+0.86	0.90	0	10	17	12	2	se.	H. S. Solenberger.
Fessenden	Wells	1,610	28	71.8	+3.8	98	5†	47	15	40	7.13	+4.80	3.57	0	13	14	9	8	n.	John V. Zuber.
Fort Yates	Sioux	1,670	40	74.8	+3.1	103	22	47	2	41	1.24	−0.95	0.48	0	4	22	5	4	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	70.8	+1.4	98	5	46	1	38	2.07	−0.16	0.38	0	12	8	14	9	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	10	73.0	....	102	22	47	1	35	1.91	....	0.65	0	10	11	19	1	n.	A. H. Hant.
Garrison	McLean	1,901	63	71.2	+3.0	97	5†	46	1	38	4.53	+2.07	0.79	0	12	3	24	4	se.	E. L. Vorachek.
Granville	McHenry	1,504	33	70.6	+3.1	99	5	43	1	42	3.84	+1.67	0.85	0	11	6	19	6	se.	W. A. Christiauson.
Hansboro	Towner	1,597	32	67.3	+2.1	93	5	41	1†	41	4.91	+2.45	1.26	0	14	14	12	5	nw.	W. E. Disher.
Leeds	Benson	....	....	.....	....	...	..	..	..	....	4.21	....	1.20	....	.....	.....	....	....	.....	Fred Holmes.
Linton	Emmons	1,711	23	74.4	+3.1	101	22†	45	2	47	3.17	+1.04	0.85	0	13	15	14	2	se.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	72.6	+2.7	97	5†	45	1	45	4.82	+2.29	2.14	0	10	14	11	6	ne.	F. W. Perry.
Maddock	Benson	1,604	25	71.6	+4.0	99	5	45	12	42	4.38	+1.79	0.98	0	13	18	10	3	nw.	A. T. Felland.
Mandan	Morton	1,750	26	74.2	+3.6	99	23	48	2	41	2.73	+0.35	0.61	0	10	14	9	8	se.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	....	....		..	...	..	.....	3.85	+1.61	1.59	0	11	19	7	5	se.	P. B. Anderson.
Max	McLean	2,093	11	69.8	......	96	5†	47	2	39	5.17	....	2.35	0	14	11	10	10	se.	A. W. Rice.
Minot	Ward	1,557	44	70.9	+3.0	97	5	45	1	42	3.26	+1.36	1.30	0	14	8	12	11	e.	Kenneth Chatfield.
Mohall	Renville	1,646	47	69.2	+2.9	96	5†	41	15	40	3.49	+1.15	0.59	0	14	8	20	3	e.	Iver Johnson.
Napoleon	Logan	1,955	48	73.0	+4.4	102	22	44	1	41	2.14	−0.36	0.45	0	11	18	9	4	se.	C. J. Hoof.
New Salem	Morton	2,163	36	71.2	+1.3	98	5†	44	1	43	3.97	+1.79	1.10	0	11	20	10	1	s.	J. Christianson.
Pettibone	Kidder	1,856	31	73.1	+5.1	99	22	41	1	41	3.57	+0.73	1.63	0	9	18	11	1	ne.	Sam Loeppke.
Rolla	Rolette	1,860	3	68.8	......	95	5	43	1	38	5.06	.. ..	1.25	0	15	9	15	7	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	......	....	....	..	.....	...	.....	2.75	+0.22	0.75	0	12	10	16	5	ne.	W. B. Paterson.
Ryder	Ward	2,108	11	......	....	...	..	.....	....	......	3.39	+1.19	0.93	0	12	21	7	3	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	.....	....	....	..	...	..	.....	1.80	.....	0.70	0	8	2	23	6	se.	J. B. Smith.
Steele	Kidder	1,857	46	71.8	+2.2	100	22	41	1†	39	2.61	−0.38	0.72	0	12	20	9	2	ne.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	......	....	..	..	....	....	.....	3.14	+0.90	0.92	0	14	20	7	4	se.	G. N. Pilgard.
Timmer	Morton	......	3	.....	. .	..	..	....	..	......	2.41	.. ..	0.58	0	8	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	38	70.6	+2.6	98	31	44	1	43	2.71	+0.30	0.81	0	12	16	12	3	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	72.5	+4.2	97	5†	46	1	38	4.54	+1.99	1.67	0	12	21	4	6	se.	Albert H. Slettum.
Tuttle	Kidder	1,936	32	......	....	....	..	.....	..	.....	2.34	....	0.55	0	10	17	13	1	se.	Adam Leno.
Upham	McHenry	......	...	....	....	..	..	.....	..	.....	3.18	....	0.90	0	14	.. ..	.....	......	.....	U. S. Wildlife Refuge.
Velva	McHenry	1,511	13	71.0	−0.4	98	5	46	1	39	3.26	+0.66	0.69	0	13	12	16	3	ne.	Oscar Anderson.
Washburn	McLean	1,731	39	73.2	+3.7	95	5†	50	2	37	6.94	+4.46	2.15	0	9	17	11	3	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	70.0	+3.2	98	5	48	1†	41	4.54	+2.37	0.95	0	14	13	15	3	se.	John J. Egger.
Willow City	Bottineau	1,471	48	67.0	+1.3	94	4†	41	1	41	5.00	+2.86	1.17	0	14	17	12	2	ne.	O. M. Sanderson.
Wilton	McLean	2,159	4	70.8	....	96	13	47	1	43	4.51	....	1.59	0	10	22	5	4	s.	Soo Line Agent.
Wishek	McIntosh	2,010	19	70.8	+2.2	97	22	41	1	37	4.83	+2.30	1.10	0	15	7	22	2	se.	H. M. Larson.
Zap	Mercer	1,838	25	.....	.. ...	....	....	.....	..	......	2.51	+0.23	0.49	0	9	21	10	0	se.	John Kaufman, Jr.
Average for Middle Division		......	.....	71.2	+3.1	105	13	40	1	47	3.57	+1.24	3.57	0	12	14	13	4	se.	....

Continued on page 28

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing: for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for July 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red						.25	.02			.14	.03			.21			1.52		.02				.02		.50	.01		1.65		.68		5.05
Cooperstown	Sheyenne						.02			.12	.02				.12		T.	.66			.03		T	.28	.03	.77			.60		.12	.11	2.88
Courtenay[2]	James						.06				.04				.11		T	1.43		.18			.25			.11	.27	.09	.31		.58	.01	3.44
Devils Lake[1]‡	Devils Lake						.09	.01	T.		.79			.61	.03		.02	.16	1.01	.01			.96		.49	.16		.96	.88		T	1.06	7.24
Edgeley	James							.12			.95				.27	.04		.10		.01	.10			.14		.08			1.94				3.75
Edmore	Devils Lake						.05	.25		.07	.25				.26		.42	1.03	.74				.25	.91	.07	.13			.63			.84	5.90
Ellendale	James						.03	.15	.05		.80				.22	.08				.03				.42		.27		.10	.81				2.96
Fargo	Red						.03	T		.01	.01	.01		T.	.19		T	1.37		T.			T.	.02	T	.06	.08	T.	1.11		1.23		4.12
Forman	Sheyenne						T	.58			.32				.20					T.	.02			.12		.13		.09	.45			3.19	5.10
Fullerton	James						.28		T.		.85				.24	T.		.08		.01			.14			.13		.02	1.37			T.	3.12
Grafton	Red						.14	.05		.22	.16				1.19			1.35	.13				.05	.45	.09	.05			1.20				5.08
Grand Forks[1]‡	do						.20			.10	.74	.07			.35		.26	.94	.03				.83	.12	.19	.02			2.31			.16	6.32
Hankinson[2]	do							.67		.02		.12			.02	.10					.02			.22		.06	.11		.07	.06		.01	1.48
Hannah	Pembina						T.			.89	.15			T.	.31		T	.86	.91			T.	.63	.30					1.12			1.95	7.12
Hillsboro	Red						T			T.	.19	.03			.08			.74			T.		.02	.34	.51	T.	.05	.01	.34		.06	1.39	3.76
Jamestown[2]	James							.05	.03		.02				.22			1.43					.35		.28			.21	.40				2.99
Langdon	Pembina						.08	.18			.55				.32			.60	.88	.02			.12	.65	.04				.63			1.18	5.25
Larimore	Red						.56	.09			.47	.03			.61			.92	.19				.04	.26	.40	.14			3.00		.07		6.78
Lisbon[2]	Sheyenne							.26				.15	.02		.53			.29	.17		.01			.10		T.	.10	.02	1.22			T.	2.87
McHenry	James						T.	.05		.07	.03				.11		.03	.57	.20		.06			.20		.33		.01	3.05		.06		4.77
McLeod	Sheyenne						.74	1.58	.02		.15	.02						.20		.03				.30				.05	1.04		.10	T	4.23
Mayville	Red											.03						.66						.26	.34	.16			.30			.34	2.09
Oakes[2]	James							.40		.01		.70			.19		.03				.05			.22		.05	.07		.72				2.44
Park River	Red						.15	.12			.28				.52			1.78	.20				.03	.30	.15	.07			1.03				4.63
Pembina	do						.16	.06		.12	.23			.46	.05		.32	.08	.26	T.			.35	.08	.19	T		.01	.76			.99	4.12
Petersburg	do						.12			.08	.05				.77			.64	.25				.15	.31	.30	.38			1.77		.41	.09	5.32
Sharon	do						.08		T.	T.	.01				.06		T.	.34			T.			.13	.80	.25			2.00		.07	.05	3.79
Valley City	Sheyenne						.01	.01		.04					.19			1.38						.21	T.		.54	.10	1.73		.59		4.80
Wahpeton	Red						T.	.95	T.		.14	T.			.14			.13		.17	.02			.27		.03		.05	.43		.06	T.	2.39
Moorhead, Minn[1]‡	do						.08			.51	.01	T.			.20			1.44		T				.01	T.	.12	.02	T.	.97		.79		3.66
Middle Division																																	
Ashley[2]	Missouri							.10		.01	.68	.08			.04								.33			.08		.11	.57				2.00
Bisbee	Devils Lake					.36	.14	.15			.22	.04			.13		.55	.80	*	*			*		4.62							.01	7.02
Bismarck[1]‡	Missouri	T.					T.		.01		.20			T.	.33	T.	.34	.02	T.	.06		.07	.03		T.	1.32	T	.61	.36				3.35
Bottineau[2]	Mouse						.14	.22			.65	.03			.08			.07	.30	.07	.02		.49	.19	.78		.02		.52				3.58
Carrington[2]	James							.04			.02				.28			.45			.87		.06	.18		T.	.46	T.	1.54		.13	.01	4.04
Carson	Heart						.05				.10				.09		.05			.28			.22			.10	.03	.61	.54				2.07
Center	Missouri					T								T	.57				1.10	.21			.10	.21	.15	.75	1.46						4.55
Dogden Butte	Mouse						T.	.48			.38				.30	.02	T.	T	1.39	.78			.15	.61		T.		.11	.38		T.		4.60
Drake[2]	do						T	.09			.22	T.			.22			.21	.52	.36	.04		.12	.40			.62	.02	.48		.01		3.31
Dunseith	do					T.	.08	.17			.23				.19	.22	.67	.22	.73				.40	.16	.37	.09		T.	1.30				4.83
Eckman	do				.02	.27	.03	.10			.93				.13		T	.10	T	.14		.36	.10	.25	.45	.14		.03	.64			T	3.69
Energy	Missouri						.23				.25				.08		T	.11	.85	.05			.15	.10				.49	.90				3.21
Fessenden	James						.02	.29			.21				.28	T.	.03	.10	.40		.71		.16	.37		T	T.	.04	3.57		.95		7.13
Fort Yates	Missouri						T		T.		.16									.24								.48	.36				1.24
Foxholm (near)	Mouse					T	.12	.02		.38	.34				.10				.18	.21		.23	T.	.21		.22		.02	.04				2.07
Gackle	James						.01	.09			.01				.48	.08		.16			.08				T.	.23		.12	.65				1.91
Garrison[1]	Missouri					T.	.18	.08		.12	.79				.02				.66	.75		.39		.55		.12		.46	.41				4.53
Granville	Mouse				T	.85	.05	.74			.61				.11	T	T.	.08	.51	.15		T.	T.	.31		.22		T.	.21				3.84
Hansboro	Devils Lake					.18	.05	.20		T.	.22			T.	.22		.31	1.26	.65			T.	.57	.03	.07			T.	1.10		.01	.04	4.91
Linton	Missouri							.26	.02		.45				.18					.02	.85	.15		.28		.13	.03	.25	.28	T	.27		3.17
McClusky	do						.02				.58							.20	.69	.63			.05	.38		.04		.09	2.14				4.82
Maddock	Sheyenne						.03	.19			.19				.10		.02	.39	.83	.06				.57		.98		.03	.98			.01	4.38
Mandan[2]	Missouri					T.	T.	T		.26				.12			.61		T	.11		.07	.03		.05	.47	.53	.48					2.73
Max[2]	do						.05	.35			.30				.20			.10	2.35	.25	.73		.06	.23		.03	.10	.12	.80				5.17
Minot[1]	Mouse				.01	.23	.16				.39			.03		.01	.03	T.	.28	.16		.05	.20			1.30		.31	.10				3.26
Mohall	do					.56	.03	.15			.38				.05		T.			.34		.22	.47		.42	.13		.03	.59	T.	.06	.06	3.49
Napoleon[2]	Missouri							.33			.34	.03			.17			.03			.18			.35		.05	.06	.15	.45				2.14
New Salem	Heart					T.	T.				.48				.27			.15	.38	.35	.04	.06	.16			.40		.58	1.10				3.97
Pettibone	James										.09				.10			.55		1.63			.12		.05	.13		.10	.80				3.57
Rolla	Devils Lake					.07	.14	.21			.34	.01			.29		.19	.63	.69	.01		.03	.21	.63	.33				1.25				5.06
Rugby (near)	Mouse						.12	.25		.02	.65				.14			.13	.75	T.			.07	.19	.02	.21		T	.17				2.75
Ryder	Missouri					.25	.30			.30				.27		T.			.62	.38			.93		.03	.12	.12	.05				.02	3.39
Selfridge	do					T.	.35	.10	.08		.06			.08						.10								.33	.70	T.			1.80
Steele	do							.02	.01		.04				.72			.31			.24		.04	.08		.08	.24	.42	.41				2.61
Tagus	Mouse					.30	.06	T.			.31	.01			.09			.09	.19	.92		.10	.16		.01	.19		.06	.65			T.	3.14
Towner	do					.15	.27	.02			.47				.25			.05	.81	.06			.10	.24		.20	T.	T	.09				2.71
Turtle Lake	Missouri						.13	.04			.25				.02			.03	1.03	.03			1.67	.47			.03	.18	.66				4.54
Tuttle	do						T.		T.		.05				.23	.03		.17		.55			.16			.03		.33	.49				2.34
Velva	Mouse					T.	.05	.21			.67	T.			.08	T		.36	.69	.11		.03	.01	.33		.56		.05	.11				3.26
Washburn	Missouri						T.				.10							2.15	.75	1.17			.12	.29			.33	.16	1.87				6.94
Westhope	Mouse						.35	.56			.67				.05		.03			.12		.61	.05	.15	.89	.04		.03	.95			.04	4.54
Willow City	do					.15	.08	.86		T.	.52				.13		.04	.20	.84	.03		T	.40	.19	.35	.04		T.	1.17			T.	5.00
Wishek[2]	Missouri					.02	.02	.01	.02	1.10	.02			.47					T.	.55		.08	.17		.03	.13	.09	1.10	T			1.02	4.83
Zap	Knife					.49	.14				.20				.13				.31				.39			.18		.42	.25				2.51
Western Division																																	
Alpha	Lit. Missouri	T.																.07	.13	.30					.09		.25	.85	2.00		.71		4.40
Amidon	do								.06		.01					.50		.07	.48	.25		.01				.18	1.08	.92	.45				4.01
Beach[2]	do	T.	T.				.29		.08		.01							.05	.18	.15	.01		.02			.25	.67	.81	.05				2.57
Berthold Agency	Missouri						.10				.40				.06				.65	.40			.45			.15		.40					2.61
Bowman[2]	Grand								.03		.06							.02	.51							.39	.14	1.11	2.10				4.36
Crosby[2]	Mouse										.95	.02	.07								.07			.34	.48	.06	.20		.50			T.	2.69
Dickinson[2]	Heart	T	.03				.08			T	T.		T.		.06			.03	.47	.44	.41			.03		.13	.62	.70	.12				3.12
Dunn Center[2]	Knife						.17	.12			.21				.13				.30					1.14		.06	.69	.65	.34				3.81
Fairfield	Lit. Missouri	.22						.42											1.95	.48			T.	T.	.08			.48					3.63
Fryburg	Heart	T.				T.	.07		T.		T.	T.						.20		.08		.28	.01		T.	.15	T.	.92	1.13		.16		3.00
Hettinger	Grand						T		.12		T					.17		T.		1.11		.10				.34	.28	1.58	1.32				5.02
Howard (near)	Missouri				.22		.01				.33			T.			T						T.					.60	.37				1 53
Kenmare[2]	Mouse						.08	.09			.42										.35		.21	.22			.10		.93			.01	2.41
Marmarth[2]	Lit. Missouri			.83		.03				.03					.02		.05	.06		.17			.02		.58	.47	1.13	.25					3.64
Mary	do						.05				.15				.33					.11			.12	.22	.08			.20	.38				1.64
Medora	do	T.	T.				.13		T.		T							T.	.12	.14			.01		T.	.11	.08	1.10	.20			.09	1.98
Mott	Cannon Ball						T.		T.		.02				.11			.01	.15	.19		.02	.13			.10	.12	1.03	.86				2.77
New England[2]	do					.11				.24				.05				.49	.37	.44					.19	.35	.84	.91		.05			4.04
Parshall[2]	Missouri						.10	.47			.20	.01						T	.07		.82		.03	1.02		.03		.12	.06				2.93
Portal[2]	Mouse						.26				.39				.24						.01			.98	.34		.23		.28				2.73
Powers Lake	Missouri					.09	.31				.46			.03					1.77	.17	.20	.09	.12	.06		.23		.64					4.17
Richardton	Heart	.02				.29			T.		.11				.05				.45	.85						.53		1.40	1.60	T.			5.30
Sanish[2]	Missouri						.15	.15			.34				.03						.34		.53			.03		.15	.90				2.62
Stanley	do						.22				.16				.11					.52		.10	.36	T		.09		.22	.11				1.89
Tioga	do						.06				.29									.18		.98	.17			T.		.09	.54				2.31
Trotters	Lit. Missouri	.15	T.			.06	.06			.28								.02	.15	.74	T.		T.		.07	.18	.32	.56				.07	2.66
Watford City	Missouri						.42				.15									1.56			.72			.18		.58	.10				3.71
Wildrose	do						.13	.03			.31	T.			.01					.15		.16	.04		.05	.03		.10	.14			.03	1.18
Williston[1]‡	do					T.	.05			T.	.41	.01		.34					.01	.42		T.	.07			T.	T.	.89	T.				2.20

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch.

Daily Temperatures for July 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley §	Maximum	78	81	84	92	94	95	81	78	90	85	71	79	92	79	79	88	98	92	91	92	98	100	94	97	80	79	78	82	88	92	95	87.2
	Minimum	45	45	50	60	60	67	59	51	55	64	55	46	56	60	49	48	64	65	68	64	60	65	65	67	62	58	55	56	52	62	67	58.2
Beach	Maximum	73	79	84	93	96	79	75	86	96	84	75	90	100	81	84	95	93	96	87	92	100	103	102	89	80	75	72	77	82	91	90	87.1
	Minimum	58	57	55	59	60	60	48	55	60	62	58	57	62	59	54	61	66	64	64	57	67	67	58	62	59	56	57	58	52	56	63	59.1
Bismarck	Maximum	76	84	86	92	96	89	81	82	93	91	78	84	96	80	78	92	97	92	92	88	98	98	99	93	84	76	76	79	83	94	95	87.8
	Minimum	48	47	51	62	69	62	57	54	56	62	56	49	61	62	56	57	66	68	64	61	63	64	57	69	60	59	58	57	53	62	65	59.2
Bottineau §	Maximum	76	82	86	93	95	74	77	80	91	65	72	80	90	75	77	85	83	83	84	89	92	90	90	80	70	74	68	73	71	79	91	81.1
	Minimum	51	54	63	62	66	65	50	57	59	55	53	54	60	55	49	56	63	64	61	64	65	62	58	49	57	54	54	53	52	57	61	57.5
Carson	Maximum	73	83	87	94	98	92	95	87	97	94	84	88	105	85	81	90	103	97	98	94	98	99	95	96	87	82	79	75	85	94	97	90.7
	Minimum	55	57	49	58	63	62	64	54	57	65	55	50	58	57	48	57	67	65	64	57	66	63	57	60	58	51	58	56	53	58	58	58.1
Crosby §	Maximum	81	86	88	99	92	82	80	87	95	65	71	88	88	76	80	91	95	94	82	96	98	92	95	80	79	75	62	74	75	88	89	84.6
	Minimum	47	46	51	57	60	56	50	52	55	55	50	51	67	49	46	49	55	62	64	56	60	58	55	46	58	49	51	52	48	51	53	53.5
Devils Lake	Maximum	78	83	88	92	96	85	80	83	94	66	73	81	95	74	75	86	82	83	86	88	95	98	90	84	76	73	69	76	73	82	89	83.0
	Minimum	44	50	50	63	65	63	53	52	56	56	54	49	58	54	50	54	63	64	64	63	66	66	62	60	59	56	55	56	55	56	64	57.4
Dickinson §	Maximum	64	80	85	91	96	78	77	89	95	86	76	88	101	82	81	92	97	90	88	88	93	93	95	90	81	74	69	75	80	88	91	85.6
	Minimum	55	55	51	57	59	60	48	52	55	65	54	53	60	58	52	57	60	63	62	56	62	63	54	61	58	57	56	50	50	59	60	56.8
Dunn Center §	Maximum	61	74	85	90	98	68	72	84	93	83	72	88	99	81	80	91	102	94	92	95	99	97	94	91	85	75	68	77	80	89	96	85.6
	Minimum	53	55	47	59	58	62	50	50	58	59	54	53	61	58	55	56	65	64	66	55	63	62	54	63	60	50	57	58	51	56	64	57.3
Fargo	Maximum	75	81	90	90	92	91	85	85	91	84	76	79	89	77	77	85	84	87	92	93	95	102	96	100	79	78	78	83	83	82	90	86.1
	Minimum	45	47	52	58	63	66	58	53	55	68	52	48	56	56	50	50	63	64	69	69	66	71	65	66	60	57	51	62	57	58	66	58.6
Fessenden §	Maximum	79	85	89	94	98	90	79	85	96	92	75	83	96	93	76	87	90	88	88	89	94	98	92	88	80	76	69	76	75	83	94	86.4
	Minimum	48	50	51	61	66	67	51	51	56	59	53	49	61	55	47	52	63	64	63	65	54	65	59	65	61	56	55	56	53	57	64	57.3
Fullerton	Maximum	79	83	87	92	94	96	82	83	94	83	74	81	93	80	78	87	95	91	94	94	100	103	95	100	83	79	80	84	86	90	95	88.2
	Minimum	44	45	52	50	60	57	62	54	55	64	60	49	54	65	50	49	64	68	69	64	63	70	65	68	63	60	52	64	57	63	67	58.9
Garrison §	Maximum	78	83	87	95	97	80	78	86	94	78	74	83	96	79	79	90	97	84	86	87	92	89	90	84	78	75	67	75	79	87	93	84.5
	Minimum	46	47	50	58	63	63	48	52	61	63	52	54	58	59	53	54	67	65	66	65	63	65	56	63	61	55	55	59	50	57	64	57.8
Grafton	Maximum	77	85	91	94	98	94	84	85	91	72	77	82	95	82	78	86	85	78	90	91	95	99	95	92	86	77	78	77	77	76	88	85.6
	Minimum	45	44	48	54	63	63	56	50	51	56	56	45	59	56	55	51	62	62	64	65	61	67	64	63	61	55	52	57	55	54	63	56.7
Grand Forks	Maximum	77	85	91	93	95	88	85	84	91	68	77	80	91	77	77	86	82	85	90	91	95	98	93	85	75	77	76	78	77	76	88	84.2
	Minimum	41	43	51	55	62	60	56	53	56	56	55	47	56	57	51	51	60	62	67	64	66	68	66	65	61	59	52	57	56	57	65	57.3
Jamestown §	Maximum	89	87	91	95	96	96	85	86	96	94	78	82	93	95	81	90	94	89	96	94	100	107	95	97	84	76	83	82	81	86	95	90.1
	Minimum	45	48	53	61	63	67	58	54	56	66	57	47	57	62	52	49	63	65	68	65	68	72	64	69	63	60	57	60	56	59	69	59.8
Kenmare §	Maximum	77	83	85	94	97	82	78	83	95	64	71	83	92	77	79	86	89	92	87	91	92	91	90	76	69	73	63	74	72	84	92	82.6
	Minimum	52	59	54	65	62	62	50	53	59	57	52	53	64	53	46	58	61	65	65	60	67	63	55	59	57	51	53	54	53	55	61	57.0
Langdon	Maximum	77	86	90	92	97	89	80	84	93	75	72	79	90	75	77	85	76	77	86	90	91	93	90	84	79	75	72	75	74	78	84	82.7
	Minimum	41	45	49	55	66	62	47	49	53	52	50	46	56	47	43	49	61	61	62	61	62	63	60	58	55	50	49	53	52	50	62	53.8
Marmarth §	Maximum	76	85	89	94	82	79	88	95	87	89	90	79	89	100	79	92	92	91	93	87	92	98	101	91	78	77	76	75	87	91	90	87.5
	Minimum	59	52	57	59	64	62	61	56	67	61	58	55	55	55	59	63	65	66	60	53	58	61	56	58	56	57	52	54	58	63	61	58.7
Minot	Maximum	79	85	88	95	97	79	80	83	95	67	73	84	96	77	78	87	90	86	85	89	95	91	92	85	75	75	65	75	74	86	94	83.9
	Minimum	45	46	53	65	67	64	49	52	53	58	54	60	64	58	48	59	63	67	67	61	63	67	55	60	61	54	55	56	52	55	65	57.9
Mott	Maximum	84	82	88	94	98	87	82	90	97	94	74	89	102	93	84	97	100	95	92	90	99	99	99	98	86	77	75	79	89	98	96	90.5
	Minimum	56	58	51	60	63	62	50	52	57	69	58	58	59	59	49	59	66	64	66	59	64	66	59	63	59	57	57	56	52	58	62	59.0
Pembina	Maximum	73	80	85	95	98	78	79	88	92	63	77	82	92	74	77	89	78	78	93	94	100	97	93	85	77	75	82	77	74	84	92	83.9
	Minimum	44	43	50	56	64	61	57	50	51	57	56	50	59	55	50	51	63	60	63	62	66	52	67	62	58	54	50	59	54	51	60	56.0
Sharon	Maximum	78	84	90	90	94	94	83	84	95	75	74	80	91	83	80	87	82	88	90	94	99	104	97	92	78	75	72	79	77	76	88	85.6
	Minimum	48	52	52	55	65	63	55	57	58	58	54	51	57	57	50	49	61	61	65	65	67	67	65	60	60	56	52	56	55	56	65	57.8
Steele	Maximum	78	81	81	91	94	91	81	84	93	88	76	80	94	87	74	86	92	90	91	88	98	100	98	96	86	75	76	73	81	90	95	86.7
	Minimum	41	46	54	61	65	65	54	51	55	63	55	46	59	58	52	48	62	64	65	60	61	62	59	68	60	58	54	41	53	59	65	56.9
Valley City	Maximum	76	80	87	87	92	93	87	88	90	88	81	79	88	87	75	84	83	84	88	90	95	99	92	94	90	76	74	82	81	83	89	85.9
	Minimum	50	46	53	57	65	66	57	54	59	62	57	52	59	63	52	47	63	65	69	66	65	72	66	67	65	60	55	59	55	59	67	59.7
Wahpeton	Maximum	77	80	88	90	90	92	92	82	87	86	81	76	85	85	77	84	89	90	95	95	97	102	101	98	95	78	78	86	86	90	91	87.8
	Minimum	46	46	52	53	63	65	55	58	56	65	59	49	54	63	48	51	62	66	70	70	69	69	65	72	65	52	57	64	58	58	68	59.6
Williston	Maximum	74	78	86	94	96	79	80	85	96	77	72	91	97	78	83	88	95	96	82	92	94	93	93	85	75	74	67	75	78	88	93	85.0
	Minimum	60	56	60	67	60	59	53	58	66	58	55	60	64	53	52	64	66	71	64	60	71	66	58	61	58	59	59	57	50	60	65	60.3

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing, ᵇ 2 days, etc

Climatological Data for July 1940—Continued from page 26.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	....	......	....	..	....	..	....	4.40	+2.34	2.00	0	8	22	8	1	se.	H. A. Bury.
Amidon	Slope	......	17	72.0	+1.9	101	13	45	7	44	4.01	+1.54	1.08	0	11	17	10	4	se.	Stanley W. Bale.
Beach	Golden Valley	2,759	34	73.1	+4.6	103	22	48	7	44	2.57	+0.76	0.81	0	12	5	21	5	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	73.7	+4.5	101	13	45	2†	40	2.61	+0.25	0.65	0	8	18	11	2	ne.	H. W. Chase.
Bowbells	Burke	1,958	11	68.9	......	95	3†	42	2	45	2.87	+0.76	0.73	0	9	4	17	10	e.	Charles Kaufman.
Bowman	Bowman	2,872	25	72.0	+2.6	102	14	47	7	47	4.36	+2.23	2.10	0	8	18	3	10	se.	Wm. E. Tomlin.
Crosby	Divide	1,954	31	69.0	+2.2	99	5	46	2†	49	2.69	+0.58	0.95	0	9	4	21	6	s.	J. H. Phelps.
Dickinson	Stark	2,543	47	71.2	+3.0	101	13	48	7	41	3.12	+0.95	0.70	0	12	10	16	5	se.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	71.4	+3.4	102	17	47	3	40	3.81	+1.58	1.14	0	10	13	14	4	se.	O. T. Evenson.
Epping	Williams	2,224	29	71.1	+3.1	98	4	46	29	42	2.86	+0.88	1.18	0	9	18	12	1	se.	T. Beachler.
Fairfield	Billings	......	3	......	......	....	..	....	..	......	3.63	....	1.95	0	6	19	9	3	se.	W. M. Geesaman.
Fryburg	Billings	2,790	21	72.0	......	98	9†	50	3†	46	3.00	+0.81	1.13	0	9	17	11	3	se.	Verne King.
Hettinger	Adams	2,675	32	75.4	+5.3	102	13	48	7	51	5.02	+2.66	1.58	0	8	4	18	9	se.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	71.0	+5.0	98	23	40	8†	51	1.53	−0.30	0.60	0	5	18	13	0	ne.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	69.8	......	97	5	46	15	36	2.41	+0.12	0.93	0	9	18	4	9	se.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	73.1	+3.7	101	23	52	2†	45	3.64	+1.76	1.13	0	12	13	8	10	se.	S. P. Grane.
Mary	McKenzie	......	11	......	......	....	...	......	...	......	1.64	- 0.14	0.38	0	9	20	8	3	se.	Fred Hartman.
Medora	Billings	2,271	24	....	......	....	...	.....	...	.....	1.98	−0.18	1.10	0	9	17	12	2	se.	Vernon Thompson.
Mott	Hettinger	2,424	32	74.8	+4.5	102	13	49	15	43	2.77	+0.63	1.03	0	11	11	15	5	se.	P. G. Wick.
New England	Hettinger	2,400	45	73.8	+5.0	101	13†	50	7	43	4.04	+1.97	0.91	0	11	11	9	11	se.	F. S. Sleight.
Parshall	Mountrail	1,929	24	69.6	.....	98	5†	43	2	43	2.93	+0.93	1.02	0	11	1	30	0	se.	C. E. Shubert.
Portal	Burke	1,954	34	69.8	+3.6	96	4	42	14	39	2.73	+0.62	0.98	0	8	19	10	2	s.	R. G. Wegener.
Powers Lake	Burke	2,205	34	71.6	+0.8	98	5	48	13	40	4.17	+1.58	1.77	0	12	13	18	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	23	72.0	+1.9	99	13	50	7	39	5.30	+3.05	1.60	0	9	11	15	5	se.	Assumption Abbey.
Sanish	Mountrail	1,835	14	70.9	+0.3	100	13	45	2†	47	2.62	+0.92	0.90	0	9	5	24	2	se.	H. J. Bugge.
Stanley	Mountrail	2,258	2	69.7	......	96	5†	46	2	40	1.89	... ...	0.52	0	9	9	18	4	e.	Leroy Edwards.
Tioga	Williams	2,279	11	......	......	....	....	.....	..	......	2.31	+0.61	0.98	0	7	12	13	6	se.	B. V. Olson.
Trotters	Golden Valley	......	14	......	......	....	.	.....	.....	......	2.66	+1.10	0.74	0	12	4	23	4	se.	Walter Grunewald
Watford City	McKenzie	2,084	26	72.4	+3.1	98	13†	45	11	43	3.71	+1.88	1.56	0	7	9	21	1	e.	J. C. Zeller.
Wildrose	Williams	2,258	12	....	......	..	..	.....	..	.....	1.18	......	0.31	0	12	16	11	4	se.	L. Holter.
Williston	Williams	1,878	60	72.6	+3.7	97	13	50	29	36	2.20	+0.31	0.89	0	8	12	15	4	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	71.7	+7.0	102	13†	40	29	51	3.05	+0.98	2.10	0	9	13	14	4	se.	....
Average for the State		......	.....	71.6	+2.6	107	22	37	1	51	3.70	+1.25	3.57	0	11	14	13	4	se.	....

[WBO, Minneapolis, 8-24-40—1200]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. XLIX BISMARCK, N. D., AUGUST 1940 No. 8

PRICE: 5 CENTS A COPY; 25 CENTS A YEAR (NOT STAMPS)
REMITTANCE PAYABLE TO SUPERINTENDENT OF DOCUMENTS, WASHINGTON, D.C.

GENERAL SUMMARY

August was warmer than normal. Temperatures were unusually high during the second week but cooler weather prevailed later in the month. The precipitation was above normal in the eastern division and somewhat below normal in the central and western divisions. A few stations in the eastern division received more than 5 inches of precipitation. Except for the second week, which was very dry, precipitation was well distributed throughout the month and crops matured rapidly. Harvesting was well under way by the 15th with threshing started. Yields were poor to very good. Wet weather delayed harvesting during the latter part of the month in some eastern sections. Pastures and livestock were mostly in good condition througout the month. Three persons were killed and 12 others injured by a tornado that struck Dawson about 4:20 p.m., on Friday the 2d. Seven homes and three public buildings were badly wrecked and other buildings were damaged. A windstorm in Ramsey County on the 19th damaged grain, windmills, and about 15 buildings.

TEMPERATURE

The mean temperature for the state was 67.8°, or 1.3° above the 1892-1940 average for August. The mean temperature for the eastern division was 67.1°; for the middle division, 67.7°; and for the western division, 68.5°. The highest mean temperature was 74.0° at Watford City, and the lowest, 64.2° at Willow City, making a range in mean temperature of 9.8°. The absolute range was 70°, from 103° at Berthold Agency and Dunn Center on the 10th, to 33° at Ashley and Wishek on the 31st. The average daily excess in temperature for the state since January 1, 1940, is 0.4°.

PRECIPITATION

The average precipitation for the state was 2.05 inches, or 0.05 inch more than the 1892-1940 average for August. In the eastern division the average amount was 3.12 inches; in the middle division, 1.77 inches; and in the western division, 1.25 inches. The greatest monthly amount reported was 5.74 inches at Forman; the least was 0.16 inch at Center. The greatest amount recorded in any 24 consecutive hours was 2.83 inches at Larimore on the 1st. The accumulated excess in precipitation for the state since January 1, 1940, is 0.51 inch.

ERRATA

JULY 1940—p.21: Precipitation, last sentence should read: The accumulated *deficiency* in precipitation for the state since January 1, 1940, is 0.79 inch.

JUNE 1940—p.25: Precipitation, last sentence should read: The accumulate excess in precipitation for the state since January 1 1940, is *0.46* inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	1	1	2	1	..	2	2	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	1	2	2	1	..	..	..	..	..	..	2	4	..	1	2	1	..	4	..	..	1	..	1	18	23	11	9	6	4	4	4
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Hail	3	2	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Thund'rst'ms	13	21	6	16	..	..	1	..	1	..	..	..	..	1	16	4	7	..	..	..	..	..	7	7	2	1	..	3	2	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.99	30.38	18	29.56	15	10.9	34	e.	23	84	44	40	82
Devils Lake	30.01	30.35	19	29.63	15	7.7	38	n.	15	88	58	60	69
Williston	29.95	30.38	18	29.56	14	7.0	26	w.	1	74	36	31	84
Fargo	30.01	30.34	19	29.63	15	....	.....	......	....	89	65	62	....
Moorhead, Minn	......	....	....	....	....	7.0	27	ne.	2	....	....	....	64

† And other dates.

COMPARATIVE DATA FOR AUGUST

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation .01 inch or more	Clear	Partly cloudy	Cloudy
1892	67.3	105	24	2.86	2.80	1.50	2.39	0	8	15	10	6
1893	66.7	109	29	2.10	1.25	0.58	1.31	0	3	20	7	4
1894	68.8	102	30	1.37	0.86	1.20	1.14	0	4	17	10	4
1895	64.5	104	24	1.87	1.36	1.48	1.57	0	5	17	11	3
1896	64.7	107	21	2.07	0.86	0.42	1.12	0	5	17	10	4
1897	64.1	106	29	1.28	1.13	1.13	1.18	0	5	15	10	6
1898	65.4	104	24	2.92	1.40	0.75	1.69	0	5	15	11	5
1899	65.2	97	32	2.90	2.90	2.69	2.83	0	6	15	11	5
1900	70.4	114	33	6.05	4.53	4.60	5.06	0	10	14	11	6
1901	66.9	100	32	2.55	1.90	0.86	1.77	0	6	18	8	5
1902	64.3	96	26	2.65	2.36	1.88	2.30	0	8	16	9	6
1903	63.7	103	35	4.72	4.65	4.67	4.68	0	10	13	7	11
1904	63.3	102	31	1.56	1.92	1.34	1.61	0	6	17	7	7
1905	67.5	107	34	3.51	2.44	1.34	2.43	0	7	17	8	6
1906	66.3	105	31	1.53	1.74	2.25	1.84	0	7	17	6	8
1907	64.5	104	26	2.17	1.23	1.79	1.73	0	6	18	9	4
1908	63.2	104	25	2.48	2.46	1.55	2.16	0	7	17	8	6
1909	69.8	109	27	2.98	1.94	1.78	2.23	0	6	18	9	4
1910	63.1	109	24	1.58	1.30	1.51	1.46	0	5	14	8	9
1911	62.2	98	23	3.61	3.87	2.15	3.21	0	8	12	11	8
1912	63.4	118	32	3.41	2.60	2.62	2.88	0	10	11	10	10
1913	68.9	106	30	3.15	2.32	2.42	2.63	0	6	16	10	5
1914	64.2	101	26	2.00	2.26	2.61	2.29	0	7	13	11	7
1915	64.4	100	19	1.16	1.49	0.89	1.18	0	4	19	8	4
1916	66.0	100	26	3.17	2.79	2.05	2.67	0	8	16	10	5
1917	65.2	105	25	0.96	0.74	0.76	0.82	0	4	17	10	4
1918	66.5	102	34	3.51	3.39	3.25	3.38	0	8	15	11	5
1919	67.9	101	30	2.58	1.57	0.63	1.59	0	5	18	10	3
1920	68.8	108	28	1.03	2.01	1.55	1.53	0	5	22	6	3
1921	67.2	108	31	3.08	1.86	0.99	1.98	0	6	18	10	3
1922	69.8	115	33	1.29	1.63	1.02	1.31	0	6	18	9	4
1923	63.0	97	28	2.38	1.70	1.45	1.84	0	8	14	12	5
1924	63.8	102	28	2.27	1.36	1.09	1.57	0	6	17	9	5
1925	67.9	110	29	1.39	1.06	0.66	1.04	0	5	20	8	3
1926	65.6	105	36	3.01	2.41	1.68	2.37	0	7	14	8	9
1927	63.4	96	28	3.17	3.63	2.58	3.13	0	8	18	8	5
1928	64.8	105	25	3.84	3.15	2.28	3.09	0	8	17	9	5
1929	68.5	106	26	0.87	0.83	0.60	0.77	0	4	20	9	2
1930	70.4	104	32	1.40	1.45	1.49	1.45	0	6	15	9	7
1931	67.0	105	30	2.43	2.33	1.51	2.09	0	6	16	9	6
1932	68.3	100	28	2.40	1.37	1.89	1.89	0	7	16	10	5
1933	68.5	104	31	0.81	0.64	0.79	0.75	0	5	17	9	5
1934	67.4	108	25	1.70	1.15	0.60	1.15	0	5	16	11	4
1935	66.2	109	26	3.83	1.90	1.32	2.35	0	8	16	9	6
1936	69.8	110	29	1.67	1.37	1.16	1.40	0	6	14	11	6
1937	72.9	109	40	2.56	1.11	0.88	1.52	0	5	18	10	3
1938	69.8	109	33	1.79	1.22	1.48	1.50	0	6	18	10	3
1939	68.6	105	32	1.94	2.37	1.98	2.10	0	7	18	9	4
1940	67.8	103	33	3.12	1.77	1.25	2.05	0	7	18	7	6
Period	66.5	118	19	2.42	1.97	1.61	2.00	0	6	16	9	6

Climatological Data for August 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	67.1	+0.6	91	9	42	22	33	4.88	+2.29	2.53	0	9	21	3	7	nw.	James. H. Erickson.
Cavalier	Pembina	894	30	68.4	......	95	8	43	23†	36	0.82	−1.54	0.56	0	3	14	6	11	s.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	67.2	+1.0	92	9†	42	18	45	2.18	−0.45	0.75	0	10	23	2	6	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	......	......	......	......	......	......	......	1.99	......	1.03	0	6	17	7	7	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	66.0	+1.2	90	11	45	31	33	3.38	+0.90	1.75	0	9	15	5	11	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	67.8	+0.9	98	2	42	21	36	2.43	−0.04	0.90	0	8	14	14	3	se.	O. A. Thompson.
Edmore	Ramsey	1,524	16	64.5	+0.8	97	15	39	31	42	2.52	+0.25	1.25	0	8	21	4	6	se.	Mike Davis.
Ellendale	Dickey	1,457	45	67.6	−1.2	95	2	45	20†	38	4.02	+1.30	1.85	0	13	15	6	10	se.	J. E. Demmer.
Fargo	Cass	895	4	67.0	......	92	12	40	22	36	3.10	+0.03	1.63	0	10	13	7	11	se.	U. S. Weather Bureau.
Forman	Sargent	1,249	47	67.7	−0.5	92	15	44	19†	36	5.74	+2.96	1.49	0	9	20	2	9	se.	Helge Dyste.
Fullerton	Dickey	1,439	42	67.4	+0.3	92	2†	44	22†	35	4.41	+1.88	1.80	0	11	10	13	8	se.	F. O. Alin.
Grafton	Walsh	827	48	68.2	+3.0	91	12	44	19†	35	2.90	+0.32	1.28	0	5	10	12	9	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	66.2	+0.8	90	8†	44	18†	34	2.05	−0.59	0.88	0	9	11	8	12	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	68.2	−2.9	92	9	44	22	40	3.63	+1.43	1.26	0	11	12	9	10	se.	Joseph Rindt.
Hannah	Cavalier	1,568	48	66.8	+3.9	96	15	38	23	35	2.25	+0.13	0.73	0	6	20	4	7	sw.	Charles McAdams
Hillsboro	Traill	901	40	67.7	+0.2	92	9	42	22	34	4.64	+1.94	1.66	0	9	18	7	6	se.	Alfred Jahnke.
Jamestown	Stutsman	1,440	1	68.2	+1.8	93	10†	41	19†	40	2.41	−0.28	1.43	0	6	13	8	10	e.	S. G. Calvelage.
Kensal	Stutsman	1,457	48	......	......	......	......	......	......	......	2.38	......	......	0	8	20	5	6	e.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	44	64.8	+2.3	90	12	40	31	36	2.27	−0.19	0.60	0	9	21	2	8	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	66.4	+1.4	91	12	44	19	35	5.20	+2.42	2.83	0	10	11	6	14	se.	W. L. Goodison.
Lisbon	Ransom	1,091	36	67.6	+0.6	94	12	42	19	43	4.79	+2.11	1.50	0	14	15	8	8	se.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	64.6	−0.5	91	9†	37	19	46	2.17	−0.74	1.20	0	11	16	8	7	se.	C. E. Blasky.
McLeod	Ransom	1,075	29	67.1	−0.8	94	15	42	22	38	3.38	+0.96	1.12	0	6	14	8	9	s.	J. G. Carlson.
Mayville	Traill	975	44	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. B. Addicott.
Milnor	Sargent	1,117	1	68.3	......	94	12	40	23	36	3.56	......	1.57	0	7	15	7	9	n.	E. W. Wilson.
Oakes	Dickey	1,318	11	67.2	−3.9	90	2	43	31	39	4.44	+2.37	1.20	0	12	19	3	9	se.	F. H. Murray.
Park River	Walsh	998	36	66.8	+0.6	91	7	41	18	32	2.27	−0.15	1.22	0	7	16	6	9	se.	E. J. Taintor.
Pembina	Pembina	789	66	67.9	+3.6	94	8†	44	20	38	1.42	−0.77	0.70	0	7	18	6	7	s.	S. W. Douglass
Petersburg	Nelson	1,520	10	......	......	......	......	......	......	......	3.49	......	0.90	0	9	14	6	11	se.	T. M. Rykken.
Sharon	Steele	1,516	16	65.6	−1.7	90	9†	41	22	38	2.96	+0.86	0.98	0	10	18	4	9	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	67.1	+0.3	88	8†	40	19	33	2.29	+0.08	1.20	0	10	19	5	7	se.	I. C. Robertson.
Wahpeton	Richland	962	48	68.1	+0.2	97	15	40	22	35	2.65	−0.03	0.88	0	10	15	6	10	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	66.8	+0.7	90	12	43	22	34	3.32	+0.43	1.41	0	10	14	7	10	se.	U. S. Weather Bureau.
Average for Eastern Division		......	....	67.1	+1.1	98	2	37	19	46	3.12	+0.70	2.83	0	9	16	6	9	se.	......
Middle Division																				
Ashley	McIntosh	2,014	44	66.2	−0.3	95	2	33	31	45	2.47	−0.08	0.82	0	6	13	6	12	e.	Henry Doerr.
Bisbee	Towner	1,601	4	65.8	......	94	10	42	19	37	3.75	......	1.64	0	8	20	2	9	s.	I. K. Lund.
Bismarck	Burleigh	1,670	66	69.9	+2.6	97	10†	39	31	45	0.32	−1.50	0.20	0	4	18	9	4	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	66.2	+2.1	95	10	42	19	36	3.43	+1.02	1.61	0	7	17	9	5	se.	N. D. School of Forestry
Carrington	Foster	1,579	42	67.0	+0.2	93	7	40	19†	39	1.82	−0.34	0.69	0	9	16	3	12	......	Soo Line Agent.
Carson	Grant	2,500	28	69.6	+1.7	102	11	38	30	43	0.55	−1.25	0.26	0	4	17	9	5	se.	J. W. Evens.
Center	Oliver	......	2	66.6	......	95	10	35	19†	47	0.16	......	0.16	0	1	22	7	2	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	67.2	+0.2	93	10	43	18	36	1.03	−0.89	0.47	0	5	19	5	7	se.	R. L. Williams.
Drake	McHenry	1,634	11	67.5	......	95	10	44	30	37	1.28	......	0.46	0	11	17	7	7	se.	Peter Anton.
Dunseith	Rolette	1,682	44	65.2	+1.3	93	10	38	31	39	2.71	+0.25	1.10	0	6	16	11	4	se.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	66.8	+2.6	99	10	41	31	45	2.45	+0.48	0.75	0	8	16	13	2	se.	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	68.2	−0.2	98	10	38	18	46	0.92	−1.01	0.50	0	4	20	7	4	se.	H. S. Solenberger.
Fessenden	Wells	1,610	28	68.2	+2.3	95	11	40	18	40	0.79	−1.52	0.32	0	10	15	9	7	e.	John V. Zuber.
Fort Yates	Sioux	1,670	40	68.8	−0.5	100	2	40	31	42	1.46	−0.71	0.93	0	3	23	4	4	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	68.2	+2.0	97	10	40	22	40	2.95	+1.21	1.92	0	8	17	5	9	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	10	67.6	......	91	7	42	18	34	1.77	......	1.05	0	6	14	7	10	se.	A. H. Haut.
Garrison	McLean	1,901	63	68.0	+1.9	98	10	41	31	43	0.78	−1.23	0.39	0	6	17	10	4	se.	E. L. Vorachek.
Granville	McHenry	1,504	33	68.4	+3.5	100	10	43	21†	40	2.48	+0.58	1.28	0	8	20	5	6	se.	W. A. Christianson.
Hansboro	Towner	1,597	32	64.7	+2.3	92	10	40	23	38	2.78	+0.48	1.03	0	8	14	10	7	se.	W. E. Disher.
Leeds	Benson	......	....	67.0	......	99	12	40	31	45	3.87	......	1.99	0	9	16	12	3	ne.	Fred Holmes.
Linton	Emmons	1,711	23	70.1	+0.9	99	7	37	31	47	1.23	−1.14	0.80	0	2	22	6	3	se.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	68.0	+1.2	93	9	40	22	42	2.17	+0.23	1.36	0	5	16	9	6	nw.	F. W. Perry.
Maddock	Benson	1,604	25	67.2	+1.5	95	11	37	19	43	1.93	−0.54	1.03	0	9	19	4	8	se.	A. T. Felland.
Mandan	Morton	1,750	26	70.5	+2.4	100	10	42	19	42	0.25	−1.47	0.13	0	3	20	6	5	se.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	......	......	......	......	......	......	......	1.07	−1.27	0.45	0	7	18	5	8	se.	P. B. Anderson.
Max	McLean	2,093	11	66.2	......	95	10	39	18	42	1.18	......	0.42	0	4	17	6	8	se.	A. W. Rice.
Minot	Ward	1,557	44	68.5	+3.5	97	10	42	30	41	1.95	−0.12	0.91	0	9	17	4	10	nw.	Kenneth Chatfield.
Mohall	Renville	1,646	47	66.7	+2.8	98	10	42	18	47	2.58	+0.65	0.82	0	8	18	8	5	se.	Iver Johnson.
Napoleon	Logan	1,955	48	69.6	+3.2	99	7	40	31	45	0.62	−1.78	0.35	0	6	19	5	7	se.	C. J. Hoof.
New Salem	Morton	2,163	36	67.6	+0.4	97	10	41	21	41	0.34	−1.48	0.13	0	4	21	9	1	se.	J. Christianson.
Pettibone	Kidder	1,856	31	66.6	−1.7	93	11	38	19	42	1.97	−0.31	1.12	0	6	17	6	8	se.	Sam Loeppke.
Rolla	Rolette	1,860	3	65.0	......	93	10	41	23	35	3.46	......	1.21	0	9	18	3	10	se.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	......	......	......	......	......	......	......	2.47	+1.47	0.77	0	7	16	10	5	sw.	W. B. Paterson.
Ryder	Ward	2,108	11	......	......	......	......	......	......	......	0.54	−0.65	0.33	0	3	22	4	5	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	......	......	......	......	......	......	......	2.98	......	1.97	0	4	14	12	5	se.	J. B. Smith.
Steele	Kidder	1,857	46	69.0	+2.3	96	11	40	19†	43	0.23	−2.16	0.10	0	4	21	7	3	se.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	......	......	......	......	......	......	......	2.19	+1.07	1.34	0	6	20	9	2	s.	G. N. Pilgard.
Timmer	Morton	......	3	......	......	......	......	......	......	......	0.51	......	0.28	0	3	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	38	67.0	+1.6	98	10	40	18	43	2.72	+0.69	1.63	0	10	19	8	4	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	67.4	+1.0	95	10	39	31	44	0.82	−1.30	0.34	0	5	19	6	6	se.	A. S. Haas.
Tuttle	Kidder	1,936	32	......	......	......	......	......	......	......	2.16	+0.24	1.03	0	5	19	7	5	se.	Adam Leno.
Upham	McHenry	......	....	......	......	......	......	......	......	......	2.33	......	1.03	0	7	......	......	......	......	U. S. Wildlife Refuge.
Velva	McHenry	1,511	13	68.5	+0.6	97	10	41	31	41	1.79	−0.11	0.66	0	8	17	6	8	se.	Oscar Anderson.
Washburn	McLean	1,731	39	69.6	+2.2	92	9†	42	22	38	1.32	−0.35	0.72	0	4	18	7	6	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	67.1	+2.4	95	10	41	30	46	4.54	+2.54	2.10	0	6	16	8	7	se.	John J. Egger.
Willow City	Bottineau	1,471	48	64.2	+0.6	95	10	38	31	42	2.32	+0.20	1.15	0	8	20	6	5	se.	O. M. Sanderson.
Wilton	McLean	2,159	4	66.4	......	94	11	41	22†	41	0.55	......	0.20	0	5	24	0	7	se.	Soo Line Agent.
Wishek	McIntosh	2,016	19	66.1	+0.3	90	2†	33	31	45	1.31	−0.60	0.80	0	10	12	12	7	se.	H. M. Larson.
Zap	Mercer	1,838	25	......	......	......	......	......	......	......	0.56	−1.35	0.34	0	2	21	10	0	se.	John Kaufman, Jr.
Average for Middle Division		......	....	67.7	+1.6	102	11	33	31	47	1.77	−0.20	2.10	0	6	18	7	6	se.	......

Continued on page 32

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation Is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods: Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for August 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	1.04	T.	2.53	.37											.15		.09						.42	.04		T.			.21	.03		4.88
Cooperstown	Sheyenne	.19	.02	.40	.10	T.	T.		.02							T.	T.	T.						.75	.25		.06		T.	.36	.03		2.18
Courtenay[2]	James		1.03		.06																			.41	.12				.12	.25			1.99
Devils Lake[1]‡	Devils Lake	T.	.14		.23											1.75		.01						.46	.19	.02	T.		.05	.53			3.38
Edgeley	James	.05	.49		.48											.02		.90							.39	.01					.09		2.43
Edmore	Devils Lake		.23		.25											1.25		.10							.11	.10				.40	.11		2.55
Ellendale	James	.05	.15	.34	1.85	.28			.01							.01	.03	.94						.20	.11	.03				T.	.02		4.02
Fargo	Red	.13	1.63		.35									T		.23	T.	.11	T.					.40	T	.01	T		.19	.04	.01		3.10
Forman	Sheyenne	1.49		.83	.54	.16												.88						.84	.31	T.			.25	.44			5.74
Fullerton	James	.05	.28		1.10											.15		.76						.04	1.80	.03			.02	.17	.01		4.41
Grafton	Red	1.28		.17												.92		T.							T.	T.				.16	.37		2.90
Grand Forks[1]‡	do	.07	.39													.88		T.	.01					.02	.02	T.			.37	.22	.07		2.05
Hankinson[2]	do	1.26	.02	.40		.43										.40	.06		.06						.91	.01	.02		T.	.06	T.	T.	3.63
Hannah	Pembina		.68		T.											.55									.18	.05		T.	.06	.73			2.25
Hillsboro	Red	1.66	T.	.48	.02											.92		T.	T					.43	.11	.14	T.			.80	.08		4.64
Jamestown[2]	James		1.43		.55													T.						.22	.02				.06	.13			2.41
Langdon	Pembina	.21	.43		.02											.60		.03							.08	.02				.50	.38		2.27
Larimore	Red	2.83	.24	.21	.09											1.05		T.						.22	.04	.08				.28	.16		5.20
Lisbon[2]	Sheyenne	1.50	.02	.52		.32			.04								.20	.01	.58					.01	1.43	.02	.01			.06	.07		4.79
McHenry	James		1.20		.08											.02		.02						.22	.26	.02	.02		.08	.17	.08		2.17
McLeod	Sheyenne	.79		.14	.09												.35	.89							1.12					T.			3.38
Mayville	Red																																3.89
Oakes[2]	James	.40	.01	.59		.94											.06	.50	.52						1.20	.02	.02			.16	.02		4.44
Park River	Red	1.22	.15													.65									.02	.05				.12	.06		2.27
Pembina	do	.03	.14	.04	T.											.72										.04				.03	.42		1.42
Petersburg	do	.89	.89													.90		T.						.24	.05	.27			.04	.15	.06		3.49
Sharon	do	.14	.98	.06	.04											.91		T.						.31	.24	T.	T		.06	.16	.06		2.96
Valley City	Sheyenne	.17		1.20	.30				.01								T.	.04						.09	.31	.01		.02		.14			2.29
Wahpeton	Red	.88		.03	.14	.05											.10	.23						.53	.30	T.	T.	T.	T.	.36	.03		2.65
Middle Division																																	
Ashley[2]	Missouri	.27	.39		.67											.16		.82					.16	T.	T.	T.	T.			T.			2.47
Bisbee	Devils Lake		.85		.11											1.64		.01							.33	.52			.06	.23			3.75
Bismarck[1]‡	Missouri		.20		.01											T.		.10							.01	T.	T.		T.				0.32
Bottineau[2]	Mouse		1.61	.34												.81		.02								.39				.22	.03		3.43
Carrington[2]	James	.35	.06	.69	.12	.04												.06						T.	.14	.16	T.	.02	T.	.18			1.82
Carson	Heart		.01		.04													.24							.26								0.55
Center	Missouri			.16																													0.16
Dogden Butte	Mouse	.05	.47		.26											T.	T.	T.						.21		T.			.04	T.	T.		1.03
Drake[2]	do	.04	.46	.01	.33											.06		.06	.01						.05	.12				.09	.05		1.28
Dunseith	do		.78													1.10		T.							.30	.35			.04	.14			2.71
Eckman	do		.52		.24											.75		.03						.21	.41				.17	.12			2.45
Energy	Missouri	.50	.25		.12											.05								T					T.				0.92
Fessenden	James	.04	.14		.09											T								.09	.32	.01	.01		.05	.01	.03		0.79
Fort Yates	Missouri				.38											T.		.93							.15								1.46
Foxholm (near)	Mouse		1.92													.43		.03						.18	.31	.01			.04	.03			2.95
Gackle	James	1.05			.10													.22						T.	.25				.10	.05			1.77
Garrison[1]	Missouri	.39			.12											.02		.02							T	.21			.02				0.78
Granville	Mouse		.69		.10										.02			.04						.17	1.28	T.			.11	.07			2.48
Hansboro	Devils Lake		.68		.03											1.03									.31	.37			.09	.26	.01		2.78
Linton	Missouri				.43													.80															1.23
McClusky	do	.46	1.36		.20											T									.12	.03			T				2.17
Maddock	Sheyenne	.07	.26		.24											T.								.08	1.03		.01		.13	.05	.06		1.93
Mandan[2]	Missouri	.13		.02												T.	.10							T.	T								0.25
Max[2]	do	.42	.38		.18											T										.20							1.18
Minot[1]	Mouse	.91	.58		.09											T.		.13						.14	.02	.01			.05	.02			1.95
Mohall	do	T.	.67		.11											.68		.08						.19	.82				.06	.06			2.58
Napoleon[2]	Missouri		.07			.12											.01	.35	.05							.02							0.62
New Salem	Heart		.13		.10													.10											.01				0.34
Pettibone	James	1.12	.26		.11													.06						.27						.15			1.97
Rolla	Devils Lake		1.02		.02											1.21		T.							.50	.36	.02		.09	.20	.04		3.46
Rugby (near)	Mouse		.67		.21											.26		T.						.40	.77	.04			T.	.12			2.47
Ryder	Missouri	.33		.18												T							T.	T.	T.	T					.03		0.54
Selfridge	do				.50													1.97						.38	.13	T.	T						2.98
Steele	do	T.		.02	.09													.10									.02						0.23
Tagus	Mouse		1.34		T.											.40		.20						.20	.01	T.			.04				2.19
Towner	do		.47		.11											.08		.04						.18	1.63	.14		T.	.02	.04	.01		2.72
Turtle Lake	Missouri	.34	.25		.15											T	T.								.06				.02				0.82
Tuttle	do	.83	1.03		.09											T.		.12						.09	T.	T.	T.		T.				2.16
Velva	Mouse		.65		.25											.13		T						.08	.66	.01			.02	.01			1.79
Washburn	Missouri	.41	.72		.15													.04															1.32
Westhope	Mouse		2.10		.05											1.23	T							T.	.97				.07	.12			4.54
Willow City	do		65		.09											1.15		T						.06	.28	.03			.02	.04			2.32
Wishek[2]	Missouri	.02	.01	.29	.03			.01								T.	.80	.09					T.		.01	.02		T.		'03			1.31
Zap	Knife		.34		.22																												0.56
Western Division																																	
Alpha	Lit. Missouri		.01		.08											T.		.67					T										0.76
Amidon	do				.63											T.		.97					.02	.03	.30	.01							1.96
Beach[2]	do	.41	.18		.02										.01	.05		.12							.09				T				0.88
Berthold Agency	Missouri	.40	.20	.10	.05												T.								.15	.05	T.						0.95
Bowman[2]	Grand				.58												.85							.03	.47								1.93
Crosby[2]	Mouse		.65	.17												1.12		.04							.33				.14				2.45
Dickinson[2]	Heart		.01		.30												.01	T	T.					T.	.04	T	T.			.01			0.37
Dunn Center[2]	Knife	.58	.32		.02												.04							.02									0.98
Fairfield	Lit. Missouri																																
Fryburg	Heart		.18		.10											.04		.24						.02				T.					0.58
Hettinger	Grand																																
Howard (near)	Missouri		.17												.31														T.				0.48
Kenmare[2]	Mouse	.07	.73	.11												.37		.04							.16	.58				.09			2.15
Marmarth[2]	Lit. Missouri			.48												.03	.08						.10	.20									0.89
Mary	do	.44	.26													T.								.10	.16				.07				1.03
Medora	do		.03		.11											T.		.38						.04									0.56
Mott	Cannon Ball				.10													.62						.01	.25	.33	T.	T	.02				1.33
New England[2]	do			.56													.35						.05	.28				T					1.24
Parshall[2]	Missouri	.18	.17	.02	.20											T.										T	T.			.03			0.60
Portal[2]	Mouse		1.80	.31												1.15									.20	.12			.01	.15			3.74
Powers Lake	Missouri	.38													.15									.23	.19								0.95
Richardton	Heart		.35		.20											T.	T.	.04						T	.14								0.73
Sanish[2]	Missouri	.02	.57		.08																						T						0.67
Stanley	do		1.51													.04		.18							T.				.03				1.76
Tioga	do																																0.78
Trotters	Lit. Missouri																																0.93
Watford City	Missouri	.07	.58		.04																								.04				0.73
Wildrose	do	.09	.79												.72	.05		.06							.33		.02		.10				2.16
Williston[1]‡	do	.35	.23												T.		T.	.06							.03		T.	T.	.06				0.73

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch.

Daily Temperatures for August 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley §	Maximum	89	95	81	73	74	84	89	88	90	90	88	89	91	93	91	84	71	72	75	83	81	67	75	65	62	64	75	80	73	76	78	80.2
	Minimum	66	63	60	56	50	49	55	52	59	58	55	59	58	58	66	56	47	41	39	47	46	44	48	52	55	52	50	51	49	42	33	52.1
Beach	Maximum	91	83	89	79	79	92	90	91	98	95	96	95	95	99	83	81	73	77	82	87	87	72	89	87	82	80	91	78	76	84	90	86.3
	Minimum	59	64	47	57	46	50	53	52	60	61	56	65	64	62	58	44	51	42	43	51	50	45	52	55	49	62	54	61	46	37	46	53.1
Bismarck	Maximum	92	89	85	80	79	90	93	94	95	97	97	93	92	95	86	86	76	78	81	88	84	73	82	68	69	68	83	83	77	79	84	84.4
	Minimum	68	64	52	56	52	47	64	55	62	68	63	63	66	66	63	58	50	42	41	52	48	47	53	57	59	59	52	54	53	45	39	55.4
Bottineau§	Maximum	88	75	80	72	76	83	90	89	90	95	87	92	90	91	79	76	70	72	78	80	65	61	63	61	63	69	79	75	64	73	77	77.5
	Minimum	64	60	51	60	48	49	58	65	64	60	65	63	67	67	60	47	55	45	42	50	50	47	47	52	51	56	55	56	54	45	49	54.9
Carson	Maximum	96	87	87	80	83	92	98	95	98	100	102	95	92	99	93	87	75	83	82	76	72	68	65	74	66	72	86	84	77	81	85	84.8
	Minimum	65	66	46	56	45	52	62	52	64	64	60	64	63	64	58	53	53	42	43	54	48	42	58	54	59	56	54	54	48	38	48	54.4
Crosby §	Maximum	91	78	84	80	89	90	91	90	100	89	93	101	97	88	78	75	72	77	83	82	72	68	63	71	73	85	94	74	72	80	89	82.6
	Minimum	58	56	51	54	45	47	47	55	60	67	57	55	59	59	54	46	45	43	46	48	45	36	42	38	56	57	55	57	49	40	41	50.6
Devils Lake	Maximum	87	77	81	77	75	84	90	88	89	89	90	90	89	89	76	79	65	70	77	84	69	63	64	58	62	64	72	74	60	70	74	76.6
	Minimum	63	65	56	58	50	54	60	58	60	64	62	64	65	66	60	53	51	46	47	51	49	47	47	52	55	56	56	53	54	50	45	55.4
Dickinson §	Maximum	92	80	85	72	78	89	92	91	96	99	95	93	92	97	78	84	76	77	80	88	86	72	84	85	76	80	89	78	76	78	87	84.7
	Minimum	57	65	44	58	47	48	51	46	54	63	55	60	62	62	60	45	55	35	41	43	44	42	43	52	53	55	49	50	47	34	37	50.2
Dunn Center §	Maximum	91	81	86	72	81	90	95	93	97	103	95	96	93	97	79	86	76	83	85	92	89	73	78	86	78	84	93	79	77	79	87	86.3
	Minimum	60	66	50	59	46	46	51	50	62	61	55	55	63	63	58	43	52	40	44	48	43	42	45	51	54	56	53	55	47	40	39	51.5
Fargo	Maximum	85	87	84	74	75	85	90	89	89	83	87	92	90	89	86	80	71	70	76	84	76	65	56	61	64	65	70	73	63	70	74	77.5
	Minimum	65	62	61	58	55	52	59	64	63	60	63	68	67	68	64	59	51	49	41	48	49	40	51	53	56	56	59	59	55	51	45	56.6
Fessenden §	Maximum	90	85	82	78	78	86	91	90	91	93	95	93	91	93	87	87	77	74	79	88	83	64	70	59	63	69	78	80	67	86	82	81.6
	Minimum	63	67	53	57	49	51	64	55	58	62	62	63	64	61	62	49	57	40	42	52	45	46	47	52	55	56	57	53	53	60	42	54.8
Fullerton	Maximum	87	92	86	70	75	82	85	90	89	85	86	90	90	92	90	84	71	73	79	81	81	66	67	67	63	63	71	73	72	72	73	78.9
	Minimum	67	64	62	56	53	51	56	59	64	59	57	62	61	63	67	62	60	48	45	46	51	44	53	51	55	57	58	55	53	54	44	56.0
Garrison §	Maximum	87	79	82	73	78	88	92	91	93	98	93	93	91	93	77	84	73	77	80	90	81	68	75	74	67	73	87	75	73	78	84	82.2
	Minimum	62	68	53	60	47	49	57	54	61	61	57	61	64	64	60	47	58	43	42	51	48	46	52	52	57	56	52	53	50	43	41	53.8
Grafton	Maximum	89	86	83	83	77	84	89	90	89	87	88	91	90	90	89	83	80	76	79	85	83	65	64	69	64	66	73	76	74	73	75	80.3
	Minimum	62	65	60	58	55	54	59	60	56	62	62	63	67	67	61	56	60	47	44	53	52	48	44	52	55	55	57	53	51	56	44	56.1
Grand Forks	Maximum	86	80	83	82	73	83	86	90	90	86	88	90	88	90	89	78	69	69	73	86	72	63	59	65	63	65	72	76	61	72	74	77.5
	Minimum	62	62	58	58	52	52	57	56	57	62	63	64	65	66	61	55	51	44	44	52	48	46	44	52	55	54	58	54	52	53	45	54.9
Jamestown §	Maximum	87	86	84	83	75	87	92	90	92	93	90	93	91	92	91	84	83	73	80	88	81	68	65	59	61	62	74	75	69	73	81	80.7
	Minimum	66	59	59	58	52	50	58	67	60	62	61	62	63	64	68	58	58	41	41	48	50	41	51	54	55	57	57	52	52	54	44	55.6
Kenmare §	Maximum	88	79	79	72	79	85	91	90	92	95	89	94	90	92	80	79	72	75	78	82	68	63	61	61	62	73	88	74	73	77	81	79.4
	Minimum	61	65	54	56	48	53	56	56	66	68	55	54	63	64	57	49	51	46	51	56	47	43	47	49	54	55	58	60	50	45	49	54.4
Langdon	Maximum	86	82	80	77	75	81	83	87	86	87	87	90	89	89	86	79	72	72	79	83	75	63	63	62	61	64	74	75	65	70	75	77.5
	Minimum	59	62	51	58	59	48	58	55	57	62	58	64	64	65	58	46	48	41	43	48	45	43	41	48	53	53	41	51	47	47	40	52.0
Marmarth §	Maximum	91	90	84	78	75	87	90	90	94	95	95	93	92	94	84	82	73	75	82	85	84	74	86	83	81	77	87	76	77	76	89	84.5
	Minimum	70	46	58	46	47	53	52	55	62	60	58	67	60	51	47	52	33	50	44	53	49	53	59	50	63	61	60	45	35	40	44	52.7
Minot	Maximum	92	88	82	80	76	87	91	93	93	97	92	94	92	93	89	83	73	75	80	85	81	64	71	62	65	77	89	84	73	75	84	82.6
	Minimum	65	61	52	61	47	51	59	52	64	67	55	56	....	....	....	....	....	....	....	55	46	44	50	55	58	55	54	60	50	42	46	[g]54.4
Mott	Maximum	97	87	88	75	78	89	92	92	99	97	97	91	90	98	89	87	76	78	79	86	86	76	87	78	69	73	85	78	75	79	86	85.1
	Minimum	64	59	48	61	47	49	61	49	61	62	56	62	63	63	61	61	52	44	44	49	47	44	51	57	55	58	49	57	44	39	41	53.6
Pembina	Maximum	90	84	85	85	80	88	95	92	93	89	93	93	93	92	87	82	73	73	82	87	77	69	67	68	65	65	77	76	74	75	80	81.6
	Minimum	61	65	58	60	68	57	60	54	67	64	65	66	69	69	63	54	65	53	46	55	53	54	41	52	52	56	58	66	53	55	43	58.1
Sharon	Maximum	84	80	80	80	75	82	87	87	90	85	87	90	80	88	80	79	71	71	76	85	79	63	60	57	61	60	70	74	60	70	74	76.3
	Minimum	62	59	60	59	51	49	61	60	61	60	62	65	65	63	60	58	53	46	45	47	50	41	45	51	54	54	56	54	51	52	44	54.9
Steele	Maximum	92	93	85	80	77	88	91	95	94	95	96	93	92	94	85	85	81	74	78	86	83	71	76	66	62	67	80	83	73	76	83	83.1
	Minimum	63	66	53	58	50	49	63	61	60	65	62	62	65	65	64	55	57	44	40	50	46	43	49	55	57	56	54	51	50	50	40	54.9
Valley City	Maximum	87	83	83	78	73	81	85	88	88	85	85	88	88	87	85	80	78	70	73	83	81	78	65	63	64	64	70	71	40	70	74	78.1
	Minimum	65	65	61	57	53	51	60	60	62	62	62	63	63	65	65	60	58	44	40	48	48	50	50	51	55	57	58	56	53	55	42	56.1
Wahpeton	Maximum	84	86	86	81	76	84	87	91	91	83	87	90	90	89	97	85	80	73	76	83	82	75	65	60	65	66	66	71	70	71	73	79.5
	Minimum	65	66	64	61	54	52	59	62	64	58	58	66	66	66	69	64	56	46	43	48	50	40	48	54	54	56	57	59	53	55	45	56.7
Williston	Maximum	91	80	85	73	79	92	92	93	99	94	93	97	94	91	81	83	73	77	82	87	83	69	78	84	77	86	92	77	73	78	89	84.7
	Minimum	61	62	55	58	49	54	52	56	68	68	63	65	70	64	56	49	55	43	50	54	52	47	54	57	57	61	61	56	52	44	54	56.4

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for August 1940—Continued from page 30.

Stations	Counties	Elevation, feet	Length of record, years	Temperature. in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	.....	......	...	...	....	....	.....	0.76	−0.95	0.67	0	3	25	5	1	se.	H. A. Bury.
Amidon	Slope	......	17	70.2	+2.3	95	10†	41	30	40	1.96	+0.74	0.97	0	6	19	7	5	se.	Stanley W. Bale.
Beach	Golden Valley	2,759	34	69.7	+3.3	99	14	37	30	47	0.88	−0.81	0.41	0	7	14	14	3	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	70.5	+2.8	103	10	37	18	47	0.95	−0.97	0.40	0	6	23	7	1	nw.	H. W. Chase.
Bowbells	Burke	1,958	11	65.4	......	97	11	39	30	47	1.80	......	0.48	0	8	11	13	7	w.	Charles Kaufman.
Bowman	Bowman	2,872	25	68.8	+1.1	98	14	44	30	38	1.93	+0.13	0.85	0	4	21	8	2	se.	Wm. E. Tomlin.
Crosby	Divide	1,954	31	66.6	+2.0	101	12	36	22	48	2.45	+0.46	1.12	0	6	18	8	5	n.	J. H. Phelps.
Dickinson	Stark	2,543	47	67.5	+1.2	99	10	34	30	50	0.37	−1.62	0.30	0	5	21	9	1	se.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	68.9	+2.7	103	10	39	31	48	0.98	−0.73	0.58	0	5	21	9	1	se.	O. T. Evenson.
Epping	Williams	2,224	29	68.2	+2.3	100	10	36	30	44	1.38	−0.32	0.89	0	3	21	10	0	se.	T. Beachler.
Fairfield	Billings	......	3	.....	......	...	..	....	..	.....	.....	.....	.....	......	.....	.....	.....	.....	.....	W. M. Geesaman.
Fryburg	Billings	2,790	21	68.8	......	97	10	40	19	43	0.58	−1.38	0.24	0	5	21	9	1	se.	Verne King.
Hettinger	Adams	2,675	32	.....	......	...	....	....	....	.....	.....	.....	.....	......	.....	.....	.....	.....	.....	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	68.0	+3.1	101	9	36	23	44	0.48	−1.16	0.31	0	2	15	15	1	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	66.9	......	95	10	43	22	40	2.15	+0.21	0.73	0	8	19	6	6	se.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	68.6	+1.3	95	10†	35	29	45	0.89	−0.85	0.48	0	5	20	7	4	se.	S. P. Grane.
Mary	McKenzie	......	11	.....	......	...	...	....	....	.....	1.03	+0.05	0.44	0	5	24	4	3	se.	Fred Hartman.
Medora	Billings	2,271	24	.....	......	...	...	....	...	.....	0.56	−1.15	0.38	0	4	25	5	1	se.	Vernon Thompson.
Mott	Hettinger	2,424	32	69.4	+2.3	99	9	39	30	45	1.33	−0.60	0.62	0	6	18	8	5	se.	P. G. Wick.
New England	Hettinger	2,400	45	69.6	+2.7	98	10	40	30	46	1.24	−0.46	0.56	0	4	16	11	4	se.	F. S. Sleight.
Parshall	Mountrail	1,929	24	66.1	......	100	10	35	30†	51	0.60	−1.36	0.20	0	5	14	17	0	se.	C. E. Shubert.
Portal	Burke	1,954	34	66.4	+2.2	96	12	40	30	42	3.74	+1.85	1.80	0	7	19	9	3	s.	R. G. Wegener.
Powers Lake	Burke	2,205	34	68.0	+2.8	96	12†	44	30	43	0.95	−0.82	0.38	0	4	22	9	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	23	69.1	+1.0	95	10	42	22	36	0.73	−1.22	0.35	0	4	17	13	1	se.	Assumption Abbey.
Sanish	Mountrail	1,835	14	68.4	+0.9	99	9†	39	18†	48	0.67	−0.64	0.57	0	3	18	11	2	se.	H. J. Bugge.
Stanley	Mountrail	2,258	2	66.8	......	96	10	38	22	42	1.76	......	1.51	0	4	20	11	0	nw.	Leroy Edwards.
Tioga	Williams	2,279	11	.....	......	...	...	....	....	.....	0.78	......	.....	......	.....	.....	.....	.....	.....	B. V. Olson.
Trotters	Golden Valley	......	14	.....	......	...	...	....	...	.....	0.93	−0.58	.....	......	.....	.....	.....	.....	.....	Walter Grunewald
Watford City	McKenzie	2,084	26	74.0	+6.7	99	9	42	4	34	0.73	−0.98	0.58	0	4	24	7	0	s.	J. C. Zeller.
Wildrose	Williams	2,258	12	.....	......	...	...	....	...	.....	2.16	......	0.79	0	8	20	8	3	nw.	L Holter.
Williston	Williams	1,878	60	70.6	+4.5	99	9	43	18	40	0.73	−0.74	0.58	0	5	22	9	0	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	68.5	+2.0	103	10	34	30	51	1.25	−0.36	1.80	0	5	20	9	2	se.	....
Average for the State		......	.....	67.8	+1.3	103	10	33	30†	51	2.05	+0.05	2.83	0	7	18	7	6	se.	....

[WBO, Minneapolis, 10-1-40—1200]

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VI

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION

F. J. BAVENDICK

Vol. XLIX Bismarck, N. D., September 1940 No. 9

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GENERAL SUMMARY

Although the temperature averaged somewhat above normal, frost occurred in all sections on the 10th and 11th. This is about a week ahead of the average date. Temperatures were considerably below freezing in the south-central part of the state on the 11th. After the 12th, minimum temperatures were somewhat above normal, but with another cold period, with freezing temperatures on the 25th and 26th. Precipitation was light in most places during the first and second decades but many stations received good soaking rains from the 22d to the 24th. The weather was generally favorable for harvesting and threshing which was well along by the close of the month. It was too dry for fall plowing in many sections. Livestock was mostly good and feed ample.

TEMPERATURE

The mean temperature for the state was 62.8°, or 5.9° above the 1892-1940 average for September. The mean temperature for the eastern division was 62.9°; the middle division, 62.7°; and for the western division, 62.7°. The highest mean temperature was 66.3° at Linton, and the lowest, 59.2° at Willow City, making a range in mean temperature of 7.1°. The absolute range was 83°, from 103° at Sanish and Watford City on the 3rd, to 20° at three stations on the 11th and 25th. The average daily excess in temperature for the state since January 1, 1940, is 1.1°.

PRECIPITATION

The average precipitation for the state was 1.06 inches, or 0.44 inch less than the 1892-1940 average for September. In the eastern division the average amount was 0.87 inch; in the middle division, 0.98 inch; and in the western division, 1.32 inches. The greatest monthly amount reported was 3.00 inches at Cavalier; the least was 0.02 inch at Mayville. The greatest amount recorded in any 24 consecutive hours was 2.61 inches at Medora on the 22d. The accumulated deficiency in precipitation for the state since January 1, 1940, is 0.07 inch.

SILENT OBSERVERS

Mr. W. M. Geesaman, cooperative observer at Fairfield, N. Dak., since May 1937, died the early part of September, at the age of 28. While Mr. Geesaman was permitted to serve the Weather Bureau for only a short time, his contribution was greatly appreciated and his passing at this time is deeply regretted.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	6	2	1	3	..	8	8	2	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	1	1	10	13	4	..	..	..
Dust storms	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	2	5	3	..	..	3	2	3	1	..	2	..	3	5	..	..	2	5	10	9	5	3	8	1	..	..	2	10	20	3	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	2	1	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Hail	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	1	7	7	12	1	6	..	..	..	..	..	3	..	15	6	..	2	..	8	6	..	..	..	..	3	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.03	30.46	25	29.63	16	10.2	34	se.	4	86	44	42	83
Devils Lake	30.05	30.47	25	29.64	17	7.5	25	n.	9	91	53	57	76
Williston	29.99	30.42	10	29.58	16	6.1	24	se.	2	77	49	42	73
Fargo	30.04	30.50	25	29.64	19	.....	.....	......	....	86	50	51	....
Moorhead, Minn	....	......	....	....	....	7.7	21	n.	9	....	....	....	79

† And other dates.

COMPARATIVE DATA FOR SEPTEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	59.2	101	24	1.08	1.05	0.40	0.84	0	4	16	7	7
1893	57.1	102	8	0.75	0.75	0.94	0.81	0.1	4	18	7	5
1894	58.2	104	18	1.06	1.67	1.42	1.38	0	5	15	7	8
1895	56.6	100	12	1.29	0.61	0.42	0.77	0	4	12	12	6
1896	53.0	98	11	2.25	2.00	0.57	1.61	0	6	12	8	10
1897	64.1	109	18	0.24	0.25	0.35	0.28	0	2	20	7	3
1898	56.8	98	10	1.85	1.00	0.90	1.25	0	4	14	9	7
1899	55.0	101	11	0.60	0.57	0.57	0.58	T.	3	17	9	4
1900	54.6	98	17	5.15	5.26	4.44	4.95	T.	8	12	7	11
1901	53.6	100	12	2.41	1.80	1.82	2.01	T.	7	10	8	12
1902	53.6	95	15	1.24	0.54	0.44	0.74	0	4	16	8	6
1903	51.6	90	18	3.36	2.85	2.77	2.99	0.7	7	12	6	12
1904	54.7	96	18	2.12	1.18	1.00	1.43	0	5	14	7	9
1905	59.8	104	23	1.62	1.65	1.74	1.67	0	5	16	8	6
1906	62.8	109	20	1.54	0.73	1.07	1.11	0	4	19	6	5
1907	52.1	96	9	2.39	1.11	0.68	1.39	T.	6	14	8	8
1908	60.7	104	16	0.87	0.89	1.97	1.24	0.2	4	17	7	6
1909	59.0	93	24	1.03	0.77	1.04	0.95	0	4	16	8	6
1910	55.3	99	18	2.38	1.88	1.10	1.79	0.1	4	14	7	9
1911	54.9	95	21	2.32	2.41	2.38	2.37	T.	8	12	8	10
1912	51.5	101	18	3.54	2.50	1.82	2.62	0	10	11	6	13
1913	57.2	108	8	2.39	1.47	1.37	1.74	0.4	6	16	8	6
1914	59.3	98	25	1.24	1.00	0.84	1.03	0	5	16	8	6
1915	54.6	104	23	2.42	2.00	1.94	2.32	0	9	10	8	12
1916	55.1	99	15	2.12	1.07	1.10	1.43	T.	6	14	9	7
1917	56.4	97	16	1.53	0.93	0.65	1.04	0	5	12	9	9
1918	51.9	93	11	0.46	0.40	0.33	0.40	T.	3	15	9	6
1919	58.6	100	20	0.92	1.05	0.86	0.94	0.3	5	12	10	8
1920	59.0	99	19	3.91	1.19	1.49	2.21	T	8	15	9	6
1921	57.0	101	25	3.91	3.37	2.34	3.21	T.	12	12	10	8
1922	59.8	104	23	2.42	2.00	1.89	2.10	0	6	16	8	6
1923	60.1	99	15	2.04	2.25	3.25	2.51	0	6	14	8	8
1924	55.0	98	20	3.68	1.91	0.68	2.09	T.	7	15	7	8
1925	58.1	103	20	4.18	2.23	1.61	2.67	T.	8	12	8	10
1926	52.3	95	9	2.80	2.44	1.66	2.30	0.5	9	11	9	10
1927	56.8	101	10	1.06	0.47	1.48	1.00	T.	3	16	9	5
1928	53.9	95	12	1.50	0.75	0.74	1.00	T.	5	17	7	6
1929	52.7	105	12	1.65	1.82	1.47	1.65	0	5	11	9	10
1930	56.2	98	10	1.02	0.88	1.17	1.02	0	4	16	9	5
1931	61.4	107	27	1.97	2.38	2.06	2.14	T.	6	18	7	5
1932	56.8	102	22	1.10	0.56	0.23	0.63	0	3	18	8	4
1933	60.9	101	22	1.03	0.71	0.70	0.81	0	4	16	8	6
1934	52.4	95	9	1.28	0.86	0.74	0.96	2.0	7	11	9	10
1935	57.2	105	16	0.73	0.44	0.12	0.43	0	3	15	9	6
1936	60.3	102	12	1.47	1.29	0.68	1.15	T.	5	15	10	5
1937	58.6	104	20	1.21	1.60	1.61	1.47	0.1	6	13	9	8
1938	61.9	99	21	0.95	0.34	0.61	0.63	0	4	17	7	6
1939	58.9	98	11	1.12	0.47	0.45	0.68	0.2	5	15	8	7
1940	62.8	103	20	0.87	0.98	1.32	1.06	0	4	17	9	4
Period	56.9	109	8	1.84	1.41	1.25	1.50	0.1	5	15	8	7

Climatological Data for September 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	63.6	+6.3	94	19	26	25	49	0.83	−1.29	0.80	0	2	24	4	2	se.	James. H. Erickson.
Cavalier	Pembina	894	30	62.4	......	92	5	28	25	38	3.00	+0.74	1.52	0	7	21	4	5	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	62.7	+6.4	90	3†	25	25	45	1.15	−0.67	0.37	0	6	29	1	0	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	......	......	...	...	...	...	......	1.76	......	0.71	0	4	20	7	3	e.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	61.0	+5.1	89	5	29	25	36	1.16	−0.47	0.60	0	9	13	9	8	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	62.6	+5.0	96	19	25	25	50	0.93	−0.76	0.57	0	3	7	23	0	se.	O. A. Thompson.
Edmore	Ramsey	1,524	16	59.4	+3.9	91	4	26	11	43	1.83	+0.03	0.71	0	5	23	6	1	ne.	Mike Davis.
Ellendale	Dickey	1,457	45	63.8	+5.4	94	19	29	25	53	1.04	−0.72	0.41	0	4	21	3	6	s.	J. E. Demmer.
Fargo	Cass	895	4	63.6	......	96	19	25	25	47	0.13	−1.77	0.11	0	3	13	13	4	se.	U. S. Weather Bureau.
Forman	Sargent	1,249	47	63.0	+4.3	92	19	27	24	46	0.63	−1.54	0.32	0	2	24	5	1	s.	Helge Dyste.
Fullerton	Dickey	1,439	42	63.1	+5.9	92	19	27	25	50	0.75	−1.35	0.38	0	2	20	7	3	s.	F. O. Alin.
Grafton	Walsh	827	48	62.8	+6.5	92	5	26	25	43	0.82	−1.52	0.40	0	6	14	13	3	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	61.4	+5.0	90	4	27	25	46	0.73	−1.31	0.63	0	6	10	10	10	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	63.4	+3.1	95	19	31	24†	53	0.29	−1.76	0.29	0	1	20	8	2	nw.	Joseph Kindt.
Hannah	Cavalier	1,568	48	62.6	+8.6	89	4†	25	25	43	0.80	−1.40	0.25	0	5	14	7	9	se.	Charles McAdams
Hillsboro	Traill	901	40	62.8	+4.2	90	3†	29	25	51	0.14	−2.01	0.09	0	3	21	7	2	sw.	Alfred Jahnke.
Jamestown	Stutsman	1,410	1	64.2	+7.7	96	3†	27	25	47	0.70	−1.14	0.39	0	3	14	11	5	ne.	S. G. Calvelage.
Kensal	Stutsman	1,457	48	61.6	......	95	6	20	25	54	0.73	......	0.42	0	4	19	8	3	se.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	44	60.7	+8.4	90	4	24	25	41	1.33	−0.99	0.41	0	6	20	8	2	s.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	62.8	+7.5	91	4	27	25	41	0.57	−1.69	0.29	0	6	15	7	8	se.	W. L. Goodison.
Lisbon	Ransom	1,091	36	65.0	+7.5	97	19	23	25	56	0.17	−1.97	0.17	0	1	20	8	2	se.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	60.6	+5.5	93	3	20	25	49	1.04	−0.86	0.57	0	4	18	9	3	se.	C. E. Blasky.
McLeod	Ransom	1,075	29	63.2	+4.2	94	19	26	25	46	0.32	−1.89	0.24	0	2	21	6	3	se.	J. G. Carlson.
Mayville	Traill	975	44	65.0	+7.6	93	5	29	25	45	0.02	−2.17	0.02	0	1	9	21	0	n.	H. B. Addicott.
Milnor	Sargent	1,117	1	65.2	......	94	19	24	25	44	0.52	......	0.25	0	4	24	1	5	s.	E. W. Wilson.
Oakes	Dickey	1 318	11	63.4	+3.3	95	19	25	25	50	0 24	−0.69	0.18	0	2	24	1	5	se.	F. H. Murray.
Park River	Walsh	998	36	61.6	+5.0	91	4	26	25	45	2.69	+0.45	1.62	0	5	18	6	6	se.	E. J. Taintor.
Pembina	Pembina	789	66	63.9	+9.8	94	4	27	25	38	2.34	+0.12	0.87	0	7	19	5	6	s.	S. W. Douglas.
Petersburg	Nelson	1,520	10	......	......	...	...	...	...	......	1.00	......	0.53	0	3	15	11	4	s.	T. M. Rykken.
Sharon	Steele	1,516	16	62.4	+5.8	90	3†	26	25	44	0.55	−1.30	0.20	0	4	19	7	4	n.	Nels O. Grefsheim.
Valley City	Barnes	1,245	24	63.4	+5.2	90	19	25	25	45	0.25	−1.63	0.12	0	3	26	1	3	sw.	I. C. Robertson.
Wahpeton	Richland	962	48	65.6	+6.4	96	19	25	25	45	0.19	−2.19	0.09	0	3	17	10	3	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	63.8	+5.6	92	19	30	25	49	0.22	−2.00	0.11	0	6	17	9	4	s.	U. S. Weather Bureau.
Average for Eastern Division		......	....	62.9	+6.2	97	19	20	25	54	0.87	−0.97	1.62	0	4	18	8	4	se.	......
Middle Division																				
Ashley	McIntosh	2,014	44	62.1	+4.8	94	3	24	25	42	0.92	−0.68	0.65	0	2	10	16	4	s.	U. S. Airway Comm. Sta.
Bisbee	Towner	1,601	4	61.3	......	94	5	28	25	44	1.50	......	1.00	0	5	20	6	4	n.	I. K. Lund.
Bismarck	Burleigh	1,670	66	64.4	+6.3	98	3	27	11	50	1.38	+0.15	1.01	0	4	16	10	4	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	63.0	+8.1	92	4†	30	10	34	0.51	−1.12	0.33	0	4	20	8	2	se.	N. D. School of Forestry
Carrington	Foster	1,579	42	60.6	+4.0	95	3	28	10	57	0.66	−0.85	0.29	0	4	12	4	14	......	Soo Line Agent.
Carson	Grant	2,500	28	64.8	+8.4	97	3	25	10	48	1.45	−0.15	0.76	0	4	14	12	4	se.	J. W. Evens.
Center	Oliver	......	2	61.0	......	96	2	20	11	57	0.88	......	0.60	0	3	19	9	2	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	63.6	+7.3	98	3	30	10	40	0.93	−0.23	0.71	0	4	16	8	6	ne.	R. L. Williams.
Drake	McHenry	1,634	11	62.0	......	100	3	26	10	44	0.43	......	0.38	0	5	13	10	5	se.	Peter Anton.
Dunseith	Rolette	1,682	44	61.8	......	93	5	23	25	44	1.20	−0.54	0.38	0	5	14	14	2	ne.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	63.0	+5.6	100	3	23	11	52	0.67	−0.80	0.37	0	3	19	10	1	s.	H. S. Solenberger.
Fessenden	Wells	1,610	28	63.2	+7.5	98	3	26	10	48	0.51	−1.13	0.45	0	2	16	9	5	e.	John V. Zuber.
Fort Yates	Sioux	1,670	40	63.4	+3.6	94	3†	27	11†	47	1.47	−0.05	0.92	0	3	22	8	0	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	62.7	+7.7	99	3	31	10†	44	1.15	−0.35	0.55	0	6	11	11	8	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	10	62.7	......	92	3†	29	25	51	0.88	......	0.14	0	3	13	13	4	se.	A. H. Haut.
Garrison	McLean	1,901	63	63.5	+8.6	100	3	27	11	47	0.30	−1.25	0.22	0	4	9	16	5	se.	E. L. Vorachek.
Granville	McHenry	1,504	33	63.0	+8.2	100	3	25	10	49	0.69	−0.92	0.51	0	4	14	13	3	se.	W. A. Christianson.
Hansboro	Towner	1,597	32	60.0	+6.5	93	5	25	25	41	1.26	−0.72	0.52	0	5	16	13	1	nw.	W. E. Disher.
Leeds	Benson	......	.....	.....	.....	95	3	27	24	......	0.86	......	0.48	0	4	22	6	2	......	Fred Holmes.
Linton	Emmons	1,711	23	66.3	+7.8	98	3†	26	11	46	0.85	−0.75	0.60	0	4	21	8	1	se.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	64.0	+7.8	97	3	27	10	43	0.36	−1.07	0.36	0	1	15	13	2	se.	F. W. Perry.
Maddock	Benson	1,604	25	62.6	+6.9	96	5	25	25	46	0.49	−1.32	0.34	0	3	20	5	5	ne.	A. T. Felland.
Mandan	Morton	1,750	26	65.3	+7.9	98	3	28	11	44	1.28	−0.21	0.88	0	4	17	6	7	se.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	......	......	..	...	......	...	.....	0.44	−1.11	0.38	0	3	19	8	3	nw.	P. B. Anderson.
Max	McLean	2,093	11	61.6	......	98	4	30	9†	40	0.47	......	0.42	0	3	14	9	7	ne.	A. W. Rice.
Minot	Ward	1,557	44	63.6	+7.7	101	3	29	10†	46	0.11	−1.55	0.05	0	5	9	13	8	s.	Robert C. Chatfield.
Mohall	Renville	1,646	47	60.8	+6.8	100	3	26	10	45	1.24	−0.32	0.66	0	6	16	10	4	n.	Iver Johnson.
Napoleon	Logan	1,955	48	64.7	+8.0	98	3	22	25	47	0.46	−1.02	0.32	0	4	18	2	10	se.	C. J. Hoof.
New Salem	Morton	2,163	36	62.6	+5.1	98	3†	26	10	49	1.64	+0.28	1.64	0	1	20	6	4	se.	J. Christianson.
Pettibone	Kidder	1,856	31	63.2	+8.0	96	3	24	10	48	0.65	−0.67	0.65	0	1	13	11	6	se.	Sam Loeppke.
Rolla	Rolette	1,860	3	60.4	......	92	5	28	11	43	2.66	......	1.12	0	7	19	3	8	n.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	......	......	..	...	......	...	.....	1.34	+0.31	0.70	0	3	16	10	4	s.	W. B. Paterson.
Ryder	Ward	2,108	11	......	......	...	...	......	...	......	2.22	+1.18	1.15	0	4	22	3	5	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	......	......	...	...	......	...	......	0.82	......	0.42	0	2	11	13	6	se.	J. B. Smith.
Steele	Kidder	1,857	46	61.0	+7.1	98	3	26	11	42	1.54	+0.02	1.21	0	2	23	5	2	sw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	......	......	...	...	......	...	......	1.50	+0.60	0.79	0	9	19	7	4	ne.	G. N. Pilgard.
Timmer	Morton	......	3	......	......	...	...	......	...	......	1.64	......	1.06	0	2	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	38	62.2	+6.0	97	3	25	10	47	1.26	−0.50	0.69	0	4	18	7	5	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	63.4	+7.1	98	3	26	10	48	0.66	−0.72	0.51	0	4	16	10	4	se.	A. S. Haas.
Tuttle	Kidder	1,936	32	......	......	...	...	......	...	......	0.56	−0.90	0.56	0	1	23	5	2	sw.	Adam Leno.
Upham	McHenry	......	....	......	......	...	...	......	...	......	0.48	......	0.31	0	4	......	......	......	......	U. S. Wildlife Refuge.
Velva	McHenry	1,511	13	63.1	+6.0	99	3	27	10	46	0.66	−0.38	0.59	0	3	18	8	4	ne.	Oscar Anderson.
Washburn	McLean	1,731	39	65.6	+7.1	98	3	30	10	41	0.75	−0.59	0.66	0	3	18	6	6	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	61.6	+6.7	96	3	27	10	41	0.45	−0.98	0.13	0	7	23	4	3	ne.	Rev. R. Carey.
Willow City	Bottineau	1,471	48	59.2	+5.0	91	4	23	11	48	1.26	−0.47	0.64	0	5	22	6	2	se.	O. M. Sanderson.
Wilton	McLean	2,159	4	62.5	......	95	4	31	10†	40	1.01	......	0.95	0	3	23	0	2	se.	Soo Line Agent.
Wishek	McIntosh	2,010	19	61.6	+6.0	92	3	23	25	48	1.47	+0.28	0.70	0	4	16	9	5	se.	H. M. Larson.
Zap	Mercer	1,838	25	......	......	...	...	......	..	......	0.94	−0.68	0.46	0	3	22	8	0	se.	John Kaufman, Jr.
Average for Middle Division		......	.....	62.7	+6.6	101	3	20	11	57	0.98	−0.43	1.64	0	4	17	9	4	se.	......

Continued on page 36

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for September 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red								.03	T.								T.											.80				0.83
Cooperstown	Sheyenne	T.				.32	.37		.04	.06						T.	.02	T	T.	T.				.34									1.15
Courtenay [2]	James					.71			.04								.32							.69									1.76
Devils Lake [1]‡	Devils Lake				.23	.19	.02		.05	.03							.02	T.	.01	.01			T.	.60							T.		1.16
Edgeley	James					.57			.25															.11									0.93
Edmore	Devils Lake					.71	.69												.04	.04				.35									1.83
Ellendale	James				T.	.41			.36	.14								.13															1.04
Fargo	Red								.01	.01							T	T.	T.					T				.11					0.13
Forman	Sheyenne								.31								T.	.32	T.					T.									0.62
Fullerton	James					.37			.38	T.							T	T.	T.					T.									0.75
Grafton	Red						.04				.12								.18	.01				.40					.07				0.82
Grand Forks [1]‡	do						.01			T	T.						.03		.03					.63				.02	.01				0.73
Hankinson [2]	do									.29								T.															0.29
Hannah	Pembina						.18		.25								T	.15		.03				.19					T.				0.80
Hillsboro	Red								T.	.03							.02			T.				.09				T.					0.14
Jamestown [2]	James				.39				.16															.15									0.70
Langdon	Pembina					.41	.25			.30							T.	.15		.03				.19					T.				1.33
Larimore	Red					.15	.02			.07									.02	.02				.29									0.57
Lisbon [2]	Sheyenne									.17															T.								0.17
McHenry	James					.57	.13			.08														.26									1.04
McLeod	Sheyenne								T.									.24						T.					.08				0.32
Mayville	Red						T.		.02																								0.02
Oakes [2]	James								.18	.06																							0.24
Park River	Red					.38				.12								.17						.40				T.	1.62				2.69
Pembina	do					.37	.71		.05	.20								.87		.03				.11									2.34
Petersburg	do					.39				.08														.53									1.00
Sharon	do					.07	.17		T.	.11							T.							.20									0.55
Valley City	Sheyenne					.12			.11									T.						.02									0.25
Wahpeton	Red								.07	T.							.03	.09						T.					T.				0.19
Middle Division																																	
Ashley [2]	Missouri				.27	T.			.65								T.	T.					T.	T.	T.						T.		0.92
Bisbee	Devils Lake						1.00			.10							T.	.03		.10				.27									1.50
Bismarck [1]‡	Missouri						T.		.28	T.									T.				1.00	.01	.09						T.		1.38
Bottineau [2]	Mouse						.08			.05										.05				.33									0.51
Carrington [2]	James					.17		.16		.04									T.					.29									0.66
Carson	Heart								.20								.02						.76	.47									1.45
Center	Missouri					T.			T.													.60	.16	.12									0.88
Dogden Butte	Mouse						.15		T.	.04								T.		.03			T.	.71							T		0.93
Drake [2]	do						.01	.02		.01	T.									.01				.38	T.								0.43
Dunseith	do						.21			.05							.38			.23				.33									1.20
Eckman	do																																......
Energy	Missouri				.10		.37																.20										0.67
Fessenden	James								T.	.06														.45									0.51
Fort Yates	Missouri				.92				.30														.25										1.47
Foxholm (near)	Mouse				T.	.55	.21		T.	.09					T.		T.			.03			.12	.15									1.15
Gackle	James					.25			.44															T.	.19								0.88
Garrison [1]	Missouri				.02																		.01	.22	.05								0.30
Granville	Mouse							.05		.11										.02			T.	.51									0.69
Hansboro	Devils Lake						.52		.08								.30			.14				.22									1.26
Leeds	do						.30		.05											.03			.48										0.86
Linton	Missouri								.60	.07													T	.17	.01								0.85
McClusky	do						T.												T.					.36							T.		0.36
Maddock	Sheyenne						T.			.06							.09							.34									0.49
Mandan [2]	Missouri							.01	.18														.88	.15					T				1.28
Max [2]	do								.02										T.				.42	.03									0.47
Minot [1]	Mouse				.02		.01			.05							T.		.01				.02	T.									0.11
Mohall	do					.66	.11		T.	.08					T.		T	T		.17			.12	.10									1.27
Napoleon [2]	Missouri					.03					.32													.10	.01								0.46
New Salem	Heart																							1.64									1.64
Pettibone	James																							.65									0.65
Rolla	Devils Lake						1.12		.05	.05							.98	.01		.15				.30									2.66
Rugby (near)	Mouse						.70			.10										T.				.54									1.34
Ryder	Missouri				T	1.15	.15																	.80	.12								2.22
Selfridge	do								.40						T.		T.							.42									0.82
Steele	do								.33															1.21									1.54
Tagus	Mouse				.19	.60			.02	.08					.02		T.	T.		.01			.53	.02	.03				T.		T.		1.50
Towner	do						.23		.04								.30			T.				.69									1.26
Turtle Lake	Missouri						.13										T			T.			.02		.51								0.66
Tuttle	do								T.															.56									0.56
Velva	Mouse						.03			.04													T.	.59									0.66
Washburn	Missouri						T	.06															T.		.66						.03		0.75
Westhope	Mouse					.07	.07			.07							.05			.05			.13	.01									0.45
Willow City	do						.10		.07	T.					T.		.06			.64			T.	.39									1.26
Wishek [2]	Missouri					.05	.70		.65	T										T.			.07	T.									1.47
Zap	Knife				.43																			.46	.05								0.94
Western Division																																	
Alpha	Lit. Missouri								T.		T						T.						.74		.24					.36			1.34
Amidon	do								.03														.50	T.	.32								0.85
Beach [2]	do													.08			.09					T.	1.53	.02	.19					.07	.01		1.99
Berthold Agency	Missouri					.55				T												.10	.80	.15									1.60
Bowman [2]	Grand								.02														.09	.61	.57								1.29
Crosby [2]	Mouse										.09					.02		T.		.01				.53	.03						.06		0.74
Dickinson [2]	Heart					T.	.03																.16	1.48	.08	.02			.02		.07		1.86
Dunn Center [2]	Knife						.01																	1.72	.02								1.75
Fairfield	Lit. Missouri																																......
Fryburg	Heart				T.					T.			T.	T.									1.98	T	.52						.02		2.52
Hettinger	Grand							T.	.16														.07		.61						.13		0.97
Howard (near)	Missouri														.05		T		T.				.49	T						T.	T.		0.54
Kenmare [2]	Mouse					.36	.02			.11								.10		.02				.21									0.82
Marmarth [2]	Lit. Missouri							.30						.02			T.		T				.48	.09						.12	T		1.01
Mary	do				.04												T.	.02					1.20			.06				.02	.06		1.40
Medora	do													T.		T.	T						2.61		.20					T.	.05		2.86
Mott	Cannon Ball				.50				.05														.23	.10	.07						.08		1.03
New England [2]	do							.11														.05		1.20							.02		1.38
Parshall [2]	Missouri					.90	.18			.01						T.				T	T.			.53	.13								1.75
Portal [2]	Mouse					.10				.16						.14				.21				.05	.07						.02		0.75
Powers Lake	Missouri							.13															.39										0.52
Richardton	Heart				.35																		1.13	.02	.13						.07		1.70
Sanish [2]	Missouri					T.																		1.03	.12								1.15
Stanley	do				.41		.52		.06	.05													.73	.10	T.								1.87
Tioga	do																						.72	T.									0.72
Trotters	Lit. Missouri						T.		T.				T.	T.			T.		T.				1.91	.02	.04					.08	.01		2.06
Watford City	Missouri				T.		.09												T.				1.55		.06					T.	.08		1.78
Wildrose	do				T				.07						.13		.02			.03			.40	T.							.08		0.73
Williston [1]‡	do				T.		T.			T.					.05		T.		T.				.78		.08					.04	.07		1.02

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for September 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley §	Maximum	87	89	94	88	89	93	85	67	60	57	67	84	69	73	79	84	89	83	91	83	81	82	73	60	63	75	80	75	72	76	....	78.3
	Minimum	47	54	62	60	63	61	55	52	36	29	25	42	39	38	45	53	55	50	59	54	51	49	53	30	24	36	40	34	37	43	....	45.9
Beach	Maximum	98	94	98	85	84	84	85	84	68	67	81	75	78	80	86	86	86	80	80	80	82	69	74	61	66	77	75	68	65	73	....	79.3
	Minimum	54	57	62	63	57	53	48	60	47	29	36	43	38	52	40	55	53	50	48	44	55	57	49	45	34	42	46	40	45	53	....	48.5
Bismarck	Maximum	92	95	98	90	94	94	86	72	62	63	72	89	72	79	87	86	92	89	86	82	83	82	72	60	65	76	77	71	74	75	....	80.6
	Minimum	46	56	65	66	65	61	51	57	40	30	27	39	40	41	47	55	52	54	53	56	53	54	55	39	32	37	45	42	40	51	....	48.3
Bottineau §	Maximum	77	85	85	92	92	90	80	77	74	56	61	70	76	66	73	84	86	85	86	82	80	81	74	70	59	63	75	75	62	72	....	76.3
	Minimum	54	58	61	66	66	57	53	54	40	30	36	43	46	39	43	57	52	56	62	59	56	54	53	37	33	40	43	47	40	53	....	49.6
Carson	Maximum	92	95	97	86	94	93	90	76	66	65	76	90	66	81	80	90	93	84	87	87	82	79	72	60	66	80	79	75	69	70	....	80.7
	Minimum	56	58	64	63	64	60	48	55	42	25	32	42	45	45	45	58	55	58	50	50	52	55	51	42	31	41	44	40	45	52	....	49.0
Crosby §	Maximum	95	87	101	91	85	83	81	74	60	69	80	75	77	79	82	85	86	82	77	81	85	64	61	60	67	77	72	59	75	72	....	77.4
	Minimum	54	54	54	65	59	50	41	47	36	25	28	35	41	42	46	45	45	48	52	47	48	52	49	35	33	33	41	42	34	38	....	44.0
Devils Lake	Maximum	81	87	88	88	89	75	74	71	55	58	68	75	60	71	82	83	82	82	78	78	80	77	69	56	62	74	77	64	74	80	....	74.6
	Minimum	50	56	56	60	66	59	54	49	38	32	32	45	40	36	49	54	56	53	60	55	50	50	48	35	29	38	47	46	38	45	....	47.5
Dickinson §	Maximum	94	94	98	86	87	85	82	80	64	65	77	85	66	83	87	88	88	86	81	76	81	65	71	63	68	78	78	69	67	68	....	78.8
	Minimum	48	52	54	61	58	56	48	51	46	26	26	31	43	47	40	47	51	45	49	46	44	48	46	43	33	31	38	39	42	44	....	44.4
Dunn Center §	Maximum	96	94	100	89	90	88	81	75	66	69	80	87	72	86	88	90	91	88	85	77	82	60	72	57	67	80	78	67	68	70	....	79.8
	Minimum	40	49	56	64	57	56	49	51	43	26	24	26	41	45	41	49	55	44	49	47	48	50	47	44	31	34	39	42	40	43	....	44.3
Fargo	Maximum	77	87	90	89	89	91	80	68	60	60	67	85	64	74	79	79	86	87	96	79	82	83	68	59	62	77	79	76	74	81	....	77.6
	Minimum	52	57	56	65	69	66	56	49	42	34	33	38	40	33	56	64	64	59	66	59	51	41	52	33	25	41	48	46	41	50	...	49.5
Fessenden §	Maximum	89	92	98	92	96	91	81	73	64	62	74	87	73	70	90	88	86	87	83	82	81	79	72	65	64	78	77	67	76	80	...	80.0
	Minimum	49	52	59	59	68	55	49	49	45	26	30	39	37	33	45	54	58	52	64	53	50	45	53	37	28	35	46	46	34	43	....	46.4
Fullerton	Maximum	81	86	89	86	85	88	85	73	68	58	64	84	69	73	78	82	84	78	92	82	81	81	72	62	61	73	82	75	70	79	....	77.4
	Minimum	46	55	62	60	66	64	60	52	49	32	32	34	42	34	52	55	58	56	61	58	55	50	55	44	27	35	41	44	41	43	....	48.8
Garrison §	Maximum	92	93	100	91	88	86	82	73	61	64	74	83	71	79	85	87	88	87	86	80	83	74	73	61	65	78	76	65	73	76	...	79.1
	Minimum	50	56	63	64	65	58	52	52	42	28	27	40	39	39	45	56	55	51	59	53	52	53	49	42	30	37	43	46	33	53	...	47.9
Grafton	Maximum	78	89	89	91	93	90	76	75	72	61	68	77	74	72	80	81	80	84	82	84	82	81	74	65	62	76	79	73	71	82	...	78.1
	Minimum	49	52	55	63	69	61	55	48	47	36	35	37	47	34	53	52	61	49	60	50	49	43	56	37	26	33	41	49	40	42	....	47.6
Grand Forks	Maximum	76	87	89	90	87	87	74	70	59	60	66	82	59	72	78	83	85	85	82	78	76	77	69	58	60	73	77	67	73	81	....	75.3
	Minimum	49	53	51	63	70	64	53	45	39	32	30	36	43	33	53	52	60	59	68	56	49	43	47	34	27	34	43	47	44	46	....	47.4
Jamestown §	Maximum	85	88	96	91	89	93	86	75	62	62	72	86	68	74	82	85	91	84	96	80	81	75	81	62	68	79	81	73	73	80	....	79.9
	Minimum	47	55	60	62	68	63	56	55	49	32	31	39	43	32	52	50	59	54	61	57	54	55	46	40	27	36	43	43	40	46	....	48.5
Kenmare §	Maximum	89	87	97	88	85	86	76	73	57	65	72	78	67	72	81	81	88	82	83	79	80	66	68	58	63	77	75	55	68	71	....	75.6
	Minimum	56	53	57	59	62	55	49	51	39	29	29	43	41	42	45	52	48	53	59	51	51	52	52	33	35	40	44	44	40	43	....	46.9
Langdon	Maximum	80	85	86	90	85	74	75	70	58	60	68	75	65	69	81	84	86	81	79	79	81	82	71	59	61	74	79	67	75	79	....	75.3
	Minimum	51	54	52	61	63	56	50	43	40	29	27	39	37	34	59	52	54	55	62	52	48	46	51	29	24	36	46	47	40	46	....	46.1
Marmarth §	Maximum	95	93	97	85	85	84	85	82	63	65	77	85	76	81	85	85	86	80	81	79	81	64	71	51	65	77	74	71	62	72	....	77.9
	Minimum	57	55	64	57	53	48	58	51	30	30	41	48	52	39	50	47	46	43	47	51	59	52	48	33	37	37	40	48	55	55	....	47.7
Minot	Maximum	92	92	101	92	89	86	84	78	65	64	75	78	73	80	87	87	89	90	84	78	84	72	72	66	66	79	72	70	72	75	....	79.7
	Minimum	58	55	58	65	67	52	50	49	43	29	29	47	36	40	49	53	48	51	60	53	47	48	51	36	31	44	43	45	39	51	....	47.6
Mott	Maximum	90	92	87	83	89	88	84	78	73	64	67	88	78	79	89	89	92	84	86	79	80	77	72	67	67	78	77	73	72	70	....	80.1
	Minimum	52	55	62	64	62	56	50	56	46	29	28	39	43	51	45	54	42	65	50	51	53	56	46	42	31	34	44	39	41	52	....	47.9
Pembina	Maximum	81	90	90	94	90	86	77	77	60	61	70	77	67	73	79	87	80	83	75	79	79	76	74	59	62	74	77	70	76	82	...	76.8
	Minimum	53	63	65	65	68	60	56	47	47	36	32	41	50	38	52	54	59	68	68	57	61	49	56	33	27	36	42	46	42	60	....	51.0
Sharon	Maximum	78	86	90	88	88	90	76	66	61	59	67	83	60	71	77	84	89	85	83	79	80	79	70	58	61	75	82	68	73	81	....	76.2
	Minimum	50	53	55	64	67	64	57	50	43	32	33	39	44	37	48	52	60	55	65	56	53	51	53	36	26	39	42	48	43	47	....	48.7
Steele	Maximum	91	93	98	92	95	95	88	79	62	59	69	86	80	76	87	86	91	86	87	81	84	82	75	61	62	75	77	72	75	77	....	80.4
	Minimum	52	53	61	64	67	59	48	49	47	28	26	40	41	37	45	53	53	54	56	55	51	49	55	44	31	38	47	42	39	46	...	47.7
Valley City	Maximum	78	85	89	87	87	89	82	73	73	66	66	83	81	71	75	80	87	86	90	87	77	78	77	72	65	74	78	77	70	79	....	78.7
	Minimum	45	53	61	60	67	63	57	52	48	34	29	38	42	33	52	48	60	57	63	57	54	44	56	39	25	27	42	45	43	39	....	48.1
Wahpeton	Maximum	78	86	91	90	87	89	86	80	66	63	68	84	83	73	78	79	83	86	96	88	85	85	79	65	61	75	80	78	75	81	....	79.9
	Minimum	49	58	62	63	67	64	61	61	57	33	32	39	42	34	54	62	63	59	72	63	53	50	60	39	25	37	46	47	43	48	....	51.4
Williston	Maximum	96	94	100	86	84	83	80	76	62	66	80	77	76	80	82	85	85	80	80	77	81	67	67	57	65	76	73	66	71	70	....	77.4
	Minimum	58	56	68	69	58	55	50	56	41	30	36	45	51	54	50	51	51	50	55	46	55	54	49	42	39	44	44	45	46	56	....	50.1

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for September 1940—Continued from page 34.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	......	......	..	...	.....	..	.....	1.34	+0.07	0.74	0	3	21	5	4	se.	H. A. Bury.
Amidon	Slope	......	17	64.0	+6.9	95	3	30	9	49	0.85	−0.65	0.50	0	3	11	11	8	se.	Stanley W. Bale.
Beach	Golden Valley	2,759	34	63.9	+7.5	98	1†	29	10	46	1.99	+0.70	1.53	0	7	7	18	5	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	64.7	+7.8	100	3	29	10†	47	1.60	+0.01	0.80	0	4	21	7	2	se.	H. W. Chase.
Bowbells	Burke	1,958	11	59.9	......	101	3	26	10	46	0.68	... ...	0.46	0	5	9	16	5	e.	Charles Kaufman.
Bowman	Bowman	2,872	25	63.3	+6.5	94	3	33	10	46	1.29	+0.01	0.61	0	4	16	4	10	se.	Oscar L. Erickson.
Crosby	Divide	1,954	31	60.7	+6.6	101	3	25	10	52	0.74	−0.65	0.53	0	6	11	10	9	sw.	J. H. Phelps.
Dickinson	Stark	2,543	47	61.6	+5.6	98	3	26	10	54	1.86	+0.54	1.48	0	7	18	6	6	se.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	62.0	+5.8	100	3	24	11	61	1.75	+0.31	1.72	0	3	17	8	5	s.	O. T. Evenson.
Epping	Williams	2,224	29	60.6	+5.2	95	1†	24	10	48	0.88	−0.51	0.67	0	3	20	3	7	se.	T. Beachler.
Fairfield	Billings	......	3	.....	......	...	....	.....	...	......	.....	.... ..	... ..	......	......	... ..	... ..	......	.....	Thomas Knudtson.
Fryburg	Billings	2,790	21	64.1	......	100	1	31	10	55	2.52	+1.15	1.98	0	3	16	12	2	se.	Verne King.
Hettinger	Adams	2,675	32	65.2	+7.6	95	3	30	10	43	0.97	−0.43	0.61	0	4	13	10	7	se.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	61.9	+7.6	102	3	30	10	47	0.54	−0.84	0.49	0	2	19	4	7	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	61.2	......	97	3	29	10	43	0.82	−0.79	0.36	0	6	18	7	5	se.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	62.8	+6.3	97	3	30	9†	42	1.01	−0.28	0.48	0	5	14	5	11	se.	S. P. Grane.
Mary	McKenzie	......	11	.....	......	...	....	.....	....	.....	1.40	+0.63	1.20	0	6	22	5	3	se.	Fred Hartman.
Medora	Billings	2,271	24	.....	......	...	....	.....	..	... ..	2.86	+1.71	2.61	0	3	20	8	2	se.	Vernon Thompson.
Mott	Hettinger	2,424	32	64.0	+7.4	97	3	28	11	50	1.03	−0.38	0.50	0	6	18	8	4	se.	P. G. Wiek.
New England	Hettinger	2,400	45	63.8	+7.4	102	2	29	10	48	1.38	0.00	1.20	0	4	12	9	9	se.	F. S. Sleight.
Parshall	Mountrail	1,929	24	60.8	......	101	3	27	10	53	1.75	+0.21	0.90	0	5	8	22	0	se.	C. E. Shubert.
Portal	Burke	1,951	34	60.7	+6.3	99	4	26	10	48	0.75	−0.84	0.21	0	7	14	11	5	s.	R. G. Wegener.
Powers Lake	Burke	2,205	34	62.6	+7.6	101	3	30	9	42	0.52	−0.99	0.39	0	2	23	7	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	23	63.5	+6.7	95	3	35	11†	41	1.70	+0.34	1.15	0	5	14	12	4	se.	Assumption Abbey.
Sanish	Mountrail	1,835	14	61.0	+4.4	103	3	25	11	57	1.15	+0.35	1.03	0	2	14	15	1	se.	H. J. Bugge.
Stanley	Mountrail	2,258	2	61.4	......	100	3	27	10	45	1.87	....	0.73	0	6	17	12	1	e.	Leroy Edwards.
Tioga	Williams	2,279	11	.....	......	...	....	.....	....	.....	0.72	−0.09	0.72	0	1	... ..	... ..	......	.....	B. V. Olson.
Trotters	Golden Valley	......	14	.....	......	...	....	.....	....	.....	2.06	+0.81	1.91	0	5	10	17	3	se.	Walter Grunewald
Watford City	McKenzie	2,084	26	66.3	+10.0	103	3	34	10	48	1.78	+0.46	1.55	0	4	21	6	3	w.	J. C. Zeller.
Wildrose	Williams	2,258	12	.....	......	...	....	. .	....	.....	0.73	....	0.40	0	6	20	6	4	se.	L Holter.
Williston	Williams	1,878	60	63.8	+7.2	100	3	30	10	44	1.02	−0.07	0.78	0	5	20	7	3	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	62.7	+6.7	103	3	24	10†	57	1.32	+0.07	2.61	0	4	16	9	5	se.	....
Average for the State		......	.....	62.8	+5.9	103	3	20	11†	57	1.06	−0.44	2.61	0	4	17	9	4	se.	....

[WBO, Minneapolis, 10-28-40—1100]

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. XLIX   BISMARCK, N. D., OCTOBER 1940   No. 10

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GENERAL SUMMARY

The month was warm and moist. It was the second warmest October since state-wide records began in 1892. The temperature dropped below freezing on only a few days, mostly near the close of the month. The precipitation was the greatest October amount since 1932. Many stations in the eastern division received twice the normal amount. In all sections, the moisture occurred during the periods from the 2d to the 4th, 12th to 14th, and 27th to 31st. Sunshine was above average. No measurable amount of snowfall was reported in any section. It was an excellent month for outdoor work and most crops are harvested. Corn picking was well along by the close of the month. Livestock was good and feed was ample.

TEMPERATURE

The mean temperature for the state was 50.7°, or 6.8° above the 1892-1940 average for October. The mean temperature for the eastern division was 51.1°; for the middle division, 50.1°; and for the western division, 50.9°. The highest mean temperature was 53.8° at McLeod, and the lowest, 47.1° at Willow City, making a range in mean temperature of 6.7°. The absolute range was 71°, from 89° at Mott on the 21st, to 18° at Mohall on the 30th and Willow City on the 18th. The average daily excess in temperature for the state since January 1, 1940, is 1.6°.

PRECIPITATION

The average precipitation for the state was 1.56 inches, or 0.54 inch more than the 1892-1940 average for October. In the eastern division the average amount was 2.16 inches; in the middle division, 1.26 inches; and in the western division, 1.26 inches. The greatest monthly amount reported was 3.85 inches at Jamestown; the least was 0.20 inch at Bowbells and Kenmare. The greatest amount recorded in any 24 consecutive hours was 1.90 inches at Crosby on the 4th. The accumulated excess in precipitation for the state since January 1, 1940, is 0.61 inch. The average snowfall was a trace.

ERRATA

AUGUST 1940—p. 30: Carrington, number of days with precipitation 0.01 inch or more should be 10. Granville, minimum temperature and date should be 42 on the 18th. Larimore mean temperature should be 66.8°, departure from normal should be +1.8°.

SEPTEMBER 1940—p. 34: Grand Forks, mean temperature should be 61.3°, departure +4.9°. p. 36: Grand Forks, minimum temperature on the 6th should be 61, on the 19th it should be 63; maximum temperature on the 21st should be 77.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	..	..	1	1	15	22	11	1	..	1	..	..	1	..	..	..	1	..	..	3	2	..	..	..	1	.	1	1	..	..
Dust storms	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	2	4	17	7	3	1	1	1	1	1	..	..	2	1	..	..	..	..	1	..	..	..	..	..	..	3	9	7	3	1	10
Lunar halos	..	..	..	..	..	..	1	..	..	1	1	..	..	2	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..
Sleet	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	5	..	..	..
Thund'rst'ms	1	4	11	12	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.97	30.48	14	29.33	4	9.6	38	w.	4	87	52	58	58
Devils Lake	29.96	30.40	14	29.28	4	8.8	27	nw.	22	52	56	64	61
Williston	29.95	30.52	14	29.30	4	6.6	24	nw.	4	82	66	54	59
Fargo	29.97	30.44	14	29.39	4	....	....	....	...	80	52	58	....
Moorhead, Minn	......	......	....	......	....	9.2	31	se.	4	....	....	....	58

† And other dates.

COMPARATIVE DATA FOR OCTOBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation .01 inch or more	Clear	Partly cloudy	Cloudy
1892	47.2	95	7	0.25	1.20	0.30	0.58	T.	3	15	8	8
1893	40.6	79	0	1.17	1.08	0.89	1.05	0.9	5	11	11	9
1894	43.0	77	16	2.28	1.76	0.94	1.66	0.0	6	14	8	9
1895	40.5	85	−12	0.31	0.15	0.27	0.24	0.0	2	16	8	7
1896	40.2	88	5	1.25	0.43	0.40	0.69	0.0	3	14	8	9
1897	45.9	93	6	1.01	0.75	0.56	0.77	0.8	4	13	9	9
1898	38.8	84	8	2.60	2.42	1.67	2.23	4.7	6	8	8	15
1899	42.1	86	7	1.16	1.21	1.15	1.17	1.3	5	11	8	12
1900	48.2	87	14	2.34	1.30	0.98	1.54	T.	6	15	4	12
1901	47.5	88	11	2.96	1.22	0.65	1.61	T	5	17	7	7
1902	43.7	87	10	1.70	1.20	0.95	1.28	0.7	4	16	6	9
1903	47.0	81	11	1.42	0.80	0.60	0.94	0.2	3	19	5	7
1904	46.6	87	10	1.55	0.60	0.46	0.90	T.	5	12	7	12
1905	40.3	93	0	0.59	0.22	0.28	0.36	1.2	5	8	12	11
1906	45.0	89	0	0.75	0.45	0.27	0.49	1.4	4	14	9	8
1907	44.4	88	4	1.02	0.66	0.16	0.61	0.2	3	21	5	5
1908	43.0	86	8	1.46	1.36	2.07	1.63	0.7	6	11	7	13
1909	43.1	97	0	0.88	0.63	0.45	0.65	0.9	3	14	8	9
1910	48.2	95	0	0.49	0.66	0.38	0.51	0.1	3	16	8	7
1911	42.5	86	−10	1.25	1.27	1.20	1.24	0.5	6	11	8	12
1912	44.4	90	0	0.68	1.09	1.44	1.07	3.5	4	16	6	9
1913	39.3	90	− 2	2.40	1.34	1.03	1.59	0.7	4	12	9	10
1914	50.0	97	0	1.20	0.93	0.65	0.93	T.	4	16	8	7
1915	46.6	87	10	1.22	0.91	1.14	1.09	0.2	4	17	8	6
1916	40.0	85	− 2	0.49	0.88	0.73	0.70	2.0	4	12	8	11
1917	34.7	82	− 4	0.87	0.76	0.71	0.78	6.4	5	8	11	12
1918	46.2	90	4	0.80	0.45	0.35	0.53	0.8	4	14	8	9
1919	33.5	84	−18	0.93	1.14	1.35	1.14	9.3	6	11	9	11
1920	49.3	95	6	0.53	0.28	0.83	0.55	0.1	3	16	8	7
1921	47.3	88	16	0.80	1.09	0.10	0.66	T.	4	16	8	7
1922	45.7	98	8	0.37	0.65	0.73	0.58	2.3	3	15	7	9
1923	44.0	84	− 8	0.56	1.02	1.08	0.89	0.5	4	14	7	10
1924	50.3	86	19	2.31	2.14	2.82	2.42	0.3	7	17	5	9
1925	33.3	66	−16	0.83	0.64	0.96	0.81	3.7	6	8	9	14
1926	42.6	85	4	2.54	0.86	0.68	1.36	1.0	6	10	10	11
1927	47.0	88	12	1.53	1.49	0.96	1.33	1.0	5	14	8	9
1928	43.5	85	3	0.69	0.18	0.51	0.46	0.6	2	15	8	8
1929	46.8	88	10	2.87	1.63	1.05	1.85	5.1	6	17	5	9
1930	40.8	86	0	2.04	1.90	1.48	1.81	0.3	7	10	9	12
1931	47.7	90	10	2.63	0.93	0.60	1.39	0.2	6	15	6	10
1932	38.3	90	− 3	2.33	2.41	2.06	2.27	9.1	8	9	7	15
1933	41.5	88	5	0.39	0.48	0.74	0.54	1.7	4	14	8	9
1934	49.0	94	5	2.11	0.83	0.08	1.01	0.1	3	14	8	9
1935	43.5	86	−10	0.29	0.08	0.12	0.16	0.7	2	15	9	7
1936	42.3	90	− 5	0.23	0.16	0.24	0.21	1.1	3	14	9	8
1937	43.9	94	1	0.40	0.92	1.08	0.80	0.2	4	12	9	10
1938	50.9	95	4	0.27	0.44	0.95	0.55	1.1	4	16	7	8
1939	41.3	84	− 6	1.17	0.64	0.44	0.75	1.2	7	8	10	13
1940	50.7	89	18	2.16	1.26	1.26	1.56	T.	6	14	8	9
Period	43.9	98	−18	1.27	0.96	0.83	1.02	1.4	4	14	8	9

Climatological Data for October 1940

Stations	Counties			Temperature, in degrees Fahr.							Precipitation, in inches				Number of days					
		Elevation, feet	Length of record, years	Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Eastern Division																				
Casselton	Cass	961	44	52.0	+7.4	79	11	29	8†	41	2.20	+0.73	0.80	0	7	23	4	4	se.	James. H. Erickson.
Cavalier	Pembina	894	30	50.4	......	76	11	26	15	34	0.98	−0.43	0.70	0	3	12	8	11	s.	City Light &Power Co.
Cooperstown	Griggs	1,428	43	49.1	+5.7	76	1†	24	17	38	1.44	+0.32	0.38	0	8	23	6	2	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	.....	......	...	...	.....	...	.....	2.70	......	0.76	0	7	7	14	10	se.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	49.2	+6.8	74	1	28	17	34	2.21	+0.96	1.16	0	9	9	4	18	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	49.8	+4.5	81	11	27	23	42	1.72	+0.63	0.66	0	6	9	18	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	16	48.0	+5.8	75	11	19	17	37	1.43	+0.38	0.78	0	4	14	7	10	se.	Mike Davis.
Ellendale	Dickey	1,457	45	52.4	+6.8	81	11	27	15	42	1.56	+0.45	0.55	0	6	13	8	10	nw.	J. E. Demmer.
Fargo	Cass	895	4	52.0	+7.5	79	11	26	8	38	1.82	−0.07	0.84	0	8	7	15	9	se.	U. S. Weather Bureau.
Forman	Sargent	1,249	47	52.8	+6.7	79	11	25	23	43	2.87	+1.42	0.94	0	7	19	9	3	nw.	Helge Dyste.
Fullerton	Dickey	1,439	42	53.0	+8.2	80	11	27	17†	40	1.93	+0.50	0.84	0	5	8	15	8	nw.	F. O. Alin.
Grafton	Walsh	827	48	51.2	+9.1	78	1	25	15	37	1.48	+0.26	0.75	0	5	7	16	8	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	49.6	+6.0	76	1	25	17	36	2.27	+0.87	1.12	0	7	7	5	19	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	53.0	+6.6	80	9	26	14	39	2.93	+1.98	0.84	0	7	13	14	4	se.	Joseph Rindt.
Hannah	Cavalier	1,568	48	.....	......	...	...	.....	...	.....	.....	......	.....	.....	.....	.....	.....	.....	.....	Charles McAdams
Hillsboro	Traill	901	40	51.7	+6.5	79	9†	24	15	39	2.09	+0.62	0.86	0	6	22	6	3	n.	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	52.2	+7.7	78	11	28	30	42	3.85	+2.57	1.74	T.	6	17	5	9	nw.	S. G. Calvelage.
Kensal	Stutsman	1,440	1	.....	......	...	...	.....	...	.....	3.67	......	1.12	0	6	15	10	6	nw.	U. S. Wildlife R fuge.
Langdon	Cavalier	1,615	41	47.8	+6.9	75	11	21	17	41	1.38	+0.24	0.90	0	6	14	8	9	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	50.2	+6.3	75	11	26	15	36	1.50	−0.06	0.74	0	5	11	6	14	se.	W. L. Goodison.
Lisbon	Ransom	1,091	36	51.0	+7.2	82	1	26	30	49	2.15	+0.82	0.72	0	7	12	16	3	se.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	48.6	+5.7	77	1†	21	17	43	1.81	+0.82	0.48	0	9	9	14	8	nw.	C. E. Blasky.
McLeod	Ransom	1,075	29	53.8	+7.6	80	1†	26	17†	41	2.71	+1.23	0.82	0	6	17	11	3	se.	J. G. Carlson.
Mayville	Traill	975	44	52.7	+6.8	79	1	30	18	39	3.00	+1.66	0.88	0	5	3	22	6	nw.	H. B. Addicott.
Milnor	Sargent	1,117	1	52.3	...	82	1	22	15	42	3.18	......	1.30	0	5	19	7	5	n.	E. W. Wilson.
Oakes	Dickey	1,318	11	52.6	+6.2	82	11	23	23	48	1.90	+0.64	0.77	0	7	14	6	11	se.	F. H. Murray.
Park River	Walsh	998	36	49.9	+6.1	76	1†	25	15	36	1.58	+0.30	0.97	0	5	7	6	18	se.	E. J. Taintor.
Pembina	Pembina	789	66	50.8	+9.4	79	1	26	15	39	1.70	+0.39	0.76	0	6	12	8	11	s.	S. W. Douglas.
Petersburg	Nelson	1,520	10	.....	......	...	...	.....	...	.....	1.10	......	0.52	0	5	15	12	4	nw.	T. M. Rykken.
Sharon	Steele	1,516	16	49.4	+6.5	77	11	25	17	34	1.76	−0.30	0.64	T.	8	12	10	9	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	52.3	+7.7	78	11	24	30	36	2.75	+1.57	0.70	0	8	19	8	4	nw.	I. C. Robertson.
Wahpeton	Richland	962	48	53.4	+6.8	78	11	28	15†	36	3.14	+1.57	1.20	0	8	11	8	12	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	52.0	+7.5	78	11	31	15	36	2.22	+0.53	0.87	0	8	10	10	11	se.	U. S. Weather Bureau.
Average for Eastern Division		......	....	51.1	+7.2	82	1†	19	17	49	2.16	+0.89	1.74	T.	6	13	10	8	nw.	....
Middle Division																				
Ashley	McIntosh	2,014	44	49.4	+5.3	77	11†	20	23	45	0.93	−0.23	0.20	0	7	6	15	10	s.	U. S. Airway Comm. Sta.
Bisbee	Towner	1,601	4	49.4	.....	75	1	24	15†	40	1.39	.....	0.62	0	4	19	3	9	sw.	I. K. Lund.
Bismarck	Burleigh	1,670	66	50.9	+6.0	78	11	25	17	43	1.38	+0.44	0.97	0	7	10	8	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	48.8	+7.8	73	1†	20	23	41	1.24	+0.16	0.48	0	6	13	8	10	se.	N. D. School of Forestry
Carrington	Foster	1,579	42	49.8	+6.0	76	11	29	17†	43	3.19	+2.21	0.95	0	8	13	6	12	w.	Soo Line Agent.
Carson	Grant	2,500	28	51.2	+7.9	80	21	25	17	39	1.16	+0.19	0.65	0	5	14	11	6	nw.	J. W. Evens.
Center	Oliver	......	2	50.6	......	78	11	20	17†	44	0.91	......	0.33	0	4	15	8	8	.....	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	50.8	+6.8	73	11†	24	17	36	1.06	−0.07	0.42	0	8	10	8	13	nw.	R. L. Williams.
Drake	McHenry	1,634	11	49.8	.....	75	10†	27	30	42	1.02	.....	0.48	0	7	10	8	13	se.	Peter Anton.
Dunseith	Rolette	1,682	44	49.4	+8.0	75	1	21	30	38	0.96	+0.01	0.45	0	4	10	13	8	n.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	.....	......	...	...	.....	...	.....	.....	......	.....	.....	.....	.....	.....	.....	.....	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	51.1	+6.9	80	21	20	17	42	0.70	−0.24	0.30	0	4	17	8	6	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	28	50.2	+7.2	76	1†	26	30	41	2.34	+1.25	0.76	0	7	7	8	16	e.	John V. Zuber.
Fort Yates	Sioux	1,670	40	49.6	+3.2	78	18	22	17†	43	0.78	−0.34	0.52	0	3	18	8	5	se.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	50.2	+8.4	79	21	26	17	43	0.28	−0.82	0.13	0	5	12	5	14	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	10	51.2	.....	75	3†	28	17	37	2.42	......	0.91	0	6	9	9	13	ne.	A. H. Haut.
Garrison	McLean	1,901	63	50.2	+7.5	77	21	23	17	42	0.77	−0.17	0.35	0	7	7	12	12	se.	E. L. Vorachek.
Granville	McHenry	1,504	33	50.4	+7.1	77	21	20	30	44	0.50	−0.43	0.22	0	6	12	13	6	nw.	W. A. Christianson.
Hansboro	Towner	1,597	32	48.0	+7.3	71	11	22	17	40	1.47	+0.36	0.60	0	6	9	12	10	nw.	W. E. Disher.
Leeds	Benson	.....	.....	.....	......	...	...	.....	...	.....	.....	......	.....	.....	.....	.....	.....	.....	.....	Fred Holmes.
Linton	Emmons	1,711	23	52.1	+7.4	79	11	21	29	47	1.32	+0.21	0.66	0	7	17	5	9	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	50.8	+8.4	76	22	25	17	38	2.43	+1.40	1.24	0	5	12	8	11	se.	F. W. Perry.
Maddock	Benson	1,604	25	50.2	+7.3	76	21	22	17	43	1.11	+0.02	0.76	0	5	14	5	12	nw.	A. T. Felland.
Mandan	Morton	1,750	26	51.3	+7.3	76	11	26	23	40	1.69	+0.70	0.81	0	6	16	2	13	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	.....	......	...	...	.....	...	.....	2.33	+1.20	0.82	0	9	15	6	10	nw.	P. B. Anderson.
Max	McLean	2,093	11	48.4	......	76	21	22	17	46	0.55	......	0.28	0	5	5	13	13	.....	A. W. Rice.
Minot	Ward	1,557	44	50.0	+6.7	80	21	20	17	44	0.47	−0.54	0.16	0	7	13	7	11	w.	Robert C. Chatfield.
Mohall	Renville	1,646	47	49.4	+7.7	80	21	18	30	43	0.28	−0.89	0.14	0	7	14	8	9	nw.	Iver Johnson.
Napoleon	Logan	1,955	48	52.4	+8.7	80	11	25	17	41	2.27	+1.17	0.97	T.	8	14	8	9	nw.	C. J. Hoof.
New Salem	Morton	2,163	36	49.3	+4.5	77	11†	24	31	43	1.68	+0.72	0.84	0	8	17	3	11	se.	J. Christianson.
Pettibone	Kidder	1,856	31	50.4	+8.6	77	11	25	23	39	3.82	+2.89	1.85	0	8	11	3	17	nw.	Sam Loeppke.
Rolla	Rolette	1,860	3	48.6	......	73	1†	24	23	37	1.44	.....	0.51	0	5	13	6	12	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	.....	......	...	...	.....	...	.....	1.49	+0.55	0.42	0	6	13	9	9	nw.	W. B. Paterson.
Ryder	Ward	2,108	11	.....	......	...	...	.....	...	.....	0.74	+0.13	0.30	0	5	15	6	10	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	.....	......	...	...	.....	...	.....	0.89	......	0.40	0	4	13	4	14	nw.	J. B. Smith.
Steele	Kidder	1,857	46	51.0	+7.2	76	11	25	17†	40	2.00	+0.83	0.66	0	7	16	5	10	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	.....	......	...	...	.....	...	.....	0.52	−0.02	0.22	0	6	16	7	8	nw.	G. N. Pilgard.
Timmer	Morton	......	3	.....	......	...	...	.....	...	.....	0.80	......	0.38	0	3	.....	.....	.....	.....	Geo. M. Sinclair.
Towner	McHenry	1,482	38	49.2	+5.8	77	21	23	17	47	0.95	−0.04	0.43	0	4	11	10	10	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	51.0	+7.7	76	11	24	23†	41	0.82	−0.09	0.29	0	9	18	2	11	sw.	A. S. Haas.
Tuttle	Kidder	1,936	32	.....	......	...	...	.....	...	.....	1.37	+0.61	0.61	0	8	18	6	7	nw.	Adam Leno.
Upham	McHenry	......	....	.....	......	...	...	.....	...	.....	1.14	......	0.83	0	5	.....	.....	.....	.....	U. S. Wildlife Refuge.
Velva	McHenry	1,511	13	50.7	+6.8	76	11†	22	30	41	0.66	−0.39	0.31	0	5	11	10	10	w.	Oscar Anderson.
Washburn	McLean	1,731	39	53.1	+8.6	77	11†	27	17	40	0.63	−0.42	0.24	0	7	18	1	12	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	49.4	+7.3	76	21	20	17	41	0.59	+0.27	0.21	0	5	17	7	7	se.	Rev. R. Carey.
Willow City	Bottineau	1,471	48	47.1	+5.7	74	9†	18	17	42	1.19	+0.31	0.41	0	5	20	6	5	nw.	O. M. Sanderson.
Wilton	McLean	2,159	4	50.1	......	75	24	25	30	41	1.18	......	0.39	0	6	19	2	10	nw.	Soo Line Agent.
Wishek	McIntosh	2,010	19	49.8	+5.9	76	11	21	17†	47	1.17	+0.39	0.54	0	6	12	6	13	nw.	H. M. Larson.
Zap	Mercer	1,838	25	.....	......	...	...	.....	...	.....	.....	......	.....	.....	.....	.....	.....	.....	.....	John Kaufman, Jr.
Average for Middle Division		......	....	50.1	+6.9	80	11†	18	17†	47	1.26	+0.30	1.85	T.	6	14	7	10	nw.	....

Continued on page 40

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for October 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red			.23	.13								T.	.22	.80														.64	.08		.10	2.20
Cooperstown	Sheyenne		.05	.13	.28								.02		.38														.10	.22		.26	1.44
Courtenay [2]	James		.10	.35	.45	.10								.76	T.														.60			.34	2.70
Devils Lake [1]‡	Devils Lake	.02	.21	.32	.31							T.	.01	.06						T								.26	.90	T.		.12	2.21
Edgeley	James			.20	.22									.66	.25														.24			.15	1.72
Edmore	Devils Lake			.21	.31																T.								.78			.13	1.43
Ellendale	James			.08	.23									.39	.21														.55			.10	1.56
Fargo	Red		.12	.04	.03								.02	.83	.01					T.					T			T.	.43		T.	.34	1.82
Forman	Sheyenne			.49	.32									.45	.28														.94	.02		.37	2.87
Fullerton	James		T.	T.	.29	T.	T.			T.				.54	.20														.84		T.	.06	1.93
Grafton	Red				.30	.08																							.61	.14		.35	1.48
Grand Forks [1]‡	do		T.	.05	.39					T.			T.	.02						.01									1.12	.01		.67	2.27
Hankinson [2]	do		.02	.84	.12								T.		.44														.59	.50		.42	2.93
Hannah	Pembina																																
Hillsboro	Red			.14	.21										.34														.86	.18		.36	2.09
Jamestown [2]	James		T	.15	.39	T.							.05	.90	T														1.74			.62	3.85
Langdon	Pembina		.05	.04	.30																								.90	.06		.03	1.38
Larimore	Red			.13	.20																								.66	.08		.43	1.50
Lisbon [2]	Sheyenne			.25	.17	.16									.72														.39	.36		.10	2.15
McHenry	James		.01	.37	.20								.05	.03	.40														.48	.02		.25	1.81
McLeod	Sheyenne	.38		.38	.02									.72	T														.82	T.		.39	2.71
Mayville	Red			.19	.80										.28															.85		.88	3.00
Oakes [2]	James			.19	.37									.51	.26													.40	.06			.11	1.90
Park River	Red			.07	.20																								.97	.08		.26	1.58
Pembina	do			.07	.21	.11																							.76	.24		.31	1.70
Petersburg	do			.16	.20										T														.52	.02		.20	1.10
Sharon	do		.03	.18	.26					T.			.01	.06	.12														.46	T.		.64	1.76
Valley City	Sheyenne			.70	.46	.11							.03	.25	.58														.18			.44	2.75
Wahpeton	Red			1.20	.07	T.					.02			.33	.37														.37	.23		.55	3.14
Middle Division																																	
Ashley [2]	Missouri	T.	T.	.20	.11									.20	.01		T.											.13			.18	.10	0.93
Bisbee	Devils Lake		.01	.61	.20																								.50			.07	1.39
Bismarck [1]‡	Missouri	T.	.08	.18	T					T.			.02	.97	T.													.03			.04	.06	1.38
Bottineau [2]	Mouse	.02		.37	.20	.15																			.02				.48				1.24
Carrington [2]	James			.95	.51	.17							.03		.55														.63	.22		.13	3.19
Carson	Heart	.08		.41	.02									.55	.10																		1.16
Center	Missouri			.33	.10									.20	.28																		0.91
Dogden Butte	Mouse		T.	.11	.42	.03							.03	.21	.17														.03	T.		.06	1.06
Drake [2]	do			.05	.48	.27						.02			.13														.06			.01	1.02
Dunseith	do			.10	.37								T.																.45			.04	0.96
Eckman	do																																
Energy	Missouri			.10	.25										.30																	.05	0.70
Fessenden	James		.76		.62								.04	.08	.26														.35			.23	2.34
Fort Yates	Missouri	T.	T.	.52										.19															.07				0.78
Foxholm (near)	Mouse		.03	.01	.13									.06											T.			T.	T.			.05	0.28
Gackle	James		.05			.25									.72															.91	.02	.47	2.42
Garrison [1]	Missouri		.03	.06	.35								.02	.24	.01														T.			.06	0.77
Granville	Mouse			.04	.22									.12											.03				.05			.04	0.50
Hansboro	Devils Lake			.39	.60	.01																			.03				.41	T		.03	1.47
Leeds	do																																
Linton	Missouri		.03	.03	.66	T.								.10	.18														.16			.16	1.32
McClusky	do			.45	1.24									.24	.29																	.21	2.43
Maddock	Sheyenne	T.	T.	.76	.15									.05	.07																	.08	1.11
Mandan [2]	Missouri		.15	.34	T.					T.		T.	.23	.81		T												.04			.12	T.	1.69
Max [2]	do			T	.28	.06							T.		.15														.01			.05	0.55
Minot [1]	Mouse		.05	.14	.04							T	T.	.16										T.	.03			T.	.02	T.	T	.03	0.47
Mohall	do			.07	.14	.01								.01											.01			T.	.03			.01	0.28
Napoleon [2]	Missouri			.05	.75	.10							.03	.02	.97														.10			.25	2.27
New Salem	Heart			.22	.02									.84	.31													.05	.03		.02	.19	1.68
Pettibone	James			.18	1.85		.02						.05	.42	.63														.45	T		.22	3.82
Rolla	Devils Lake			.38	.51																				T				.45	.02		.08	1.44
Rugby (near)	Mouse	T.	.12	.34	.42									.15											T.				.34			.12	1.49
Ryder	Missouri		T.		.23	.10								.30															.05			.06	0.74
Selfridge	do		.15	T	.40										.19																T	.15	0.89
Steele	do			.10	.66	.01							.05	.40	.52														T.			.26	2.00
Tagus	Mouse		.01	.01	.18								T	.22											T.			.02	.08	T.	T		0.52
Towner	do		T.	.24	.43								T.	.08															.20	T.			0.95
Turtle Lake	Missouri	.04	.06	.03	.29	.02							.03	.21	.09																T.	.05	0.82
Tuttle	do		.03	.05	.42	T.							.05	.20	.41														.03		T.	.18	1.37
Velva	Mouse		T	.09	.31									.23	.02										T.				T.			.01	0.66
Washburn	Missouri		T.	.05	.24	.03							.08	.10	.08													T.				.05	0.63
Westhope	Mouse			.12	.14									T.											.06				.06			.21	0.59
Willow City	do		T	.41	.27									.03															.39			.09	1.19
Wishek [2]	Missouri		.02	.30	.06							T.		T.	.54														.12			.13	1.17
Zap	Knife																																
Western Division																																	
Alpha	Lit. Missouri		.03	T.	.72									.44														.04			.01		1.24
Amidon	do	.02	.10		.58									.42	.04																		1.16
Beach [2]	do		T.	.07	1.57								.03	.56	.03													.06					2.32
Berthold Agency	Missouri		T.	.70	.07									.25														T.			T.	T.	1.02
Bowman [2]	Grand			.08		.29									.28																		0.65
Crosby [2]	Mouse			.08	1.90	.30							.01	.03											.05			T	.14	.01			2.52
Dickinson [2]	Heart		.01	.17	1.10	.22								.23	.37														.12		.02	.01	2.25
Dunn Center [2]	Knife		.31	.10	.72		.03						.03	.15	.01														.05				1.40
Fairfield	Lit. Missouri				.58									.31	.01														.13	T.			1.03
Fryburg	Heart	T	T.		.68	T.							.01	.47	T.													.10					1.26
Hettinger	Grand	.17	.04	.35	.17									.13	.02	.03												.08			T		0.99
Howard (near)	Missouri	T.		.12	1.17							T.	.03	.05														T.	.63				2.00
Kenmare [2]	Mouse	T.		T.	.04								T.	.07											.04				.05				0.20
Marmarth [2]	Lit. Missouri	T.	.18	T.	.57									.46														.04			.01		1.26
Mary	do			.12	.39								.05		.20														.10				0.86
Medora	do	T.		*	.58									.40														.03			T.		1.01
Mott	Cannon Ball		.10	.08	.60	.02								.56	T.													T.				.03	1.39
New England [2]	do	.09		.69	.29									.41														.15			.05		1.68
Parshall [2]	Missouri				.44	T.							.03	.13	.01													.05	.02				0.68
Portal [2]	Mouse			.08	.28	.34									.03										.10				.15				0.98
Powers Lake	Missouri				.21	.36							.04		.14										.07								0 82
Richardton	Heart		.07	.07	.73	T.								.69	.09													T.				.04	1.69
Sanish [2]	Missouri		.15		.46	.12						.04			.05														.03				0.85
Stanley	do			.02	.64	.04								.19											T.			.09	T				0.98
Tioga	do			T	.47	.01								.15														T	.06				0.69
Trotters	Lit. Missouri		T.	.05	1.53								.13	.13														.01					1.85
Watford City	Missouri			.08	.83								.06	.04											T				.35				1.36
Wildrose	do			.04	.81	.02							.07	.12											T.			T.	.11				1.17
Williston [1] ‡	do			.39	.43							T.	T.	.09										.02				.35	T	T.			1.28

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for October 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley §	Maximum	68	64	74	62	66	60	67	73	76	71	77	62	51	54	64	65	58	74	66	68	77	64	63	73	74	55	72	48	55	49	40	64.2
	Minimum	46	50	47	46	44	35	29	28	40	36	43	46	39	26	26	31	21	35	38	40	37	28	20	31	34	32	37	31	24	22	29	34.5
Beach	Maximum	62	59	62	57	61	57	67	76	69	69	73	57	52	56	67	60	63	74	77	77	79	67	70	69	71	72	52	46	54	55	56	64.1
	Minimum	52	45	42	49	42	35	33	35	40	36	45	44	41	32	34	41	28	45	43	48	41	34	31	33	35	34	42	36	27	32	30	38.2
Bismarck	Maximum	65	61	67	68	65	61	70	76	66	71	78	62	51	54	67	62	57	77	69	66	76	64	64	68	72	51	66	49	58	50	43	63.7
	Minimum	57	53	47	50	50	38	34	33	40	36	44	47	43	34	33	36	25	35	41	45	38	33	26	33	36	37	41	31	29	25	32	38.1
Bottineau §	Maximum	73	61	61	70	57	59	62	71	72	69	70	61	54	51	63	60	55	68	58	58	73	58	61	64	59	61	52	46	43	51	45	60.2
	Minimum	54	53	52	53	50	45	32	33	43	38	44	39	31	32	31	32	21	29	36	39	40	40	20	25	43	41	41	40	31	25	31	37.5
Carson	Maximum	64	58	66	63	62	58	70	76	74	73	77	60	51	54	66	60	57	75	76	78	80	63	67	70	75	62	61	54	55	54	44	64.6
	Minimum	54	47	41	42	41	41	31	41	40	34	45	45	39	32	34	37	25	38	40	44	42	39	34	34	38	32	38	31	27	31	34	37.8
Crosby §	Maximum	70	60	68	55	62	59	70	75	67	70	65	58	50	52	65	58	60	73	73	71	74	67	62	66	68	56	49	47	50	56	52	62.2
	Minimum	53	50	50	49	46	38	34	36	39	36	48	40	40	28	34	38	27	39	36	34	36	39	25	35	41	30	39	38	35	31	31	37.9
Devils Lake	Maximum	74	64	65	66	61	58	61	68	67	67	72	60	54	50	56	59	54	61	54	59	68	59	60	63	58	52	58	53	41	49	40	59.1
	Minimum	55	49	54	54	52	41	34	34	41	37	47	42	39	33	29	35	28	40	36	37	40	38	30	38	36	39	41	39	32	28	37	39.2
Dickinson §	Maximum	61	58	65	59	61	56	68	76	71	72	72	56	54	54	66	59	60	74	76	75	80	59	66	67	66	58	54	44	54	54	58	63.0
	Minimum	46	47	45	47	41	40	27	33	36	33	39	45	42	34	33	38	24	31	39	41	39	41	26	31	36	35	35	37	26	28	33	36.4
Dunn Center §	Maximum	62	59	60	63	63	59	72	78	71	73	74	59	51	57	68	62	60	75	78	75	82	61	69	70	66	57	50	50	55	52	53	64.0
	Minimum	52	46	42	45	44	40	31	30	37	34	45	42	42	32	33	40	22	35	37	42	36	45	22	32	37	33	39	37	28	24	34	36.7
Fargo	Maximum	78	72	71	67	68	63	63	64	78	71	79	65	55	53	53	65	53	61	57	62	68	68	64	68	66	61	65	57	53	50	44	63.3
	Minimum	52	55	56	56	50	41	34	26	45	42	46	50	44	34	29	35	29	41	39	38	36	39	33	43	39	41	42	45	34	30	39	40.7
Fessenden §	Maximum	76	66	65	64	63	58	65	72	68	70	76	65	54	51	62	59	70	61	60	62	73	59	62	61	59	55	59	59	44	50	44	61.7
	Minimum	54	49	52	52	50	41	36	31	37	35	46	42	42	33	32	36	34	34	35	31	35	48	30	36	36	36	38	42	32	26	37	38.7
Fullerton	Maximum	74	67	76	70	68	61	67	69	76	70	80	71	57	54	60	65	56	72	60	65	76	65	61	63	71	61	76	72	71	56	44	66.3
	Minimum	46	53	50	52	51	45	34	30	36	42	40	50	45	42	28	38	27	35	40	35	36	35	30	37	35	39	39	45	51	27	38	39.7
Garrison §	Maximum	67	61	60	64	63	59	69	75	74	71	74	58	49	53	67	61	55	75	69	69	77	60	63	65	68	53	56	44	52	55	44	62.3
	Minimum	55	50	49	50	45	42	35	33	38	34	43	41	45	32	33	36	23	34	37	37	39	45	24	34	39	31	39	34	33	25	39	38.0
Grafton	Maximum	78	74	73	70	63	62	61	64	71	72	75	74	61	57	54	64	60	59	56	57	68	65	60	63	60	57	57	52	51	51	46	62.4
	Minimum	51	45	56	56	53	52	36	27	37	42	42	48	33	39	25	33	29	41	39	41	35	51	34	32	35	37	46	47	35	32	34	40.1
Grand Forks	Maximum	76	70	72	68	65	61	60	64	69	68	73	63	53	54	53	64	51	58	52	55	68	66	59	65	60	56	58	52	51	48	43	60.5
	Minimum	49	47	55	54	51	43	34	28	38	36	45	42	36	33	26	35	25	41	36	38	40	48	30	35	37	41	43	44	33	30	31	38.8
Jamestown §	Maximum	76	68	75	68	67	65	66	71	72	72	78	65	55	53	61	62	66	70	61	62	75	61	66	62	64	56	67	64	51	50	44	64.3
	Minimum	51	56	53	53	52	47	36	29	42	41	42	46	43	38	29	38	29	37	39	37	37	45	30	40	34	40	40	44	33	28	36	40.2
Kenmare §	Maximum	71	69	60	65	61	61	70	75	73	72	70	63	56	53	65	62	55	76	72	65	80	69	65	65	63	59	55	52	52	54	53	63.9
	Minimum	50	50	52	54	48	39	40	40	40	37	53	40	43	29	32	42	27	36	38	31	42	42	30	33	38	28	40	40	36	26	39	39.2
Langdon	Maximum	74	67	64	65	60	62	62	65	72	72	75	68	57	57	55	62	55	58	50	56	68	61	61	60	58	55	51	56	59	48	43	60.5
	Minimum	54	45	50	52	50	46	27	28	40	31	45	40	28	26	26	30	21	37	30	32	32	37	26	32	31	34	27	42	31	27	31	35.1
Marmarth §	Maximum	61	56	62	60	63	58	70	76	71	72	74	61	61	57	71	64	64	75	78	78	82	61	68	71	62	62	54	51	57	54	58	65.1
	Minimum	55	50	55	48	38	38	29	28	38	32	40	46	40	35	35	38	24	36	44	43	33	43	27	31	34	30	42	33	33	31	22	37.1
Minot	Maximum	73	61	62	64	67	60	69	76	72	74	76	62	49	53	68	61	56	75	67	65	80	60	67	68	63	56	56	51	49	58	49	63.5
	Minimum	54	49	53	52	49	38	35	35	39	31	51	35	39	32	33	33	20	34	37	27	36	34	26	32	37	31	35	36	25	25	38	36.5
Mott	Maximum	67	66	67	65	64	58	73	77	73	75	80	61	61	57	71	64	62	80	81	82	89	63	68	54	71	61	64	63	62	57	54	67.4
	Minimum	54	38	44	46	40	32	28	31	36	35	39	46	40	35	35	38	23	37	40	42	41	33	26	34	35	32	39	34	23	25	36	36.0
Pembina	Maximum	79	76	71	70	69	61	60	64	68	73	76	76	59	52	54	65	54	60	54	52	65	64	60	63	62	56	56	49	50	48	51	61.8
	Minimum	61	65	54	55	49	48	32	29	41	34	48	44	39	31	26	32	27	40	34	39	37	37	34	33	31	37	44	45	40	34	32	39.7
Sharon	Maximum	75	67	69	63	64	60	62	65	70	69	77	61	52	52	52	60	54	60	57	58	66	61	62	65	60	54	62	53	46	51	39	60.2
	Minimum	48	48	53	53	53	45	33	31	45	38	45	43	39	35	31	34	25	37	36	36	32	41	30	40	33	40	37	43	30	26	34	38.5
Steele	Maximum	68	64	75	66	64	65	66	73	69	69	76	62	56	52	61	60	58	72	63	66	75	62	65	65	68	54	67	67	54	54	44	63.9
	Minimum	52	51	51	48	47	45	32	34	42	38	43	43	43	34	32	34	25	35	39	43	40	43	25	33	35	34	37	39	26	25	36	38.2
Valley City	Maximum	76	73	71	71	71	68	65	65	72	67	78	75	71	52	58	61	58	62	63	60	68	63	63	62	63	57	67	63	57	49	45	64.3
	Minimum	47	55	54	54	54	48	36	29	40	41	42	48	45	39	29	36	28	40	39	38	37	44	31	35	37	44	39	45	33	24	37	40.3
Wahpeton	Maximum	77	74	71	70	68	65	65	63	77	73	78	76	59	54	54	68	59	64	62	64	69	70	65	68	66	63	70	64	57	50	48	65.5
	Minimum	50	53	54	57	53	48	36	30	41	43	44	49	41	39	28	35	30	41	38	42	39	42	29	40	41	45	42	50	34	28	40	41.4
Williston	Maximum	62	62	61	58	59	59	69	77	69	72	67	57	50	53	67	61	61	76	78	73	80	60	65	66	67	60	48	45	52	59	57	62.9
	Minimum	56	54	53	53	46	40	36	38	40	39	49	42	39	31	40	36	29	42	42	44	47	36	27	36	48	35	41	40	36	35	39	40.9

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for October 1940—Continued from page 38.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	......	......	..	...	.....	...	......	1.24	+0.26	0.72	0	5	21	3	7	se.	H. A. Bury.
Amidon	Slope	......	17	52.8	+9.2	87	20	26	29	46	1.16	+0.02	0.58	0	5	14	8	9	nw.	Stanley W. Bale.
Beach	Golden Valley	2,759	34	51.2	+7.6	79	21	27	29	41	2.32	+1.38	1.57	0	6	8	15	8	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	51.4	+6.8	80	8	23	17†	44	1.02	+0.13	0.70	T	3	19	3	9	nw.	H. W. Chase.
Bowbells	Burke	1,958	11	47.8	....	83	21	22	17	53	0.20	....	0.10	0	5	6	14	11	se.	Charles Kaufman.
Bowman	Bowman	2,872	25	51.4	+7.4	81	21	27	29	40	0.65	−0.33	0.29	0	4	17	1	13	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	31	50.0	+8.2	75	8	25	23	39	2.52	+1.68	1.90	0	8	9	10	12	sw.	J. H. Phelps.
Dickinson	Stark	2,543	47	49.7	+6.1	80	21	24	17	43	1.25	+1.27	1.10	0	9	18	6	7	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	50.4	+6.0	82	21	22	17†	48	1.40	+0.49	0.72	0	8	17	4	10	nw.	O. T. Evenson.
Epping	Williams	2,224	29	48.6	+5.2	80	21	24	14	37	2.02	+1.23	1.28	0	5	15	13	3	se.	T. Beachler.
Fairfield	Billings	......	3	......	....	..	..	.....	...	......	1.03	....	0.58	0	4	14	8	9	nw.	Thomas Knudtson.
Fryburg	Billings	2,790	21	51.5	....	82	21	26	29	41	1.26	+0.21	0.68	0	4	18	5	8	nw.	Verne King.
Hettinger	Adams	2,675	32	52.6	+7.0	83	21	27	17†	44	0.99	+0.22	0.35	0	8	11	9	11	nw.	J. A. Springer.
Howard ‡‡ (near)	Williams	2,275	32	49.0	+7.4	79	21	20	23	45	2.00	+1.21	1.17	0	5	14	6	11	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	51.6	....	80	21	26	30	40	0.20	−0.86	0.07	0	4	18	7	6	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	51.1	+5.6	82	21	22	31	49	1.26	+0.41	0.57	0	5	16	5	10	se.	S. P. Grane.
Mary	McKenzie	......	11	......	....	...	...	.....	...	......	0.86	+0.16	0.39	0	5	14	8	9	nw.	Fred Hartman.
Medora	Billings	2,271	24	......	....	...	...	.....	...	......	1.01	+0.28	0.58	0	3	21	4	6	nw.	Vernon Thompson.
Mott	Hettinger	2,424	32	51.7	+8.4	89	21	23	17	48	1.39	+0.45	0.60	0	6	12	9	10	w.	P. G. Wick.
New England	Hettinger	2,400	45	51.0	+7.6	85	21	24	16	44	1.68	+0.84	0.69	0	6	15	9	7	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	24	49.0	....	81	21	19	17	45	0.68	−0.13	0.44	0	6	10	11	10	nw.	C. E. Shubert.
Portal	Burke	1,954	34	48.8	+7.4	83	21	23	14†	48	0.98	+0.09	0.34	0	6	16	6	9	w.	R. G. Wegener.
Powers Lake	Burke	2,205	34	52.5	+8.9	81	19	27	22†	43	0.82	−0.40	0.36	0	5	17	14	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	23	51.3	+7.9	81	21	28	17†	41	1.69	+0.81	0.73	0	6	16	8	7	sw.	Assumption Abbey.
Sanish	Mountrail	1,835	14	49.3	+6.0	84	21	21	17†	55	0.85	+0.23	0.46	0	6	11	10	10	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	2	49.2	....	81	21	22	17	43	0.98	....	0.64	0	5	14	10	7	nw.	Leroy Edwards.
Tioga	Williams	2,279	11	......	....	...	...	.....	...	......	0.69	−0.10	0.47	0	4	19	6	6	nw.	B. V. Olson.
Trotters	Golden Valley	......	14	......	....	...	...	.....	...	......	1.85	+1.02	1.53	0	5	9	14	8	nw.	Walter Grunewald
Watford City	McKenzie	2,084	26	52.2	+9.3	81	21	25	17	43	1.36	+0.49	0.83	0	5	18	5	8	w.	J. C. Zeller.
Wildrose	Williams	2,258	12	......	....	...	..	.....	..	......	1.17	....	0.81	0	6	19	2	10	nw.	L Holter.
Williston	Williams	1,878	60	51.9	+8.5	80	21	27	23	39	1.28	+0.42	0.76	0	5	16	6	9	se.	U. S. Weather Bureau.
Average for Western Division		......	....	50.9	+7.4	89	21	19	17	50	1.26	+0.43	1.90	0	5	15	7	9	nw.	....
Average for the State		......	....	50.7	+6.8	89	21	18	17†	50	1.56	+0.54	1.90	T	6	14	8	9	nw.	....

[WBO, Minneapolis. 12-2-40—1100]

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VI

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

Vol. XLIX Bismarck, N. D., November 1940 No. 11

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GENERAL SUMMARY

The month was average for precipitation but below average for temperature. It was the second coldest November during the past 12 years and temperatures averaged 12.9° lower than in November 1939. The minimum temperatures on the 13th and 14th were the lowest ever recorded so early in the season at many stations. Temperature averaged highest in the eastern division. The precipitation was evenly distributed throughout the state with the greatest amount from the 9th to 13th and from the 26th to 30th. Only light snow flurries occurred between the 14th and 24th. It was a good month for livestock except for the cold weather near the middle of the month and for a few windy days. Rivers and lakes froze over in all sections during the second week. Plowing was discontinued early in the month due to frozen ground.

TEMPERATURE

The mean temperature for the state was 22.0°, or 4.6° below the 1892-1940 average for November. The mean temperature for the eastern division was 23.3°; for the middle division, 21.4°; and for the western division, 21.3°. The highest mean temperature was 25.8° at Valley City and Wahpeton, and the lowest, 17.1° at Howard, making a range in mean temperature of 8.7°. The absolute range was 87°, from 59° at New England on the 1st, to -28° at Parshall on the 13th. The average daily excess in temperature for the state since January 1, 1940, is 1.1°.

PRECIPITATION

The average precipitation for the state was 0.59 inch, which is the same the 1892-1940 average for November. In the eastern division the average amount was 0.62 inch; in the middle division, 0.62 inch: and in the western division, 0.53 inch. The greatest monthly amount reported was 1.10 inches at Hannah; the least was 0.17 inch at Alpha. The greatest amount recorded in any 24 consecutive hours was 0.85 inch at Granville on the 9-10th. The accumulated deficiency in precipitation for the state since January 1, 1940, is 0.61 inch. The average snowfall was 7.1 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	3	3	9	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	1	3	..	4	1	..	..	..	1	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	6	10	9	6	..	..	1	..	3	3	..	1	..	..	..	1	1	1	..	1	11	3	..	2	2	2	..	..	1	2	..
Lunar halos	..	..	..	..	..	..	1	..	..	..	3	3	3	4	..	..	1	2	2	..	1	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	4	5	..	..	..	..	1	..	..	..	..	1	..	..	..	4	1	..	..	..
Sleet	..	..	..	..	1	..	..	..	4	4	..	..	..	..	..	..	..	..	..	..	3	4	..	..	1	3	1	..	..	..	..
Thund'rst'ms	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.18	30.83	13	29.75	28	11.0	38	nw.	11	87	71	76	40
Devils Lake	30.15	30.64	13	29.78	18	10.1	31	nw.	11	92	82	87	36
Williston	30.20	30.80	13	29.70	28	7.1	24	se.	2	83	69	77	48
Fargo	30.14	30.75	14	29.61	11	.....	.....	.....	....	86	78	84	....
Moorhead, Minn	....	....	....	....	....	9.5	34	nw.	11	....	....	....	23

† And other dates.

COMPARATIVE DATA FOR NOVEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	22.3	75	−26	0.80	0.95	0.61	0.79	7.4	4	8	9	13
1893	22.4	74	−27	0.72	0.75	0.24	0.57	4.6	3	9	10	11
1894	23.1	71	−25	0.44	0.54	0.43	0.47	2.6	4	10	8	12
1895	20.6	76	−25	1.18	1.01	1.08	1.09	8.2	5	8	9	13
1896	8.1	62	−32	2.06	2.47	2.17	2.23	21.7	9	8	7	15
1897	20.0	86	−28	0.27	0.33	0.36	0.32	2.8	3	12	9	9
1898	23.0	69	−30	0.42	0.30	0.30	0.34	3.1	3	13	8	9
1899	36.0	68	2	0.26	0.51	0.16	0.31	1.0	2	15	4	11
1900	20.4	64	−29	0.28	0.29	0.40	0.32	5.2	5	14	7	9
1901	26.8	70	− 7	0.10	0.09	0.19	0.13	1.6	1	15	8	7
1902	29.6	69	−12	0.25	0.11	0.36	0.24	1.9	3	11	6	13
1903	25.3	78	−20	0.27	0.22	0.28	0.26	2.5	2	13	4	13
1904	35.7	80	−10	0.10	0.09	0.07	0.09	0.7	1	18	5	7
1905	31.6	88	−38	1.66	1.54	0.89	1.36	11.0	9	7	13	10
1906	23.8	68	−16	1.90	1.34	1.23	1.49	10.2	7	10	7	13
1907	30.2	85	−15	0.08	0.10	0.05	0.08	0.7	1	16	8	6
1908	31.1	75	−15	1.10	0.91	0.80	0.94	8.2	4	12	8	10
1909	29.4	88	−23	0.68	0.31	0.44	0.48	4.6	3	11	9	10
1910	23.9	68	−23	0.34	0.44	0 43	0.40	3.2	2	8	10	12
1911	16.7	58	−33	0.70	0.60	0.63	0.64	7.1	6	12	8	10
1912	31.8	70	1	0.09	0.06	0.06	0.07	0.5	1	14	9	7
1913	34.1	77	− 2	0.21	0.23	0.21	0.22	1.6	2	15	8	7
1914	30.7	83	−30	0.45	0.31	0.23	0.33	2.6	2	13	10	7
1915	28.1	71	−10	0.81	0.83	1.21	0.95	3.7	4	10	10	10
1916	28.8	75	−18	0.10	0.25	0.46	0.27	1.7	2	16	8	6
1917	36.8	77	− 7	0.20	0.13	0.05	0.13	1.4	1	16	6	8
1918	28.9	71	−18	1.31	1.09	0.49	0.96	5.3	4	13	6	11
1919	15.6	57	−36	1.88	0.96	0.62	1.15	11.8	5	11	8	11
1920	28.0	65	−14	0.55	0.33	0.14	0.34	2.1	3	10	9	11
1921	21.0	69	−30	0.52	0.71	0.83	0.69	6.3	5	7	8	15
1922	31.8	65	− 8	2.97	2.26	1.50	2.24	6.3	6	7	7	16
1923	36.5	72	− 5	0.58	0.45	0.39	0.47	0.6	3	13	8	9
1924	27.6	69	−15	0.19	0.17	0.17	0.18	1.9	2	11	9	10
1925	28.8	69	−17	0.42	0.17	0.13	0.24	1.3	2	14	8	8
1926	21.5	68	−23	0.72	0.54	0.60	0.62	6.2	5	6	7	17
1927	20.7	59	−24	0.71	0.72	0.65	0.69	7.1	6	7	8	15
1928	31.0	70	−11	1.08	0.28	0.09	0.48	0.2	1	15	8	7
1929	24.8	70	−21	0.57	0.46	0.56	0.53	5.2	5	9	8	13
1930	29.4	72	−21	1.56	0.62	0.43	0.87	6.2	5	13	7	10
1931	30.3	78	−10	0.98	0.40	0.27	0.55	5.0	3	13	7	10
1932	25.2	70	−17	0.70	0.38	0.45	0.51	4.6	4	10	10	10
1933	28.3	78	−15	0.81	0.58	0.56	0.65	6.6	5	9	8	13
1934	33.9	73	− 1	0.51	0.22	0.10	0.28	1.0	3	13	7	10
1935	17.2	57	−25	0.70	0.79	0.69	0.73	8.1	6	8	8	14
1936	28.0	69	−28	0.37	0.33	0.31	0.34	4.0	4	13	8	9
1937	25.2	73	−25	0.51	0.40	0.33	0.41	3.5	4	10	7	13
1938	23.8	75	−21	0.63	0.94	1.04	0.87	7.9	6	8	10	12
1939	34.9	74	− 4	0.04	0.02	0.02	0.03	T.	1	19	6	5
1940	22.0	59	−28	0.62	0.62	0.53	0.59	7.1	6	8	8	14
Period	26.6	88	−38	0.70	0.57	0.49	0.59	4.6	4	11	8	11

Climatological Data for November 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	25.1	−2.9	54	1	−7	14	31	0.70	+0.07	0.35	7.0	7	13	2	15	nw.	James. H. Erickson.
Cavalier	Pembina	894	30	23.0	......	49	17	−8	28	26	0.87	+0.08	0.48	4.0	5	6	4	20	n.	City Light & Power Co.
Cooperstown	Griggs	1,428	43	21.0	−6.6	48	1†	−15	13†	45	0.56	−0.12	0.20	6.0	11	12	4	14	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	......	......	...	...	...	...	......	0.80	......	0.31	7.0	4	8	5	17	e.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	21.2	−3.3	47	17	−15	13	30	0.45	−0.27	0.14	5.1	8	4	6	20	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	39	22.1	−7.7	51	17	−15	14	37	0.34	−0.12	0.09	9.5	5	4	16	10	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	16	20.8	−4.0	46	2	−15	13	29	0.23	−0.47	0.08	3.0	6	11	3	16	nw.	Mike Davis.
Ellendale	Dickey	1,457	45	24.4	−1.7	57	1	−14	14	34	0.58	−0.04	0.16	5.7	7	10	4	16	nw.	J. E. Demmer.
Fargo	Cass	895	4	23.9	......	51	1	−10	28	22	0.61	+0.08	0.18	5.6	8	4	5	21	nw.	U. S. Weather Bureau.
Forman	Sargent	1,249	47	24.3	−5.7	52	8	−13	14	31	0.64	+0.02	0.17	5.0	5	12	2	16	nw.	Helge Dyste.
Fullerton	Dickey	1,439	42	24.5	−4.7	55	1	−13	14	35	0.69	−0.17	0.18	7.0	6	7	7	16	nw.	F. O. Alin.
Grafton	Walsh	827	48	24.0	−0.7	48	1	−13	12	38	0.84	+0.10	0.27	6.2	5	4	8	18	nw.	Dr. J. C. Lamont.
Grand Forks ††	Grand Forks	831	49	22.4	−3.6	47	3	−8	13	26	0.83	+0.01	0.27	5.9	10	2	4	24	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	25.0	−2.9	58	1	−8	14†	47	0.52	+0.43	0.14	8.0	5	2	15	13	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	48	19.7	−0.6	48	1	−18	13	32	1.10	+0.35	0.49	8.0	6	5	12	13	nw.	Charles McAdams
Hillsboro	Traill	901	40	24.2	−3.6	49	1	−7	28	31	0.73	−0.09	0.23	4.8	9	7	10	13	nw.	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	23.6	−3.7	54	1	−12	14	51	1.00	−0.32	0.42	8.4	5	11	5	14	nw.	S. G. Calvelage.
Kensal	Stutsman	1,440	1	23.3	......	55	1	−16	14	36	0.38	......	0.12	1.5	4	4	10	16	nw.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	44	20.1	−3.9	47	1	−17	13	31	0.63	−0.19	0.21	6.3	10	6	10	14	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	23.4	−2.4	49	17	−9	13	35	0.75	−0.16	0.38	6.2	7	6	3	21	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	36	24.7	−4.2	57	1	−10	14	30	0.55	−0.11	0.23	6.0	8	7	5	18	nw.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	20.9	−6.5	47	17	−18	13	34	0.52	−0.10	0.19	4.3	7	8	6	16	nw.	C. E. Blasky.
McLeod	Ransom	1,075	29	25.5	−4.8	58	1	−12	14	29	0.83	+0.17	0.20	8.3	7	11	7	12	n.	J. G. Carlson.
Mayville	Traill	975	44	22.7	−5.5	46	5	−5	13†	25	0.35	−0.34	0.18	2.2	3	0	26	4	n.	H. B. Addicott.
Milnor	Sargent	1,117	1	21.0	......	56	1	−15	14	48	0.55	......	0.45	6.0	4	10	5	15	n.	E. W. Wilson.
Oakes	Dickey	1 318	11	25.0	−3.2	56	1	−14	29	34	0.60	+0 02	0.22	3.8	5	12	4	14	nw.	F. H. Murray.
Park River	Walsh	998	36	23.4	−4.4	48	17	−12	29	32	0.72	+0.03	0.28	4.8	5	7	7	16	nw.	E. J. Taintor.
Pembina	Pembina	789	66	23.6	+0.3	50	3	−12	30	32	0.82	+0.01	0.26	8.8	6	5	6	19	nw.	S. W. Douglas.
Petersburg	Nelson	1,520	10	......	......	...	...	...	...	......	0.59	......	0.25	3.5	4	6	9	15	n.	T. M. Rykken.
Sharon	Steele	1,516	16	22.2	−2.3	48	17	−11	14	35	0.63	−0.24	0.29	6.1	10	4	8	18	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	25.8	−2 2	54	1	−12	13	35	0.45	−0.24	0.18	7.5	6	11	3	16	nw.	I. C. Robertson.
Wahpeton	Richland	962	48	25.8	−3.0	56	1†	−12	29	31	0.48	−0.28	0.15	8.1	9	8	8	14	nw.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	24.4	−2.7	51	1	−6	14	30	0.52	−0.38	0.22	6.3	8	3	5	22	nw.	U. S. Weather Bureau.
Average for Eastern Division		......	....	23.3	−3.4	58	1	−18	13	51	0.62	−0.08	0.48	5.8	7	7	7	16	nw.	......
Middle Division																				
Ashley	McIntosh	2,014	44	22.0	−6.0	55	1	−23	13†	40	0.21	−0.41	0.08	3.1	6	5	13	12	n.	U. S. Airway Comm. Sta.
Bisbee	Towner	1,601	4	21.3	......	47	17	−17	13	35	0.43	......	0.18	5.8	7	12	0	18	nw.	I. K. Lund.
Bismarck	Burleigh	1,670	66	22.6	−5.9	55	1	−19	13	39	0.47	−0.10	0.12	7.4	7	3	10	17	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	18.6	−5.0	45	3	−23	13	53	0.41	−0.08	0.15	3.8	8	4	9	17	nw.	N. D. School of Forestry
Carrington	Foster	1,579	42	22.6	−5.2	51	2	−15	13	34	0.74	+0.16	0.22	7.0	5	7	4	19	nw.	Soo Line Agent.
Carson	Grant	2,500	28	22.5	−7.5	55	1	−24	14	50	1.09	+0.52	0.40	12.2	4	5	8	17	nw.	J. W. Evens.
Center	Oliver	......	2	21.4	......	52	1	−25	14	50	0.63	......	0.25	15.5	5	11	16	3	nw.	B. Wilcox.
Dogden Butte ††	McLean	1,880	14	21.8	−4.6	51	1	−18	13†	33	0.75	+0.24	0.25	9.0	5	10	4	16	nw.	E. L. Williams.
Drake	McHenry	1,634	11	20.9	......	48	17	−23	13	52	0.52	......	0.20	8.0	5	2	9	19	nw.	Peter Anton.
Dunseith	Rolette	1,682	44	19.8	−4.6	45	16†	−22	13	38	0.43	−0.12	0.15	8.5	7	3	13	14	nw.	Geo. Gehres.
Eckman ††	Bottineau	1,500	35	......	......	...	...	...	...	......	......	......	......	......	....	......	......	......	......	B. C. Phipps.
Energy ††	McLean	1,759	25	22.1	−6.4	53	1	−27	14	52	0.74	+0.30	0.30	11.0	4	9	11	10	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	28	21.8	−5.3	48	1	−20	13	35	0.79	+0.10	0.32	8.5	4	9	5	16	nw.	John V. Zuber.
Fort Yates	Sioux	1,670	40	24.2	−5.6	53	2	−22	14	42	0.32	−0.18	0.24	4.0	2	16	5	9	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	20.5	−4.8	45	1†	−21	13	38	0.51	−0.16	0.19	11.9	6	7	11	12	nw.	E. C. Bierbaum.
Gaekle	Logan	1,951	10	23.0	......	56	2	−15	14	48	0.54	......	0.20	8.0	6	8	8	14	nw.	A. H. Haut.
Garrison	McLean	1,901	63	21.9	−4.4	51	1	−20	14	43	0.75	+0.30	0.25	11.5	4	7	8	15	nw.	E. L. Vorachek.
Granville	McHenry	1,504	33	20.2	−6.5	45	1	−26	13	44	0.93	+0.37	0.85	14.0	4	5	13	12	nw.	W. A. Christianson.
Hansboro	Towner	1,597	32	19.8	−2.7	49	17	−16	13†	35	0.46	−0.13	0.24	10.0	5	4	9	17	nw.	W. E. Disher.
Leeds	Benson	......	....	......	......	...	...	...	...	......	......	......	......	......	....	......	......	......	......	Fred Holmes.
Linton	Emmons	1,711	23	24.0	−5.0	57	1	−24	14	42	0.71	+0.21	0.18	4.2	7	10	8	12	nw.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	21.2	−4 3	53	1	−22	13	36	0.68	+0.11	0 30	8.7	4	6	11	13	nw.	F. W. Perry.
Maddock	Benson	1,604	25	22.0	−4.6	47	17†	−20	13	36	0.30	−0.16	0 13	3.0	6	6	7	17	nw.	A. T. Felland.
Mandan	Morton	1,750	26	22.1	−7.1	54	1	−19	14	51	0.98	+0.47	0 36	10.4	5	8	6	16	n.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	......	......	...	...	...	...	......	0.65	+0.02	0.25	7.0	7	9	8	13	nw.	P. B. Anderson.
Max	McLean	2,093	11	19.6	......	49	1	−22	14	45	0.60	......	0.35	9.2	5	9	5	16	nw.	A. W. Rice.
Minot	Ward	1,557	44	20.6	−6.9	49	1	−22	13	44	0.76	+0.09	0.33	15.3	7	6	4	20	nw.	Robert C. Chatfield.
Mohall	Renville	1,646	47	19.0	−5.8	45	3	−26	13	46	0.49	−0.05	0.14	6.0	5	9	10	11	nw.	Iver Johnson.
Napoleon	Logan	1,955	48	22.8	−3.9	51	17	−20	13†	36	1.09	+0.52	0.70	11.7	5	13	2	15	nw.	C. J. Hoof.
New Salem	Morton	2.163	36	21.3	−8.5	52	1	−22	14	44	0.74	+0.25	0.34	9.0	6	8	11	11	nw.	J. Christianson.
Pettibone	Kidder	1,856	31	21.0	−5.4	53	1	−19	14	35	0.70	+0.12	0.33	8.5	5	9	4	17	nw.	Sam Loeppke.
Rolla	Rolette	1,860	3	19.6	......	45	17	−17	13	35	0.53	......	0.25	5.2	6	5	4	21	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	......	......	...	...	...	...	......	0.43	+0.05	0.23	6.5	6	7	11	12	nw.	W. B. Paterson.
Ryder	Ward	2,108	11	......	......	...	...	...	...	......	0.76	+0.28	0.44	9.2	4	10	11	9	nw.	S. C. Schelleubaum.
Selfridge	Sioux	2,183	4	......	......	...	...	...	...	......	0.77	......	0.25	9.6	4	5	17	8	nw.	J. B. Smith.
Steele	Kidder	1,857	46	22.7	−3.6	53	1	−20	13†	35	0.46	−0.07	0.16	10.0	5	11	4	15	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	......	......	...	...	...	...	......	0.56	+0.21	0.24	8 5	6	13	5	12	nw.	G. N. Pilgard.
Timmer	Morton	......	3	......	......	...	...	...	...	......	0.23	......	0.09	5.0	4	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	38	22.0	−3.2	52	3	−24	13	32	1.03	+0.51	0.30	16.5	6	7	8	15	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	22.2	−6.0	53	1	26	13	35	0.47	+0.05	0.20	6.0	4	7	14	9	nw.	A. S. Haas.
Tuttle	Kidder	1,936	32	......	......	...	...	...	...	......	0.65	+0.23	0.17	5.3	7	8	8	14	nw.	Adam Leno.
Upham	McHenry	......	....	......	......	...	...	...	...	......	0.54	......	0.33	9.2	4	......	......	......	......	U. S. Wildlife Refuge.
Velva	McHenry	1,511	13	22.0	−5.6	50	1	−22	13	40	0.86	+0.40	0.28	12.5	4	3	15	12	nw.	Oscar Anderson.
Washburn	McLean	1,731	39	24 0	−6.3	54	1	−20	13	36	0.62	+0.16	0.17	5.0	5	10	8	12	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	18.9	−6.7	48	3	−27	13	40	0.38	−0.14	0 27	8.0	4	10	7	13	se.	Rev. R. Carey.
Willow City	Bottineau	1,471	48	18.2	−4.4	43	1†	−26	13	36	0.56	0.00	0.25	9.3	5	7	15	8	nw.	O. M. Sanderson.
Wilton	McLean	2,159	4	20.4^{e}	......	50^{e}	1	−21^{e}	13	35^{e}	0.36	......	0.10	8.1	6	10	3	17	nw.	Soo Line Agent.
Wishek	McIntosh	2,010	19	21.6	−8.2	54	1	−24	14	48	0.61	+0.26	0.24	7.0	7	13	1	16	nw.	H. M. Larson.
Zap	Mercer	1,838	25	......	......	...	...	...	...	......	......	......	......	......	....	......	......	......	......	John Kaufman, Jr.
Average for Middle Division		......	......	21.4	−5.6	57	1	−27	13†	53	0.62	+0.05	0.85	8.5	5	8	8	14	nw.	......

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EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing: for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. †† Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for November 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	.02			.17	T.			T.		.10	.03		T.												.02	.01		.35		T.		0.70
Cooperstown[2]	Sheyenne	.20			T.	.10			.01		.03	.04	.04	.02			T.							T.			.02	.02	.02		.06		0.56
Courtenay	James				.31					T.	.27																T	T.	.17		.05		0.80
Devils Lake[1]‡	Devils Lake	.02			.06	T.	T.			.03	.10		.01	T.						T.		T.	T.			T	.03	T.	.14	T.	.06		0.45
Edgeley	James				.08						.07																.04			.06	.09		0.34
Edmore	Devils Lake	.08	.06							T.	.03												T.					.03	.01	.02			0.23
Ellendale	James				.13	.03					.16	.07															T.	.03	.05		.11		0.58
Fargo[1]	Red	T.			.18				T.	T.	.05	.06	T	T.						T.			T.	T		.02	.05	.01	.18	T.	.06		0.61
Forman	Sheyenne				.15	T					.15	.17															.02			.15			0.64
Fullerton	James				.18						.17	.04											T.				.04	T	.18	T.	.08		0.69
Grafton	Red	.16	.05		.27		T.			T.		.26															T.	T	.10				0.84
Grand Forks[1]‡	do	.08	.01		.27		T.		T.	T.	.21	.02	.03	T.								T.	T.			T.	.06	T.	.12	.01	.02		0.83
Hankinson[2]	do				.14							.07	.11																.12		.08		0.52
Hannah	Pembina	.05	T	T.	T.	T.	T.			.11	.49	T								T.		T	T.		T.	.18	T.	T.	.11	.16			1.10
Hillsboro	Red	.07	.02		.23					T.	.04	.11	.04	T.												.10	.02	T.	.10				0.73
Jamestown	James				.42						T.	.24	T.															.11	.15		.08		1.00
Langdon	Pembina	.16	.01							.01	.21	.05	.06														.03	.02	.06	.02			0.63
Larimore	Red	.12			.38						.08	.08														T.	T.	.03	.05	.01			0.75
Lisbon	Sheyenne	.05			.23	T.			.03		.04	.03															.02		.06		.09		0.55
McHenry	James	.01			.19					.01	.10												T.				.05		.07	T.	.06		0.52
McLeod	Sheyenne		.02			.08						.20	.14													T.	.02		.18		.19		0.83
Mayville	Red	.18			.15						T.	T															.02						0.35
Oakes	James				.22					T.	.16	.03				T.	T										T.		.11		.08		0.60
Park River	Red	.28								T.	.05	.12	.03														T.		.24				0.72
Pembina	do	.18	.07		.05		T				.15	.26														T.	T.	T.	T	.11			0.82
Petersburg	do	.06			.25					T.	.18																T.		T.		.10		0.59
Sharon	do	.02			.29					.02	.11	.05	.01							T.			.01			T.	.02	T	.07	T.	.03		0.63
Valley City	Sheyenne				.18	T					.12	.04														T.	.02	T.	.06		.03		0.45
Wahpeton	Red				.08	T			T.		.03	.05	.05		T.					T		.07				.02	.01	T	.15		.02		0.48
Middle Division																																	
Ashley[1]	Missouri				.03					T.	.08	.02										T.	T.			T.	T.	T.	.01	.06	.01		0.21
Bisbee	Devils Lake	.02					T.			.03	.18												T.			T.	.02		.08	.05	.05		0.43
Bismarck[1]‡	Missouri			T.	.11				T.	.09	.03	T.								T.		T.	T.				.02	T.	.12	.09	.01		0.47
Bottineau[2]	Mouse	.05					T.		T.	T	.15												.01			T.	.01	.02	.06	.06	.05		0.41
Carrington	James	.14			.13	T.					.22																T.		.20		.05		0.74
Carson	Heart				.40						.40																		.09	.20			1.09
Center	Missouri				.04						.20	.04																	.25		.10		0.63
Dogden Butte	Mouse	.02								.15	.25												T.				T.	T.	.25		.08		0.75
Drake[2]	do	.11								T.	.20												T.			T.	T	.02		.09	.10		0.52
Dunseith	do	.05					.01		T	.09	.15												T.			T.	T	T.	.08	.04	.01		0.43
Eckman	do																																
Energy	Missouri									.08	.30																T.		.30	T.	.06		0.74
Fessenden	James				.14						.24												T.					T.	.32		.09		0.79
Fort Yates	Missouri				T.					.24												T.							.08	T.			0.32
Foxholm (near)	Mouse	T.								.19	.16												.01				.04		.05		.06		0.51
Gackle	James				.19	T				.03	.20	.02	T.									T.					T.	T.	.03		.07		0.54
Garrison[1]	Missouri									.25	.25												T.				.02		.23				0.75
Granville	Mouse	T		T.			T.			T	.85								T.				T				.02		.03	T.	.03		0.93
Hansboro	Devils Lake	.04	.02				T.		T.	T.	.24												T.			.02			.14				0.46
Leeds	do																																
Linton	Missouri				.07					.17	.18	T.									.17						T.	.02	.04	T.	.06		0.71
McClusky	do				.10					.04	.30																	.21					0.68
Maddock	Sheyenne	.02			.03					T.	.13	T.															.01		.06	T.	.05		0.30
Mandan[2]	Missouri			.18					.05	.36	T															T.	T.	.23	T.	.16	T.		0.98
Max[2]	do									T.	.35												T.			.02		.16	.02	.05			0.60
Minot[1]	Mouse	T.								.33	.11									T		T	.01			T.	.03	T.	.19	.04	.05		0.76
Mohall	do		T.							.12	.08																.06		.09		.14		0.49
Napoleon[2]	Missouri					.15					.70																	.01		.15	.08		1.09
New Salem	Heart				.20					.01	.34																	T.	.08	.03	.08		0.74
Pettibone	James				.05					.21	.33																		.10		.01		0.70
Rolla	Devils Lake	.02					.01		T		.25	T.	T										T			.01	.03		.21		T.		0.53
Rugby (near)	Mouse	.04					T.			.07	.23												T.		T.	T.	.02		.04		.03		0.43
Ryder	Missouri								T.	T.		.44											.02						.12		.18		0.76
Solfridge	do				.25				.16	.24																	T.		T	.12	T.		0.77
Steele	do				.06					.02	.15												T.				T.	T.	.16		.07		0.46
Tagus	Mouse			.01							.24	T.											.01				.04		.18		.08		0.56
Towner	do	.12								.30	.30												.01				T.		.10	.20			1.03
Turtle Lake	Missouri	.05								.06	.16																T.				.20		0.47
Tuttle	do			T.	.16					.12	.17	.01											T.				T.	.06	.08	T.	.10		0.65
Velva	Mouse	T.								.24	.28												T.				T.		.24		.10		0.86
Washburn	Missouri				.11					.13	.17																T.		.14	T.	.07		0.62
Westhope	Mouse									.27													T.				.02	.03	.06				0.38
Willow City	do	T.					T.			.20	.25															T.	.02		.04		.05		0.56
Wishek[2]	Missouri	.05			T.	.13					.24	.02										T					T.	.02	.07	.08			0.61
Zap	Knife																																
Western Division																																	
Alpha	Lit. Missouri									T.	.05																	.02		.10	T.		0.17
Amidon	do				.12					.02	.15																		.03	.07			0.39
Beach	do				T.					.07	.05																		.08	.08	.02		0.30
Berthold Agency	Missouri									.35	.10																		.11		.05		0.61
Bowman[2]	Grand				.15																										.18		0.33
Crosby	Mouse									.22	.09											T.	T.				.02		.20		.04		0.57
Dickinson[2]	Heart				.02					.09	.25																	T.	.07		.06		0.49
Dunn Center	Knife									.15	.12												T.				T.		.08		.06		0.41
Fairfield	Lit. Missouri					T.				.16	.10																	.05		.10	T.		0.41
Fryburg	Heart				T.					.08	.12	T.																	.06		.09		0.35
Hettinger	Grand	.05			.54					.10	.04									T									.01	.06	.08		0.88
Howard (near)	Missouri				T.				T.	.18	.18											T.	T.				T.		.12	.05	.14		0.67
Kenmare	Mouse									.23	.24												.01				.03	T.	.12		.08		0.71
Marmarth	Lit. Missouri			T.						T.	.09								.01	.02									.03	.01	.05		0.21
Mary	do									.23																T.			.05	.04			0.32
Medora	do									.19	.15								T.										.10	.07	T.		0.51
Mott	Cannon Ball				.62					.02	.12																		.08	.03			0.87
New England[2]	do			.27					.04	.17									T.									.08		.12			0.68
Parshall	Missouri									.18	.16												.02				.02		.13		.04		0.55
Portal[2]	Mouse								T.	.07	.35	T.											T.				.03		.05	.02	.02		0.54
Powers Lake	Missouri									.05	.27	T.															.03	.13	.16				0.64
Richardton	Heart				.18					.04	.15																	.03		.02	.02		0.44
Sanish[2]	Missouri									.30	.20																		.24		.10		0.84
Stanley	do									.36	T.																T.		.21		.08		0.65
Tioga	do									.10												T.						.20			.15		0.45
Trotters	Lit. Missouri				T					.13	.16								T.				.02				T.		.12		.08		0.51
Watford City	Missouri									.28	.18												.01						.16		.14		0.77
Wildrose	do									.20	.13	.02											T.				.04		.11		.08		0.58
Williston[1]‡	do				T.				.01	.57	.02	T										.01	T.			T.	T	.07	.10	.10	.02		0.90

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First- or second-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for November 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley §	Maximum	55	53	46	37	30	43	40	49	29	23	7	4	0	17	44	46	49	46	33	40	34	25	38	35	35	25	15	26	26	15	....	32.2
	Minimum	28	25	28	28	23	23	13	27	18	5	-4	-10	-23	-23	4	26	17	25	17	13	21	20	13	9	19	12	2	-5	-4	5	....	11.7
Beach	Maximum	53	52	45	43	31	47	43	33	25	13	0	5	0	35	47	54	47	38	35	45	30	28	38	42	37	28	24	35	22	21	....	33.2
	Minimum	29	23	30	29	26	23	15	21	11	0	-13	-13	-14	-14	22	24	22	26	21	14	13	18	18	15	21	14	3	13	9	3	....	13.6
Bismarck	Maximum	55	41	42	36	33	43	40	42	26	17	7	4	-2	20	45	48	45	44	35	42	34	27	41	38	30	28	17	26	18	14	....	31.2
	Minimum	31	27	28	32	29	27	18	26	17	2	-4	-9	-19	-19	6	26	20	25	18	14	14	22	19	16	24	11	9	-1	4	5	....	13.9
Bottineau§	Maximum	43	40	45	36	28	37	35	35	18	11	4	4	6	18	40	43	44	39	33	40	30	27	33	23	23	22	8	12	12	4	....	26.4
	Minimum	34	31	35	32	26	20	13	16	15	9	-1	-5	-23	-21	-13	18	15	25	29	14	18	17	15	13	16	12	-7	-8	-2	-17	....	10.9
Carson	Maximum	55	45	47	40	39	40	39	40	32	18	5	0	-7	26	43	48	47	42	34	40	34	28	40	40	34	25	20	33	20	18	....	32.2
	Minimum	31	23	25	29	25	25	17	29	15	3	-10	-11	-21	-24	6	27	20	23	20	14	15	18	16	14	19	17	4	5	4	5	....	12.8
Crosby §	Maximum	45	42	38	38	31	38	40	33	12	12	0	0	-1	21	44	45	42	38	32	34	30	26	33	25	25	22	15	15	9	8	...	26.4
	Minimum	33	31	30	30	25	25	15	11	6	-3	-13	-11	-18	-20	14	29	18	29	24	18	12	18	18	15	18	10	-7	4	1	-3	...	12.0
Devils Lake	Maximum	42	42	41	38	30	33	35	39	26	17	7	6	5	20	40	43	47	40	35	41	28	22	37	23	23	21	11	8	10	7	...	27.2
	Minimum	34	39	35	30	23	22	18	26	15	6	0	-5	-15	-10	14	29	22	31	22	20	19	18	17	15	18	12	-1	0	2	-2	....	15.1
Dickinson §	Maximum	53	51	39	33	31	48	40	36	21	8	0	-1	-5	31	42	47	46	39	35	46	33	27	38	41	35	24	39	30	19	17	...	31.4
	Minimum	29	23	22	29	27	26	14	17	13	3	-10	-11	-14	-16	-8	26	17	20	23	12	12	17	16	15	15	20	2	2	5	8	...	11.8
Dunn Center §	Maximum	53	43	42	38	34	49	41	35	25	14	7	0	-4	31	44	48	48	38	36	45	31	25	38	34	33	25	19	27	19	10	...	30.9
	Minimum	25	24	25	30	27	27	11	22	11	5	-12	-12	-16	-21	17	25	16	21	22	12	13	14	15	15	22	17	3	7	4	3	....	12.4
Fargo	Maximum	51	49	49	43	34	23	39	50	31	28	13	12	9	12	32	45	46	43	37	41	31	29	39	29	27	26	15	11	12	8	....	30.5
	Minimum	35	39	39	34	23	21	21	31	24	12	6	4	-3	-7	5	23	24	31	32	21	26	24	21	19	22	15	-6	-10	-6	0	....	17.3
Fessenden§	Maximum	48	43	38	36	33	33	35	37	30	20	15	7	5	21	39	41	43	40	34	40	31	25	37	29	24	24	21	10	12	10	....	28.7
	Minimum	32	36	34	31	25	22	15	29	15	9	-3	-6	-20	-14	11	29	23	29	28	18	15	17	21	17	19	19	2	1	-6	-3	...	14.8
Fullerton	Maximum	55	45	44	41	33	35	38	48	35	25	15	8	5	12	36	46	45	45	35	58	31	30	39	32	36	30	20	15	19	15	....	31.7
	Minimum	29	30	33	33	27	25	20	33	22	15	5	-2	-9	-13	1	29	24	28	32	16	23	24	22	16	22	20	7	5	-6	8	....	17.3
Garrison§	Maximum	51	42	46	36	32	48	39	36	24	14	6	1	-4	23	31	45	47	42	34	42	32	24	36	30	28	25	19	20	15	10	....	29.5
	Minimum	31	30	31	32	28	26	10	24	14	6	-10	-9	-19	-20	10	27	20	34	26	11	13	16	22	18	21	18	5	6	8	-1	....	14.3
Grafton	Maximum	48	45	48	45	37	31	36	44	33	25	15	12	11	15	40	47	47	42	38	42	35	30	38	34	23	23	19	8	29	6	...	31.5
	Minimum	38	33	36	33	28	19	24	27	18	14	8	-13	-3	-4	8	30	25	29	33	18	21	19	20	19	17	18	2	-6	-9	-5	....	16.6
Grand Forks	Maximum	41	45	47	42	33	32	34	45	27	23	11	12	7	12	32	43	43	41	36	37	30	27	39	24	25	27	12	9	9	4	...	28.4
	Minimum	37	40	39	31	21	19	20	27	20	10	7	3	-8	-7	6	30	25	30	28	20	24	20	19	16	19	12	-2	-7	-6	-2	...	16.4
Jamestown §	Maximum	54	44	42	42	33	34	35	42	34	21	15	7	1	19	41	45	48	40	36	43	33	27	40	32	29	26	23	11	15	11	....	38.8
	Minimum	32	34	37	32	25	24	18	31	19	12	3	-3	-8	-12	-10	29	24	30	30	18	23	22	22	20	21	21	5	0	-7	4	....	16.5
Kenmare §	Maximum	48	45	46	40	36	45	36	33	19	13	7	2	0	25	41	46	41	41	37	40	33	29	35	29	23	21	15	16	11	10	....	28.9
	Minimum	32	32	35	31	25	27	11	19	10	2	-14	-10	-19	-17	17	25	21	26	26	18	17	14	22	16	18	15	-4	6	0	-7	....	13.1
Langdon	Maximum	47	42	41	40	33	30	36	40	29	15	10	12	11	17	39	43	38	42	34	40	35	27	35	28	20	21	15	5	11	6	....	28.1
	Minimum	34	37	30	31	21	16	14	24	11	8	3	-1	-17	-14	8	23	17	27	28	15	13	11	16	10	13	14	-6	-9	-7	-10	....	12.1
Marmarth §	Maximum	53	54	46	37	32	38	40	35	31	21	5	9	8	39	51	51	49	42	33	39	32	31	37	43	37	31	26	35	28	28	...	34.7
	Minimum	20	18	20	29	27	18	12	22	18	-3	-9	-12	-18	-15	8	17	13	18	18	10	5	13	10	14	13	9	-1	17	13	8	...	10.4
Minot	Maximum	49	40	48	37	38	48	40	36	19	13	4	3	-1	24	43	45	48	39	35	42	32	29	36	26	25	23	17	15	13	9	....	29.2
	Minimum	32	36	36	33	26	18	10	14	11	-4	-10	-18	-22	-20	20	26	18	25	19	19	15	15	16	17	21	9	0	-2	2	-5	....	11.9
Mott	Maximum	57	53	47	41	35	44	46	44	41	30	9	5	0	31	47	51	49	43	38	41	44	38	45	43	38	29	29	36	25	27	....	36.9
	Minimum	30	20	22	29	27	24	15	27	17	0	-9	-10	-15	-21	13	26	18	21	26	15	12	16	16	12	23	18	2	16	8	8	...	13.5
Pembina	Maximum	47	45	50	44	37	32	33	39	34	21	22	15	17	20	40	46	45	42	36	42	37	29	38	26	23	22	17	8	11	-1	....	30.6
	Minimum	38	36	35	34	26	17	20	31	17	13	13	5	6	-5	8	28	23	29	31	20	22	19	20	16	16	16	-5	-11	-8	-12	...	16.6
Sharon	Maximum	45	46	41	39	32	31	35	43	32	19	11	8	7	15	41	43	48	38	34	41	31	24	39	28	23	23	17	7	15	9	....	28.8
	Minimum	32	40	35	32	24	16	14	28	16	11	4	0	-10	-11	6	29	21	28	31	18	21	20	20	16	18	17	-1	-2	-4	-1	...	15.6
Steele	Maximum	53	46	43	41	34	41	39	42	31	20	9	3	-2	15	42	45	50	43	40	39	36	29	39	36	29	26	20	19	18	12	....	31.3
	Minimum	28	28	34	31	25	24	14	31	18	9	-5	-8	-20	-20	7	25	19	27	29	15	17	20	18	16	21	20	5	3	-10	2	....	14.1
Valley City	Maximum	54	53	48	44	39	33	35	45	41	25	19	7	6	14	40	45	45	43	39	40	39	37	40	38	36	33	21	12	17	15	....	33.4
	Minimum	32	35	38	34	26	25	20	31	20	16	7	0	-12	-8	5	31	25	31	33	19	28	24	23	20	21	21	5	-3	-6	5	....	18.2
Wahpeton	Maximum	56	51	52	52	35	34	39	56	43	31	22	11	9	13	34	45	45	46	41	40	36	30	32	31	28	28	22	12	15	11	...	33.3
	Minimum	36	33	38	34	28	24	21	30	27	21	9	1	-2	-9	3	24	22	32	32	22	27	26	24	16	18	21	4	-2	-12	-2	....	18.2
Williston	Maximum	48	43	42	36	33	42	40	35	21	12	2	-3	-7	22	42	43	43	35	33	37	32	27	30	30	30	24	18	22	14	12	....	27.9
	Minimum	34	27	33	31	28	23	17	10	9	-6	-10	-12	-17	-13	18	24	16	26	21	17	15	19	18	19	21	8	1	8	7	0	....	13.1

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing, ᵇ 2 days, etc

Climatological Data for November 1940—Continued from page 42.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	....	13	....	....	...	...	...	...	....	0.17	-0.22	0.10	1.2	3	8	6	16	nw.	H. A. Bury.
Amidon	Slope	....	17	24.2	-6.7	53	3	-17	14	52	0.39	-0.08	0.17	1.8	5	11	9	10	nw.	Stanley W. Bale.
Beach	Golden Valley	2,759	34	23.4	-7.6	54	16	-14	13†	49	0.30	-0.18	0.08	3.4	5	10	7	13	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	23.0	-5.5	52	1	-22	14	52	0.61	+0.24	0.35	8.0	4	11	6	13	nw.	H. W. Chase.
Bowbells	Burke	1,958	11	19.1	....	45	7†	-22	13	56	0.37	....	0.20	6.8	5	3	6	21	w.	Charles Kaufman.
Bowman	Bowman	2,872	25	22.8	-7.8	54	2	-16	13†	55	0.33	-0.06	0.18	4.1	2	14	1	15	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	31	19.2	-7.5	45	1†	-20	14	41	0.57	-0.03	0.22	8.4	5	5	8	17	nw.	J. H. Phelps.
Dickinson	Stark	2,543	47	21.4	-6.9	53	1	-16	14	50	0.49	+0.02	0.25	5.5	5	14	5	11	nw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	21.6	-6.3	53	1	-21	14	52	0.41	-0.05	0.15	5.0	4	6	10	14	nw.	O. T. Evenson.
Epping	Williams	2,224	29	19.0	-8.9	47	1	-18	13	32	0.32	-0.12	0.19	6.0	2	16	8	6	nw.	T. Beach'er.
Fairfield	Billings	....	3	....	....	...	...	...	...	....	0.41	....	0.16	4.2	4	8	15	7	nw.	Thomas Knudtson.
Fryburg	Billings	2,790	21	22.7	....	54	1	-20	14	54	0.35	-0.14	0.12	4.5	4	9	8	13	nw.	Verne King.
Hettinger	Adams	2,675	32	23.4	-8.2	56	1	-20	14	55	0.88	+0.46	0.54	10 4	7	13	11	6	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	32	17.1	-9.2	46	1	-26	11	32	0.67	+0.12	0.18	11.3	5	6	6	18	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	21.0	....	48	1	-19	13	42	0.71	+0.16	0.24	6.5	6	8	16	6	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	22.6	-8.8	54	2	-18	13	54	0.21	-0.18	0.09	9.8	6	11	6	13	nw.	S. P. Grane.
Mary	McKenzie	....	11	....	....	...	...	....	...	....	0.32	-0.07	0.23	7.6	3	8	7	15	nw.	Fred Hartman.
Medora	Billings	2,271	24	....	....	...	...	....	...	....	0.51	+0.05	0.19	4.9	4	16	7	7	nw.	Vernon Thompson.
Mott	Hettinger	2,424	32	25.2	-4.0	57	1	-21	14	52	0.87	+0.39	0.62	4.6	5	3	7	20	nw.	P. G. Wick.
New England	Hettinger	2,400	45	22.8	-6.3	59	1	-22	13	38	0.68	+0.24	0.27	6.5	5	11	6	13	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	24	18.0	....	50	1	-28	13	48	0 55	+0.18	0.18	9.0	6	4	12	14	nw.	C. E. Shubert.
Portal	Burke	1,954	34	18.4	-7.0	43	1†	-21	13†	52	0.54	-0.01	0.35	9.0	6	11	3	16	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	34	23.2	-1.8	54	2	-19	12	37	0.64	+0.15	0.27	10.8	5	2	15	13	ne.	Geo. B. Gee.
Richardton	Stark	2,467	23	22.2	-6.1	51	1	-20	14	49	0.44	-0.04	0.18	4.4	6	9	12	9	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	14	19.4	-9.2	51	1	-19	14	62	0.84	+0.37	0.30	12.8	4	3	16	11	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	2	18.4	....	46	1	-20	14	38	0.65	....	0.36	9.6	3	4	12	14	nw.	Leroy Edwards.
Tioga	Williams	2,279	11	....	....	...	...	....	...	....	0.45	+0.07	0.20	8.0	3	9	4	17	nw.	B. V. Olson.
Trotters	Golden Valley	....	14	....	....	...	...	....	...	....	0.51	+0.07	0.16	6.3	5	5	11	14	nw.	Walter Grunewald
Watford City	McKenzie	2,084	26	22.2	-6.1	51	1	-19	14	48	0.77	+0.27	0.28	10.0	5	9	9	12	nw.	J. C. Zeller.
Wildrose	Williams	2,258	12	....	....	...	...	....	...	....	0.58	....	0.20	8.0	6	6	7	17	nw.	L Holter.
Williston	Williams	1,878	60	20.5	-6.7	48	1	-17	13	35	0.90	+0.32	0.57	11.5	8	11	6	13	nw.	U. S. Weather Bureau.
Average for Western Division		....	....	21.3	-7.1	59	1	-28	13	62	0.53	+0.04	0.62	7.0	5	9	8	13	nw.	....
Average for the State		....	....	22.0	-4.6	59	1	-28	13	62	0.59	0.00	0.85	7.1	6	8	8	14	nw.	....

[WBO, Minneapolis, 1-6-41—1100]

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

28

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. XLIX BISMARCK, N. D., DECEMBER 1940 No. 12

PRICE: 5 CENTS A COPY; 25 CENTS A YEAR (NOT STAMPS)
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GENERAL SUMMARY

Mild and generally dry weather prevailed. Temperatures were above normal most of the month and much above normal during the last decade. Precipitation was light generally and the ground was nearly bare of snow in many sections. However, rainfall in the southeastern part of the state on the 27-28th soaked the ground to a considerable depth. Only a few stations reported measurable amounts of precipitation between the 12th and 24th. Much foggy weather prevailed, the unusual feature being that the fog continued throughout the entire day on several dates. Outdoor work progressed satisfactorily and livestock were able to range in open fields much of the month.

TEMPERATURE

The mean temperature for the state was 19.8°, or 6.7° above the 1892-1940 average for December. The mean temperature for the eastern division was 17.8°; for the middle division, 19.2°; and for the western division, 22.4°. The highest mean temperature was 28.4° at Hettinger, and the lowest, 11.1° at Hannah, making a range in mean temperature of 17.3°. The absolute range was 95°, from 59° at three stations in the west on the 6th and 9th, to -36° at Willow City on the 12th. The average daily excess in temperature for the state since January 1, 1940, is 1.5°.

PRECIPITATION

The average precipitation for the state was 0.42 inch, or 0.07 less than the 1892-1940 average for December. In the eastern division the average amount was 0.79 inch; in the middle division, 0.28 inch; and in the western division, 0.19 inch. The greatest monthly amount reported was 2.09 inches at Milnor; the least was a trace at Fort Yates. The greatest amount recorded in any 24 consecutive hours was 0.85 inch at Milnor on the 28th. The accumulated excess in precipitation for the state since January 1, 1940, is 0.54 inch. The average snowfall was 4.0 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	3	4	2	..	1	1	..	1	3	1	..	..	..	..	..	..	..	.	1	6	7	3	1	1	1	2	2	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	4	..	4	4	8	1	12	8	1	..	1	..	..	..	2	5	1	19	7	2	13	28	16	28	44	41	38	15	42	51	26
Lunar halos	..	..	..	1	..	..	..	1	..	..	1	1	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Sleet	..	..	1	2	1	1	2	..	3	..	2	..	..	..	..	..	..	..	..	..	..	..	..	1	6	1	3	7	2	4	5
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.07	30.87	13	29.39	24	8.4	42	nw.	9	88	76	84	42
Devils Lake	30.05	30.84	13	29.40	25	8.1	33	nw.	6	95	91	92	39
Williston	30.03	30.84	12	29.41	24	5.4	28	w.	9	88	79	78	49
Fargo	30.08	30.90	13	29.32	25	.....	.....	......	....	93	86	92	....
Moorhead, Minn	......	....	....	....	....	7.9	27	nw.	6	....	....	....	29

† And other dates.

COMPARATIVE DATA FOR DECEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	7.1	60	−39	0.44	0.49	0.78	0.57	7.7	4	13	8	10
1893	4.7	55	−36	0.71	0.83	1.02	0.85	8.4	6	11	9	11
1894	19.1	70	−32	0.38	0.17	0.32	0.29	1.6	2	18	7	6
1895	13.8	62	−32	0.24	0.29	0.39	0.31	2.6	3	12	9	10
1896	16.4	53	−35	0.50	0.46	0.13	0.36	2.6	3	13	9	9
1897	10.8	69	−35	0.24	0.21	0.21	0.22	2.2	3	12	8	11
1898	12.1	51	−38	0.24	0.24	0.24	0.24	2.1	3	14	9	8
1899	12.8	60	−26	0.31	0.31	0.34	0.32	3.3	3	13	7	11
1900	17.3	58	−29	0.35	0.29	0.29	0.31	3.0	4	13	8	10
1901	12.4	61	−43	0.72	0.74	0.75	0.74	7.2	5	10	7	14
1902	7.8	49	−35	0.50	0.30	0.72	0.51	4.2	4	14	7	10
1903	11.6	57	−33	0.63	0.74	0.93	0.77	7.2	6	11	7	13
1904	14.2	55	−43	0.60	0.62	0.73	0.65	6.2	5	7	8	16
1905	15.3	55	−34	0.21	0.16	0.12	0.16	1.6	4	16	2	13
1906	8.4	48	−40	1.09	0.91	1.27	1.09	10.7	6	11	7	13
1907	20.1	68	−26	0.36	0.23	0.31	0.30	3.1	3	15	7	9
1908	14.4	62	−37	0.53	0.26	0.28	0.36	3.7	3	13	10	8
1909	5.2	54	−42	1.88	1.10	0.86	1.28	12.1	7	9	8	14
1910	12.9	56	−34	0.45	0.42	0.42	0.43	4.6	4	12	8	11
1911	14.9	61	−33	0.45	0.26	0.34	0.35	4.5	4	10	8	13
1912	18.9	72	−28	0.62	0.55	0.13	0.43	4.0	4	14	8	9
1913	22.7	61	−21	0.05	0.12	0.01	0.06	0.3	1	18	6	7
1914	5.4	57	−42	0.58	0.40	0.42	0.47	5.7	4	12	9	10
1915	15.8	57	−27	0.56	0.56	0.44	0.52	5.4	5	11	9	11
1916	2.7	61	−50	1.39	1.34	0.81	1.18	13.9	5	15	8	8
1917	0.7	58	−44	0.51	0.64	0.61	0.59	7.4	6	9	9	13
1918	18.5	65	−41	0.97	0.92	0.76	0.88	9.9	5	9	8	14
1919	7.4	49	−38	0.65	0.48	0.28	0.47	4.8	3	14	9	8
1920	15.2	59	−32	0.48	0.33	0.16	0.32	3.2	3	11	9	11
1921	16.5	59	−33	0.52	0.33	0.38	0.41	3.9	4	14	7	10
1922	8.5	55	−34	0.75	0.76	0.53	0.68	7.4	5	11	8	12
1923	22.2	62	−36	0.38	0.35	0.23	0.32	3.6	3	16	8	7
1924	2.9	58	−46	0.40	0.39	0.54	0.44	5.3	4	12	7	12
1925	16.5	67	−38	0.24	0.30	0.30	0.28	2.6	3	12	8	11
1926	9.2	55	−36	0.60	0.50	0.59	0.56	5.5	3	14	8	9
1927	− 1.8	43	−38	0.96	0.52	0.91	0.80	8.7	5	14	7	10
1928	20.7	57	−30	0.47	0.23	0.27	0.32	3.2	3	14	7	10
1929	12.5	59	−38	0.68	0.88	0.88	0.81	9.9	5	12	8	11
1930	19.9	53	−30	0.21	0.16	0.21	0.19	2.0	3	12	8	11
1931	21.0	58	−21	0.25	0.15	0.29	0.23	2.7	2	13	8	10
1932	12.4	60	−31	0.17	0.14	0.28	0.20	1.7	3	14	10	7
1933	8.6	62	−38	1.09	0.79	0.83	0.90	9.7	6	9	8	14
1934	12.6	53	−44	0.40	0.22	0.29	0.30	3.9	5	9	8	14
1935	12.6	51	−34	0.65	0.52	0.34	0.50	5.6	5	10	7	14
1936	15.0	59	−36	0.50	0.32	0.46	0.43	5.5	4	11	8	12
1937	11.4	51	−33	0.62	0.51	0.49	0.54	6.5	6	10	9	12
1938	18.2	55	−41	0.40	0.30	0.26	0.32	4.1	4	11	10	10
1939	26.7	70	−20	0.27	0.30	0.27	0.28	2.3	4	10	10	11
1940	19.8	59	−36	0.79	0.28	0.19	0.42	4.0	4	10	7	14
Period	13.1	72	−50	0.55	0.46	0.47	0.49	5.1	4	12	8	11

Climatological Data for December 1940

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	44	19.3	+7.1	41	6†	−19	12†	41	0.52	−0.02	0.41	6.5	5	8	7	16	sw.	James. H. Erickson.
Cavalier	Pembina	894	30	17.2	...	41	20	−21	13	40	0.73	−0.11	0.34	7.5	4	11	1	19	n.	City Light &Power Co.
Cooperstown	Griggs	1,428	43	16.0	+3.7	40	5†	−26	12	53	0.82	+0.26	0.52	9.8	6	14	6	11	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	10	...	...	...	...	...	...	...	1.10	...	0.38	11.1	6	7	10	14	se.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	43	16.1	+6.6	41	6	−25	12	38	0.56	+0.02	0.24	4.2	8	7	3	21	sw.	U.S. Weather Bureau.
Edgeley	LaMoure	1,568	39	19.8	+5.2	47	9	−18	3†	40	0.62	+0.22	0.42	6.5	4	6	15	10	se.	O. A. Thompson.
Edmore	Ramsey	1,524	16	13.8	+4.9	38	6	−31	12	43	0.44	−0.14	0.20	5.2	3	13	3	15	nw.	Mike Davis.
Ellendale	Dickey	1,457	45	22.0	+5.2	44	6†	−21	13	43	0.71	+0.25	0.46	5.3	5	5	9	17	s.	J. E. Demmer.
Fargo	Cass	895	4	17.8	...	39	6†	−22	13	38	0.62	+0.35	0.40	6.1	6	4	5	22	se.	U.S. Weather Bureau.
Forman	Sargent	1,249	47	20.6	+5.3	41	6†	−24	13	45	1.10	+0.54	0.55	8.5	6	12	4	15	sw.	Helge Dyste.
Fullerton	Dickey	1,439	42	22.4	+8.0	47	9	−22	13	39	1.19	+0.34	0.73	9.8	4	4	9	18	s.	F. O. Alin.
Grafton	Walsh	827	48	16.8	+7.9	40	6	−20	3	40	1.02	+0.48	0.58	7.8	4	3	9	19	se.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	49	15.9	+5.3	37	6†	−21	12	37	0.88	+0.28	0.55	8.0	6	6	3	22	se.	U. S. Weather Bureau.
Hankinson	Richland	1,068	11	20.2	+3.7	43	6†	−20	3	44	0.54	+0.02	0.32	6.6	5	3	17	11	se.	Joseph Rindt.
Hannah	Cavalier	1,568	48	11.1	+4.3	52	23	−32	12	44	0.67	+0.05	0.40	6.9	2	12	3	16	sw.	Charles McAdams
Hillsboro	Traill	901	40	17.8	+6.6	40	6†	−21	13	39	0.64	−0.02	0.47	5.2	5	8	4	19	s.	Alfred Jahnke.
Jamestown	Stutsman	1,457	48	20.8	+7.4	47	20	−17	12	42	1.08	+0.42	0.40	10.8	6	12	3	16	s.	S. G. Calvelage.
Kensal	Stutsman	1,440	1	18.8	...	45	6†	−23	3	47	0.30	...	0.25	3.7	5	11	10	10	nw.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	44	13.5	+5.2	36	6	−31	12	40	0.63	0.00	0.21	7.5	8	9	8	14	...	V. Sturlaugson.
Larimore	Grand Forks	1,134	47	17.6	+6.6	41	6	− 2	12	38	0.52	−0.05	0.33	6.1	5	8	1	22	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	36	20.0	+5.9	42	6†	−21	13	44	0.83	+0.35	0.38	4.5	6	4	5	22	se.	J. O. Halverson.
McHenry (near)	Eddy	1,509	18	14.6	+5.4	40	6	−28	12†	46	0.73	−0.10	0.30	6.2	7	7	7	17	nw.	C. E. Blasky.
McLeod	Ransom	1,075	29	19.8	+5.4	54	28	−25	13	48	0.83	+0.35	0.38	8.3	5	3	14	14	se.	J. G. Carlson.
Mayville	Traill	975	44	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. B. Addicott.
Milnor	Sargent	1,117	1	17.3	...	42	8†	−27	13	40	2.09	...	0.85	12.0	5	10	4	17	n.	E. W. Wilson.
Oakes	Dickey	1,318	11	21.6	+6.1	44	9	−27	13	49	0.74	+0.32	0.49	4.0	5	11	3	17	sw.	F. H. Murray.
Park River	Walsh	998	36	16.2	+5.7	41	6	−22	12	37	0.73	+0.30	0.49	10.5	5	8	2	21	se.	E. J. Tainter.
Pembina	Pembina	789	66	15.0	+8.7	40	6	−24	12	37	0.66	+0.02	0.42	1.0	3	7	6	18	se.	S. W. Douglas.
Petersburg	Nelson	1,520	10	...	...	...	...	...	...	...	0.58	...	0.26	5.0	4	11	9	11	nw.	T. M. Rykken.
Sharon	Steele	1,516	16	16.4	+5.8	39	6	−23	12	39	0.84	+0.39	0.40	9.0	7	6	6	19	s.	Nels O. Grefsheim.
Valley City	Barnes	1,245	34	20.3	+6.6	42	6†	−18	12	39	1.45	+0.97	0.55	10.0	7	10	4	17	nw.	I. C. Robertson.
Wahpeton	Richland	962	43	20.1	+4.8	40	6†	−20	13	42	0.56	+0.10	0.33	5.6	9	5	10	16	se.	W. J. Cavanaugh.
Moorhead, Minn.	Clay	904	59	18.0	+6.5	40	6	−23	13	39	0.53	−0.19	0.36	6.3	8	7	2	22	s.	U. S. Weather Bureau.
Average for Eastern Division		...	...	17.8	+6.1	54	28	−32	12	53	0.70	+0.24	0.85	7.0	5	8	6	17	se.	...
Middle Division																				
Ashley	McIntosh	2,014	44	20.6	+6.4	47	23	−25	13	40	0.15	−0.41	0.04	2.5	5	2	15	14	s.	U. S. Airway Comm. Sta.
Bisbee	Towner	1,601	4	14.8	...	40	6	−25	13	44	0.35	...	0.17	4.5	6	11	1	19	sw.	I. K. Lund.
Bismarck	Burleigh	1,670	66	22.0	+7.3	47	20	−21	13	40	0.10	−0.47	0.04	1.8	4	10	4	17	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	48	14.2	+6.8	40	23†	−32	12†	43	0.25	−0.22	0.05	2.6	8	8	11	12	se.	N. D. School of Forestry
Carrington	Foster	1,579	42	18.8	+7.1	48	20	−22	12	40	0.55	+0.16	0.25	5.5	4	6	0	25	nw.	Soo Line Agent.
Carson	Grant	2,500	28	24.0	+9.3	55	23	−16	12	50	0.17	−0.34	0.10	2.0	2	13	8	10	nw.	J. W. Evens.
Center	Oliver	...	2	20.6	...	46	5	−23	12	48	0.37	...	0.35	4.5	2	19	12	0	nw.	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	14	17.1	+4.0	43	23	−22	13	41	0.39	−0.03	0.25	3.5	3	8	6	17	nw.	R. L. Williams.
Drake	McHenry	1,634	11	18.8	...	45	23	−26	12	51	0.30	...	0.15	3.5	5	7	8	16	nw.	Peter Anton.
Dunseith	Rolette	1,682	44	16.0	+6.9	45	23	−28	12	39	0.35	−0.07	0.15	5.4	4	6	13	12	se.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	B. C. Phipps.
Energy ‡‡	McLean	1,750	25	21.6	+7.2	47	5†	−22	13	51	0.17	−0.28	0.12	0.5	2	12	3	16	s.	H. S. Solenberger.
Fessenden	Wells	1,610	28	18.7	+8.1	43	20	−25	12	37	0.28	−0.32	0.25	3.0	2	11	5	15	se.	John V. Zuber.
Fort Yates	Sioux	1,670	40	24.0	+5.6	55	6	−24	11	46	T.	−0.42	T.	T	0	14	9	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	19	19.0	+6.6	45	23	−26	12	40	0.16	−0.27	0.13	2.6	2	7	9	15	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	10	22.2	...	45	20	−13	13	35	0.24	...	0.21	5.5	3	14	9	8	nw.	A. H. Haut.
Garrison	McLean	1,901	63	20.0	+6.3	46	5	−21	12	39	0.24	−0.25	0.09	1.6	6	10	3	18	nw.	E. L. Vorachek.
Granville	McHenry	1,504	33	17.8	+5.8	45	23	−28	12	42	0.22	−0.25	0.12	4.3	4	6	14	11	nw.	W. A. Christianson.
Hansboro	Towner	1,597	32	13.8	+5.8	46	23	−27	12†	44	0.18	−0.41	0.09	5.5	3	8	8	15	nw.	W. E. Disher.
Leeds	Benson	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Fred Holmes.
Linton	Emmons	1,711	23	22.8	+8.9	49	19†	−18	13	46	0.03	−0.35	0.03	0.5	1	16	5	10	se.	Wm. Heyerman.
McClusky	Sheridan	1,943	22	20.9	+8.9	46	23	−23	12	36	0.23	−0.29	0.16	2.8	3	10	12	9	nw.	F. W. Perry.
Maddock	Benson	1,604	25	16.7	+6.7	41	6	−30	12	44	0.24	−0.10	0.09	2.6	5	7	6	18	nw.	A. T. Felland.
Mandan	Morton	1,750	26	21.3	+7.6	51	8	−18	13	50	0.41	−0.06	0.29	4.6	3	10	2	19	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	37	...	...	...	...	...	...	...	0.36	−0.20	0.16	5.3	5	8	9	14	sw.	P. B. Anderson.
Max	McLean	2,093	11	17.8	...	45	23	−25	13	39	0.21	...	0.14	3.4	3	10	5	16	nw.	A. W. Rice.
Minot	Ward	1,557	44	19.5	+7.6	46	23	−25	12	45	0.21	−0.25	0.09	3.7	4	14	2	15	w.	Robert C. Chatfield.
Mohall	Renville	1,646	47	17.0	+6.0	43	6†	−31	12	40	0.46	+0.04	0.19	2.8	6	6	8	14	sw.	Iver Johnson.
Napoleon	Logan	1,955	48	23.0	+10.4	48	22	−16	12	51	0.25	−0.20	0.18	2.5	3	10	0	21	sw.	C. J. Hoof.
New Salem	Morton	2,163	36	21.6	+6.3	50	23	−20	12	49	0.07	−0.51	0.03	0.9	4	12	9	10	nw.	J. Christianson.
Pettibone	Kidder	1,856	31	18.6	+8.1	43	22	−23	12	39	0.55	+0.08	0.53	4.5	2	10	3	18	nw.	Sam Loeppke.
Rolla	Rolette	1,860	3	14.8	...	49	23	−24	12	33	0.92	...	0.38	9.4	4	11	3	17	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	11	...	...	...	...	...	...	...	0.15	−0.33	0.10	2.0	2	8	7	16	sw.	W. B. Paterson.
Ryder	Ward	2,108	11	...	...	...	...	...	...	...	0.43	+0.07	0.30	5.2	4	13	8	10	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	4	...	...	...	...	...	...	...	0.12	...	0.07	1.0	2	13	11	7	nw.	J. B. Smith.
Steele	Kidder	1,857	46	21.0	+8.7	46	22	−21	12†	10	0.14	−0.43	0.07	1.0	3	11	3	17	sw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	11	...	...	...	...	...	...	...	0.14	−0.02	0.05	3.0	5	13	6	12	sw.	G. N. Pilgard.
Timmer	Morton	...	3	...	...	...	...	...	...	...	0.06	...	0.06	2.0	1	...	...	...	...	Geo. M. Sinclair.
Towner	McHenry	1,482	38	18.6	+8.5	46	23	−30	12	42	0.75	+0.31	0.40	7.0	3	7	14	10	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	26	20.5	+8.9	45	6†	−24	12	43	0.15	−0.36	0.15	2.5	1	12	11	8	s.	A. S. Haas.
Tuttle	Kidder	1,936	32	...	...	...	...	...	...	...	0.26	−0.15	0.12	2.1	7	13	4	14	nw.	Adam Leno.
Upham	McHenry	...	...	...	...	...	...	...	...	...	0.57	...	0.25	6.0	3	11	4	16	se.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	13	19.8	+4.7	45	23	−23	12	43	0.29	−0.11	0.17	5.5	3	4	10	17	nw.	Oscar Anderson.
Washburn	McLean	1,731	39	23.3	+9.3	47	23	−19	12	36	0.04	−0.43	0.04	0.5	1	11	5	15	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	34	14.8	+4.8	40	6	−35	12	46	0.55	+0.25	0.22	7.1	4	14	5	12	nw.	Rev. R. Carey.
Willow City	Bottineau	1,471	48	13.1	+4.4	41	6†	−36	12†	48	0.66	+0.07	0.25	8.5	3	14	8	9	se.	O. M. Sanderson.
Wilton	McLean	2,159	4	20.2	...	46	24	−20	12†	37	0.09	...	0.05	1.5	3	11	12	8	...	Soo Line Agent.
Wishek	McIntosh	2,010	19	21.2	+8.2	46	8†	−21	3	58	0.09	−0.55	.04	1.0	3	12	4	15	nw.	H. M. Larson.
Zap	Mercer	1,838	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	John Kaufman, Jr.
Average for Middle Division		...	...	19.2	+7.3	55	6†	−36	12†	58	0.28	−0.18	0.53	3.4	3	10	7	14	nw.	...

Continued on page 48

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for December 1940

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	.02	T.		.02					T.		T																	.41	.05	.02		0.52
Cooperstown[2]	Sheyenne		.05			.06			T.																	.05	T.	T.	.10	.52	T.	.04	0.82
Courtenay	James	.02					.04			T.		T.														.38			.23		.36	.07	1.10
Devils Lake[1]‡	Devils Lake	.02	T.	T.	.03		T.	T		.09	T.	.02					T.		T.							.24		T.	.06	.01	T.	.09	0.56
Edgeley	James											.01																	.42	.07		.12	0.62
Edmore	Devils Lake	T.	T.		.07					T																.20	.17						0 44
Ellendale	James		T.									.12			T.	T.										.03			.46	.03	.07		0.71
Fargo[1]	Red	.01	T.		.06		T.	T		T.	T	.04			T.	T.			T.	T.			T.			T.	T.	T.	.40	.08	T.	.03	0.62
Forman	Sheyenne	.08			.07							.08														T			.55	.13		.19	1.10
Fullerton	James	T			T.							.28			T.	T.	T		T.							.02			.73			.16	1.19
Grafton	Red	.08	T.	T.	.08		T			T.	T.	T.														.28		T.		.58		T.	1.02
Grand Forks[1]‡	do	.03		T.	.05		T.	T.	T.	T.		T.				T.	T.		T.				T.		.01	.11	T.	T.	.55	T	T.	.13	0.88
Hankinson[2]	do											.02	.02																.32		.15	.03	0.54
Hannah	Pembina	T		T.	.27	T.	T.	T.				T.					T.		T.	T.		T.								.40	T.	T.	0.67
Hillsboro	Red		.06		.03		T.	T		T.		T.							T.						T.	T.	T	T.	.47	.03	T.	.05	0.64
Jamestown	James				.12							.05													.06					*	.45	.40	1.08
Langdon	Pembina			.02	.07					.07		.02										T.				.15			.21	.06		.03	0.63
Larimore	Red				T.	.03		T		.03		T.														.07	T.		.33	.06		T.	0.52
Lisbon	Sheyenne	T.			.03						T.	.06			T.	T.						T.	T.			.20	T.		.38	.12		.04	0.83
McHenry	James	.02			.09		T.			.04		T.														.30			.20	.02	T.	.06	0.73
McLeod	Sheyenne												.12													.23			.38	.06		.04	0.83
Mayville	Red																																
Oakes	James											.08					T.									.02			.49	.05		.10	0.74
Park River	Red		.07	T.	.08	.06						T	T.																.49	.03		T.	0.73
Pembina	do				.10		T.			T.		T.																	.42			.14	0.66
Petersburg	do	T.			.06					T.		T.					T									.21			.26			.05	0.58
Sharon	do	.02		T	.06	T.	T.			T		T					T.			T						.04			.40	.02	.01	.29	0.84
Valley City	Sheyenne	.01	.01		.05					T												T				.53			.22	.55		.08	1.45
Wahpeton	Red			.01	.01		.01					.02	.02													.01			.38	.05		.10	0.56
Middle Division																																	
Ashley[1]	Missouri	T.	T	T.	T		T.			T.	T.	.03	T		T.	T.	T.		T.							T.	T.	.02	.03	T.	.04	.03	0.15
Bisbee	Devils Lake	.03			.06					T.		.03																	.17	.03		.03	0.35
Bismarck[1]‡	Missouri	T.	T.							T.	T	.03							T							T			.02	T	.01	.04	0.10
Bottineau[2]	Mouse	.01	.01		.05	.05						.02																	.03	.05		.03	0.25
Carrington	James	T.			.10																					.10			.25	.10			0.55
Carson	Heart											.07																			.10		0.17
Center	Missouri											.02										T.									.35		0.37
Dogden Butte	Mouse	.05	T.		T.		T			T.		T.										T.							.25	T.		.09	0.39
Drake[2]	do			.02				T.			.01		.02																.10	.15			0.30
Dunseith	do	T.			.08			T.				T.																	.15		.02	.10	0.35
Eckman	do																																
Energy	Missouri	T					T.			T		T.										.05							T.			.12	0.17
Fessenden	James				T		T.			.03								T.											.25				0.28
Fort Yates	Missouri																												T			T.	T.
Foxholm (near)	Mouse	T								T.	T.	T.																	.13			.03	.16
Gackle	James		T.		.01												T.									T.			.21	T	.02		0.24
Garrison[1]	Missouri	.02	.01				T.			.01	T.	T.										.05						.06				.09	0.24
Granville	Mouse	.02		T.	T		T.			T.		T.					T.	T.											.12	T.	.23	.05	0.22
Hansboro	Devils Lake				.04		T.			T.		T.					T.												.09	T.		.05	0.18
Leeds	do																																
Linton	Missouri		T.				T																						T		T.	.03	0.03
McClusky	do	.05																													.16	.02	0.23
Maddock	Sheyenne	T.			.09		T.			T.	T.	.03					T												.07	.02		.03	0.24
Mandan[2]	Missouri	T.								T.	.08								T.										T.	T.	.04	.29	0.41
Max[2]	do		.01																										.06			.14	0.21
Minot[1]	Mouse	.03	T.	T	T.		T.			T.	T.	.01					T.												.08	T		.09	0.21
Mohall	do	T		.02	.03					.04		.07																	.11			.19	0.46
Napoleon[2]	Missouri				T																						.02			.18		.05	0.25
New Salem	Heart		T.				T.			.01		.03																	.01		.02		0.07
Pettibone	James	T			T.							.02					T.					T								.53		T.	0.55
Rolla	Devils Lake			T	.20		T.					.07																	.28	T.	T.	.38	0.92
Rugby (near)	Mouse				.05					T	T.	T.																	.10				0.15
Ryder	Missouri		.05				T.															.03							.05			.30	0.43
Selfridge	do		T																T.						.05	T.			.07		T.	T.	0.12
Steele	do				T.					T.		.02										T.							.07			.05	0.14
Tagus	Mouse	.03		T.	T.		T.			.01		.02					T.					T.							.03	T		.05	0.14
Towner	do				.10		T.			T.																			.25			.40	0.75
Turtle Lake	Missouri	T.										T.																		.15		T.	0.15
Tuttle	do	.01			.01		.01			T.		.02					T.		T.				.01			T.	T.		.12	T.		.08	0.26
Velva	Mouse	.01			T.		T.					T.																	.17			.08	0.29
Washburn	Missouri	T.										T							T.			T.							.04			T.	0.04
Westhope	Mouse		.05	.11						T.		T.																	.17		T.	.22	0.55
Willow City	do	T.			.25																								.16	T		.25	0.66
Wishek[2]	Missouri										T.														T			.04	.01	T.	.04		0.09
Zap	Knife																																
Western Division																																	
Alpha	Lit. Missouri										T.	T.																	.04			.04	0.08
Amidon	do		T.									.03																	.13				0.16
Beach	do		.04				T				T.	T.																T.	T			T.	0.04
Berthold Agency	Missouri									T.																			T.			.05	0.05
Bowman[2]	Grand						.05					.12	T.																.04				0.21
Crosby	Mouse									.10																			T.	.01		.15	0.26
Dickinson[2]	Heart		.01				.03	.01			.02	T.	T.										T.						.08	.03		.05	0.23
Dunn Center	Knife		T.							T.		T.																			T.	.08	0.08
Fairfield	Lit. Missouri						.05			T.		T.																				.05	0.10
Fryburg	Heart						.07			T.		.03										T						.01	T.		T.	.12	0.23
Hettinger	Grand		.01				T			T.		T.			T.																.01	.01	0.03
Howard (near)	Missouri	.05	.01				T.			.01	T.	T.	T.									T.							.03			.13	0.23
Kenmare	Mouse	.04			T		T.			.05		.02																	.12		T.	.04	0.27
Marmarth	Lit. Missouri		.04			T	.02				T.	.01																	.02		.02	.03	0.14
Mary	do						T.			T.																			T.			.04	0.04
Medora	do	T.	T.				.05			T		T.																.03	.02			.08	0.18
Mott	Cannon Ball			.01									.02																.12				0.15
New England[2]	do						T				.07																	.11	T.	.03		.17	0.43
Parshall	Missouri		.03				T.			.02		T										.06							.03			.02	0.16
Portal[2]	Mouse		.02								.03																			.10			0.15
Powers Lake	Missouri						.06	.03				.11																					0.20
Richardton	Heart		T.									.01										T							.03				0.04
Sanish[2]	Missouri	.06								T		T.											.20									T	0.26
Stanley	do	T.					.06			.11																			.12			.10	0.39
Tioga	do	.05																							T.						T.	.10	0.15
Trotters	Lit. Missouri		.02				.07			T		.03	T.																T.			.08	0.20
Watford City	Missouri	T.					.06			.08		.01										.03							.02			.07	0.27
Wildrose	do	.04								.08		T																	.05			.02	0.19
Williston[1]‡	do	.03					T.			.03	T	.01										.11						T.	.04		T.	.13	0.35

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First- or second-order Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for December 1940

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley §	Maximum	25	7	37	40	41	42	40	43	43	38	30	0	6	18	20	16	26	20	45	45	44	44	47	40	33	39	34	33	27	29	31	31.7
	Minimum	5	−19	− 3	14	14	25	20	20	21	18	− 4	−23	−25	− 4	− 3	− 6	− 7	5	8	15	20	15	22	22	23	14	14	21	21	21	27	9.4
Beach	Maximum	33	14	43	43	53	44	45	54	59	34	28	7	20	19	24	30	34	40	48	49	50	51	53	48	52	46	39	35	39	31	34	38.7
	Minimum	13	− 2	5	29	27	34	28	31	32	21	7	−12	−10	− 6	0	5	6	4	25	23	32	31	24	22	16	23	21	21	11	15	24	16.1
Bismarck	Maximum	22	7	38	41	46	45	42	45	46	37	30	− 1	17	20	22	22	30	23	46	47	40	46	45	39	31	38	34	32	25	30	33	32.8
	Minimum	7	−13	− 2	10	7	27	24	22	26	27	− 1	−16	−21	− 3	− 7	− 1	− 1	7	6	17	24	19	19	23	25	18	14	20	19	23	29	11.2
Bottineau §	Maximum	9	7	21	14	38	35	33	34	24	30	20	− 9	7	15	16	20	23	20	31	33	33	34	40	40	34	23	35	32	23	27	26	24.8
	Minimum	−11	−24	−22	4	4	13	14	7	17	16	9	−32	−32	−21	− 5	− 2	− 4	4	8	7	10	11	23	18	25	11	14	22	4	10	20	3.7
Carson	Maximum	31	17	41	43	51	40	45	47	39	37	29	13	19	20	25	24	22	30	48	49	40	45	55	43	32	42	34	33	22	29	32	34.7
	Minimum	9	− 8	− 9	22	17	32	23	26	29	25	4	−16	−16	− 3	− 4	3	3	8	9	20	26	24	23	25	18	19	22	16	14	19	28	13.2
Crosby §	Maximum	13	3	30	36	40	41	28	39	41	30	25	7	9	14	19	19	27	21	40	34	34	40	39	40	30	33	38	36	24	23	32	28.1
	Minimum	− 7	−21	−10	10	5	25	19	20	20	23	− 7	−27	−21	− 4	− 2	0	0	0	14	15	23	19	21	25	14	11	15	10	7	5	23	7.4
Devils Lake	Maximum	8	1	22	18	32	40	30	37	37	31	22	− 8	9	20	18	11	27	22	35	38	38	33	38	31	32	27	27	33	26	27	29	25.5
	Minimum	−10	−20	−10	− 6	− 6	11	13	15	18	14	−18	−25	−21	1	1	− 1	− 1	6	15	14	19	15	21	18	23	17	16	24	20	20	26	6.7
Dickinson §	Maximum	26	15	43	43	52	38	46	49	34	34	26	4	20	19	25	27	33	35	46	49	43	47	51	44	47	46	36	27	35	29	31	35.5
	Minimum	6	− 1	− 4	15	20	24	26	27	29	24	15	−11	−13	−11	− 4	− 1	3	2	2	20	18	18	23	22	14	15	15	22	14	11	20	11.6
Dunn Center §	Maximum	23	17	40	42	49	43	43	43	45	32	30	7	21	20	26	26	30	30	44	46	41	46	48	41	45	44	33	33	26	27	32	34.6
	Minimum	4	− 9	− 7	23	15	32	28	29	27	24	5	−15	−14	− 1	− 4	8	2	0	8	20	29	16	23	23	16	15	12	17	11	18	25	12.3
Fargo	Maximum	12	5	21	22	21	39	25	32	39	31	31	− 6	4	16	21	15	16	28	30	30	38	29	37	37	35	32	34	34	30	30	32	25.8
	Minimum	− 9	−19	−16	− 9	−12	15	12	19	17	19	− 7	−18	−22	− 6	8	− 2	− 6	8	22	13	23	22	27	28	33	25	29	30	25	26	28	9.7
Fessenden §	Maximum	13	15	26	23	35	41	35	38	41	28	26	5	12	21	23	9	28	21	36	43	36	40	40	34	29	31	34	30	28	27	29	28.3
	Minimum	− 6	−21	−11	10	7	22	12	15	22	20	− 1	−25	−19	− 1	− 1	0	− 2	5	13	17	29	16	18	19	25	14	18	27	15	19	25	9.1
Fullerton	Maximum	22	18	24	35	34	43	38	40	47	37	34	21	10	17	15	15	19	24	38	40	43	39	38	37	35	34	33	35	31	30	32	30.9
	Minimum	7	− 8	−15	16	11	19	18	19	28	24	21	−16	−22	− 4	5	1	− 2	2	18	21	24	20	27	26	30	21	24	30	25	25	29	13.8
Garrison §	Maximum	21	0	28	38	46	41	41	41	32	32	23	3	16	21	22	18	32	20	41	40	39	41	45	39	29	34	37	27	22	27	31	29.9
	Minimum	− 4	−18	−11	16	3	28	22	22	25	23	3	−21	−19	− 1	− 3	− 5	− 1	8	10	17	19	18	24	26	22	14	15	18	15	20	26	10.0
Grafton	Maximum	10	8	20	21	17	40	21	34	34	32	30	1	11	23	22	14	25	23	37	32	39	29	32	34	35	30	30	33	30	29	31	26.0
	Minimum	−12	−15	−20	2	−17	14	9	19	15	15	0	−19	−19	− 3	− 1	− 1	− 6	2	17	9	25	15	23	24	29	17	20	26	20	21	27	7.5
Grand Forks	Maximum	9	− 1	19	18	20	37	22	30	33	32	25	− 4	8	20	20	13	18	24	32	30	37	26	33	36	35	28	30	33	30	30	32	24.4
	Minimum	−12	−19	−17	− 9	−12	12	8	20	14	17	−12	−21	−19	− 7	3	− 4	− 5	1	19	11	21	21	25	24	26	19	27	28	20	24	27	7.4
Jamestown §	Maximum	17	14	26	24	36	42	37	41	43	35	32	7	13	22	21	14	22	23	40	47	40	37	44	34	34	30	31	36	30	29	31	30.1
	Minimum	− 6	−15	−16	12	8	24	18	11	24	21	5	−17	−14	2	2	3	− 1	9	8	19	31	19	26	19	28	19	16	28	22	24	28	11.5
Kenmare §	Maximum	14	7	30	34	41	47	37	44	44	34	26	− 1	12	18	19	21	31	24	40	40	43	40	45	41	33	35	34	27	18	25	31	30.1
	Minimum	− 7	−18	−12	14	3	22	22	26	24	22	− 1	−25	−19	3	3	2	0	10	10	21	28	29	31	25	17	14	14	15	1	13	23	10.0
Langdon	Maximum	7	4	16	18	26	36	25	30	32	28	26	− 5	8	16	15	17	22	22	30	29	34	33	35	30	31	27	30	28	30	26	29	23.9
	Minimum	−16	−23	−22	− 4	−14	13	6	11	13	13	−10	−31	−27	− 3	− 2	− 4	− 8	5	12	10	21	9	22	15	23	13	13	21	16	13	17	3.3
Marmarth §	Maximum	31	27	46	44	52	44	46	47	46	36	30	6	13	14	25	24	27	39	48	45	43	44	48	46	46	45	27	36	39	35	34	36.6
	Minimum	10	4	6	23	20	23	27	27	33	23	6	− 6	−14	− 5	− 8	− 2	− 5	− 2	10	18	24	20	20	20	12	18	13	25	8	10	27	12.4
Minot	Maximum	15	4	30	35	45	45	40	43	42	33	30	− 2	14	20	21	16	33	20	40	43	42	45	46	38	28	32	31	27	23	28	32	30.5
	Minimum	− 5	−21	− 2	4	5	24	16	21	23	19	−15	−25	−19	− 2	− 2	− 4	− 3	9	16	14	20	17	25	25	20	13	13	15	12	21	28	8.5
Mott	Maximum	34	27	42	45	53	46	47	48	46	39	35	21	21	22	29	29	38	35	49	51	46	51	55	46	47	48	40	32	33	30	33	39.3
	Minimum	12	− 2	− 2	22	21	34	25	22	32	24	8	− 9	−16	0	− 8	4	0	− 5	9	16	28	18	21	23	18	16	15	22	15	20	27	13.2
Pembina	Maximum	4	− 6	15	15	18	34	19	33	31	31	16	− 6	12	18	13	9	20	23	31	28	35	26	33	35	33	20	31	31	27	29	31	22.2
	Minimum	−11	−19	−18	−10	−10	8	10	17	13	14	−17	−23	−22	− 3	− 2	− 4	−11	4	18	12	21	18	24	27	19	15	20	25	16	20	25	5.7
Sharon	Maximum	9	7	21	21	22	39	26	35	38	31	30	− 4	9	20	19	15	27	20	38	34	35	36	30	31	32	27	28	32	28	27	29	25.5
	Minimum	− 9	−18	−18	− 2	−12	16	8	13	18	18	− 4	−23	−22	− 3	1	− 3	− 8	2	15	14	26	11	23	18	27	19	20	28	21	23	25	7.2
Steele	Maximum	18	14	25	38	36	41	37	40	41	35	33	8	11	19	20	18	30	28	41	44	38	46	44	38	34	36	37	35	28	30	31	31.4
	Minimum	0	−15	−15	12	11	24	16	17	25	21	8	−21	−21	− 4	− 7	0	− 3	20	9	15	24	16	22	24	23	16	16	23	18	23	27	10.6
Valley City	Maximum	16	15	24	25	28	42	35	38	42	34	34	10	12	20	17	25	17	24	40	37	40	37	37	37	37	33	35	36	33	33	34	29.9
	Minimum	− 4	−15	−15	12	− 7	17	15	12	25	22	10	−18	−17	− 3	6	− 5	0	8	17	18	37	17	27	21	24	16	13	21	25	25	27	10.7
Wahpeton	Maximum	17	15	19	22	20	40	25	27	40	32	33	26	2	18	21	20	18	27	32	33	38	34	37	39	37	34	37	34	32	31	33	28.2
	Minimum	− 8	− 9	−18	12	− 9	14	12	15	24	19	24	−16	−20	− 7	10	1	− 5	6	23	15	26	21	29	24	31	26	26	30	24	25	27	12.0
Williston	Maximum	18	6	38	36	44	44	40	41	41	31	26	− 8	14	19	19	20	32	28	40	39	38	44	43	39	23	40	35	33	25	29	33	30.6
	Minimum	2	− 8	5	15	15	32	31	30	29	23	−14	−21	−15	3	3	2	2	7	13	17	26	21	26	23	15	15	17	8	10	15	29	12.1

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for December 1940—Continued from page 46.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	13	......	......	....	....	....	....	......	0.08	−0.42	0.04	0.5	2	13	8	10	w.	H. A. Bury.
Amidon	Slope	......	17	27.1	+10.0	53	5	−15	14	40	0.16	−0.32	0.13	0.2	2	14	9	8	nw.	Stanley W. Bale.
Beach	Golden Valley	2,759	34	27.4	+10.4	59	9	−12	12	38	0.04	−0.46	0.04	0.5	1	9	12	10	sw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	46	22.9	+7.5	51	5†	−19	12†	43	0.05	−0.33	0.05	1.0	1	23	2	6	nw.	H. W. Case.
Bowbells	Burke	1,958	11	18.0	......	45	5†	−28	12	52	0.09	......	0.05	1.4	2	7	5	19	w.	Charles Kaufman.
Bowman	Bowman	2,872	25	25.7	+10.6	51	8	−15	13	43	0.21	−0.15	0.12	2.0	3	11	7	13	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	31	17.8	+6.2	41	6†	−27	12	40	0.26	−0.25	0.15	3.0	3	4	12	15	s.	J. H. Phelps.
Dickinson	Stark	2,543	47	23.6	+7.2	52	5	−13	13	47	0.23	−0.27	0.08	2.1	7	19	6	6	sw.	Leroy Moomaw.
Dunn Center	Dunn	2,191	40	23.4	+5.7	49	5	−15	12	47	0.08	−0.38	0.08	1.0	1	13	9	9	nw.	O. T. Evenson.
Epping	Williams	2,224	29	20.2	+6.6	45	6	−28	12	37	0.17	−0.28	0.10	3.0	3	15	8	8	sw.	T. Beachler.
Fairfield	Billings	......	3	......	......	....	....	....	....	......	0.10	......	0.05	0.5	2	13	11	7	nw.	Thomas Knudtson.
Fryburg	Billings	2,790	21	26.1	......	59	9	−11	13	43	0.23	−0.28	0.12	2.0	4	17	5	9	sw.	Verne King.
Hettinger	Adams	2,675	32	28.4	+11.6	59	6	− 8	13	42	0.03	−0.37	0.01	0.3	3	23	3	5	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	32	19.2	+7.6	42	6	−27	12	41	0.23	−0.40	0.13	2.8	5	10	8	13	sw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	8	20.0	......	47	6	−25	12	42	0.27	−0.19	0.12	3.5	5	16	10	5	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	30	24.5	+7.7	52	5	−14	13	41	0.14	−0.27	0.04	1.0	6	15	8	8	nw.	S. P. Grane.
Mary	McKenzie	......	11	......	......	....	....	....	....	......	0.04	−0.26	0.01	1.2	1	16	5	10	sw.	Fred Hartman.
Medora	Billings	2,271	24	......	......	....	....	....	....	......	0.18	−0.27	0.08	0.8	4	18	6	7	nw.	Vernon Thompson.
Mott	Hettinger	2,424	32	26.2	+12.4	55	23	−16	13	44	0.15	−0.45	0.12	2.2	3	4	12	15	nw.	P. G. Wick.
New England	Hettinger	2,400	45	24.8	+8.3	54	5	−19	12	38	0.43	+0.02	0.17	4.5	4	14	7	10	se.	F. S. Sleight.
Parshall	Mountrail	1,929	24	17.7	......	46	5†	−27	12†	48	0.16	−0.24	0.06	1.0	5	6	11	14	nw.	C. E. Shubert.
Portal	Burke	1,954	34	17.2	+5.0	48	23	−31	12	55	0.15	−0.32	0.10	2.8	3	11	10	10	sw.	R. G. Wegener.
Powers Lake	Burke	2,205	34	20.8	+6.7	45	23	−26	11	44	0.20	−0.36	0.11	3.5	3	13	8	10	e.	Geo. B. Gee.
Richardton	Stark	2,467	23	25.2	+11.2	51	23	−15	12	44	0.04	−0.35	0.03	1.1	2	12	7	12	se.	Assumption Abbey.
Sanish	Mountrail	1,835	14	19.6	+8.2	46	5	−25	12†	43	0.26	−0.35	0.20	1.0	2	12	3	16	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	2	17.2	......	46	23	−30	12	39	0.39	......	0.12	2.3	4	14	9	8	sw.	Leroy Edwards.
Tioga	Williams	2,279	11	......	......	....	....	....	....	......	0.15	−0.31	0.10	1.5	2	12	6	13	sw.	B. V. Olson.
Trotters	Golden Valley	......	14	......	......	....	....	....	....	......	0.20	−0.20	0.08	1.6	4	11	9	11	sw.	Walter Grunewald
Watford City	McKenzie	2,084	26	24.2	+11.2	49	5	−20	12	43	0.27	−0.27	0.08	1.0	6	11	12	8	sw.	J. C. Zeller.
Wildrose	Williams	2,258	12	......	......	....	....	....	....	......	0.19	......	0.08	2.3	4	13	3	15	sw.	L Holter.
Williston	Williams	1,878	60	21.4	+7.6	44	5	−21	12	40	0.35	−0.23	0.13	1.9	6	11	7	13	sw.	U. S. Weather Bureau.
Average for Western Division		......	.....	22.4	+7.6	59	6†	−31	12	55	0.19	−0.28	0.25	1.7	3	13	8	10	sw.	....
Average for the State		......	.....	19.8	+6.7	59	6†	−36	12	58	0.42	−0.07	0.85	4.0	4	10	7	14	nw.	....

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

F. J. BAVENDICK

Vol. XLIX Bismarck, N. D., Annual 1940 No. 13

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GENERAL SUMMARY

The mean temperature for the year was above normal at almost all stations in the state. January with a mean of 3.4° was by far the coldest month of the year, while February, October, and December were unusually warm. The frost-free season was about average length at most stations.

The precipitation averaged above normal in all sections of the state. Two important crop months, May and June, were somewhat below normal but April and July were considerably above normal. No severe dust storms were reported. Crops were very good early in the season but the dry weather during June caused deterioration in some sections. Exceptionally good crops where reported in some northwestern counties where showers occurred when needed. Feed was generally plentiful and livestock was in good condition throughout the year in most sections.

The average temperature for the state was 41.0° or 1.5° above the 1892-1940 average and 0.9° lower than the 1939 average. The highest annual temperature reported was 44.2° at Hettinger and Mott; the lowest was 37.0° at Willow City. The absolute range in temperature was 146°, from 107° at Lisbon on July 22 to -39 at Dunn Center on January 4. The average annual precipitation for the state was 17.39 inches, or 0.51 inch above the 1892-1940 average, and 3.24 inches above the average for 1939. The greatest annual precipitation reported was 23.91 inches at Forman; the least was 11.76 inches at Howard. The greatest monthly amount reported was 7.24 inches at Devils Lake in July. The average snowfall was 33.6 inches.

The average number of days with 0.01 inch or more of precipitation was 80.

There were 142 clear days, 110 partly cloudy days, and 114 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS

January.—January was a continuation of the fall and winter drought, which has persisted since September 1939, with November 1939 and January 1940 averaging the least precipitation for these respective months since state-wide records began. Except for two warm periods from January 7th-13th, and from the 27th-31st, the month was very cold. Because of the light snowfall all highways were open, though occasionally slippery.

February.—Unusual features of the month were the cloudiness, the large number of fogs, and days with 0.01 inch or more precipitation. There were 16 cloudy days, the greatest number in February since state-wide records began. Sunshine was 22% below the normal. The month averaged well above normal in both temperature and precipitation. As a whole February was warm and mild with the only cold period from the 22d through the 28th.

March.—Temperatures were considerably below normal in the eastern division and slightly above normal in the central and western divisions. Minimum temperatures were not as low as usual but maxima were considerably below normal. Precipitation averaged slightly above normal, with the greatest amounts in the eastern and southwestern districts. There was a heavy blanket of snow in most sections and, although the subsoil was dry, there was plenty of moisture in the topsoil for plowing and seeding. Moisture conditions were also excellent for grass. No severe storms were reported and livestock came through the winter in mostly good condition.

April.—April was cold and wet. In some northern and eastern sections snow remained on the ground at the end of the month. It was the wettest April since 1924 and the second wettest of record in the central division. A few places in the northern and eastern districts reported subnormal moisture. No severe wind or dust storms occurred. Due to wet, cold weather farm work was late and pastures and ranges were backward. Livestock was mostly in good condition, but much yard feeding was necessary.

May.—The temperature averaged considerably above normal in the western division and slightly above normal in the eastern and central divisions. Only a few stations, mostly in the northeastern part of the state, recording readings below freezing after the 15th. The precipitation was well distributed throughout the month and, although it averaged slightly below normal, it was sufficient for crops due to the generous amounts in April. A tornado in Morton, Oliver, and Burleigh counties on May 5 caused considerable property loss, but crops were not sufficiently advanced to be damaged. By the close of the month small grains were coming up with good stand, and pastures and ranges, though late, were greening rapidly.

June.—The precipitation was well distributed throughout the month, but averaged below the seasonal normal in all sections. The temperature averaged normal in the eastern division, 0.5° above normal in the central division, and 1.2° above normal in the western division. Frost occurred at a few stations in eastern North Dakota on the 19th and 20th, but only a few reports of damage were received. Crops were very good, especially in the western sections, at the beginning of the month, but by the close rain was badly needed and small grains in some sections were suffering due to lack of moisture. Wind and insect damage was slight. Pastures and livestock continued in good condition.

July.—Temperatures were above normal in all sections, continuing a warm July trend which has persisted in the state for the past 12 successive years. Precipitation was above normal and was well distributedboth geographically and throughout the month. More than the normal amount of sunshine occurred. Hail damage was above average and some crops were damaged near the close of the month by excessive rainfall. Small grains deteriorated somewhat early in the month due to dry weather, but corn and potatoes made good progress as a result of the above average temperature and the generous showers during the second and third decades. Pastures held up well and livestock was in good condition.

August.—August was warmer than normal. The precipitation was above normal in the eastern division and somewhat below normal in the central and western divisions. Except for the second week, which was dry, precipitation was well distributed throughout the month and crops matured rapidly. Harvesting was well under way by the 15th with threshing started. Yields were fair to very good. Pastures and livestock were mostly in good condition throughout the month. Three persons were killed and 12 others injured by a tornado that struck Dawson about 4:20 p.m., on Friday the 2d. A windstorm in Ramsey County on the 19th damaged grain, windmills, and about 15 buildings.

[Continued on page 53]

Climatological Data for the Year 1940

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number of days				Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall	With .01 in or more precip.	Clear	Pt. cloudy	Cloudy	
Eastern Division																				
Casselton	Cass	961	45	42.1	100	July 22	−22	Jan. 17†	45	22.00	5.05	July	0.10	Jan.	31.8	84	194	77	95	nw.
Cavalier	Pembina	894	31	40.1	100	July 23	−25	Jan. 14	31	18.89	5.49	July	T.	Jan.	42.5	62	156	73	137	n.
Cooperstown	Griggs	1,428	44	39.3	104	July 22	−30	Jan. 18	44	15.74	2.88	July	0.06	Jan.	35.4	103	215	67	84	nw.
Courtenay	Stutsman	1,523	.....	.....	.....	.....	.....	.....	12	20.54	3.44	July	0.32	Jan.	43.3	80	110	147	109	nw.
Devils Lake	Ramsey	1,478	44	38.7	98	July 22	−26	Jan. 17	44	23.17	7.24	July	0.15	Jan.	29.3	119	91	105	170	nw.
Edgeley	LaMoure	1,568	40	41.4	100	July 22	−25	Jan. 18	40	18.73	3.79	July	0.11	Jan.	42.0	71	74	224	68	nw.
Edmore	Ramsey	1,524	16	37.3	97	Aug. 15	−31	Dec. 12	17	18.00	5.90	July	0.04	Jan.	28.9	75	207	65	94	nw.
Ellendale	Dickey	1,451	38	42.9	102	July 22	−25	Jan. 18	46	19.06	4.02	Aug.	0.03	Jan.	41.0	87	145	90	131	nw.
Fargo	Cass	895	4	41.0	102	July 22	−25	Jan. 17	20	16.26	4.12	July	0.08	Jan.	32.2	100	84	119	163	nw.
Forman	Sargent	1,249	4	41.7	104	July 22	−26	Jan. 18	48	23.91	5.74	Aug.	0.08	Jan.	36.7	77	196	81	89	nw.
Fullerton	Dickey	1,439	44	42.8	103	July 22	−24	Jan. 18	43	21.96	4.41	Aug.	0.07	Jan.	39.2	76	105	151	110	nw.
Grafton	Walsh	827	49	40.9	99	July 22	−24	Jan. 15	49	18.18	5.08	July	0.11	Jan.	45.7	60	93	152	121	nw.
Grand Forks	Grand Forks	830	50	39.4	98	July 22	−25	Jan. 17	50	19.14	6.32	July	0.12	Jan.	35.9	97	58	89	219	nw.
Hankinson	Richland	1,068	12	43.4	104	July 22	−24	Jan. 18	12	18.78	3.63	Aug.	0.06	Jan.	49.6	84	111	138	117	se.
Hannah	Cavalier	1,568	32	38.0	96	July 5†	−32	Dec. 12	49	21.20	7.12	July	0.06	Jan.	37.4	58	150	120	96	nw.
Jamestown	Stutsman	1,457	49	42.7	107	July 22	−26	Jan. 18	49	20.95	3.85	Oct.	0.31	Jan.	47.1	81	145	88	133	nw.
Langdon	Cavalier	1,615	45	37.8	97	July 5	−31	Jan. 15†	45	18.60	5.25	July	0.23	Jan.	40.1	107	154	113	99	nw.
Larimore	Grand Forks	1,134	48	40.2	99	July 22	−24	Jan. 18	48	22.18	6.78	July	0.12	Jan.	37.1	83	116	65	185	nw.
Lisbon	Ransom	1,091	37	42.4	107	July 22	−23	Jan. 18	37	19.84	4.79	Aug.	0.07	Jan.	30.0	95	119	118	129	nw.
McHenry (near)	Eddy	1,509	19	38.2	100	July 22	−29	Jan. 18	19	18.59	4.77	July	0.10	Jan.	31.6	94	125	120	121	nw.
McLeod	Ransom	1,075	29	42.4	102	July 22	−25	Dec. 13	30	19.99	4.23	July	0.21	Jan.	34.6	65	173	105	88	n.
Mayville	Traill	975	45	41.3	103	July 22	−22	Jan. 18	45	16.10	3.89	Aug.	T.	Jan.	20.6	60	67	231	68	n.
Oakes	Dickey	1,318	12	42.2	102	July 22	−27	Dec. 13	12	17.76	4.44	Aug.	0.01	Jan.	25.1	83	170	75	121	nw.
Park River	Walsh	998	37	39.5	98	July 22	−25	Jan. 15	37	19.32	4.63	July	0.07	Jan.	54.2	67	142	98	126	nw.
Pembina	Pembina	789	67	40.4	100	July 21	−26	Jan. 15	67	17.51	4.12	July	0.05	Jan.	34.6	71	143	94	129	nw.
Petersburg	Nelson	1,520	.....	.....	.....	.....	.....	.....	11	17.36	5.32	July	0.07	Jan.	34.3	78	131	129	106	nw.
Sharon	Steele	1,516	14	39.2	104	July 22	−27	Jan. 18	17	17.32	3.78	July	0.08	Jan.	38.7	96	120	105	141	nw.
Valley City	Barnes	1,245	35	42.2	99	July 22	−22	Jan. 18	35	18.79	4.80	July	0.12	Jan.	51.2	90	186	69	111	nw.
Wahpeton	Richland	962	49	43.0	102	July 22	−24	Jan. 18	49	18.51	3.14	Oct.	0.09	Jan.	37.5	93	130	105	131	se.
Middle Division																				
Ashley	McIntosh	2,001	45	40.6	100	July 22	−18	Jan. 18	45	16.04	3.06	June	0.07	Jan.	25.3	78	116	104	146	nw.
Bisbee	Towner	1,601	5	38.8	96	July 5	−30	Jan. 18	5	21.28	7.02	July	0.09	Jan.	28.2	84	199	47	120	w.
Bismarck	Burleigh	1,674	67	42.3	99	July 23	−26	Jan. 2	67	14.19	3.35	July	0.02	Jan.	29.4	87	95	117	154	nw.
Bottineau	Bottineau	1,638	49	38.7	95	July 5†	−32	Jan. 18†	49	18.21	3.58	July	0.18	Jan.	29.9	98	141	136	89	nw.
Carrington	Foster	1,579	35	40.4	99	July 22	−26	Jan. 18	43	18.67	4.01	July	0.01	Jan.	27.7	80	122	38	206	sw.
Carson	Grant	2,500	29	42.7	105	July 13	−27	Jan. 18	29	16.92	5.02	Apr.	0.00	Jan.	44.4	69	113	143	110	se.
Dogden Butte	McLean	1,880	15	40.8	98	Sept. 3	−26	Jan. 18	15	18.60	4.60	July	0.14	Jan.	42.8	72	128	95	143	nw.
Drake	McHenry	1,634	11	40.1	100	Sept. 3	−26	Jan. 18†	12	15.66	3.31	July	0.15	Jan.	33.8	107	86	123	157	nw.
Dunseith	Rolette	1,682	45	38.8	95	July 5	−28	Dec. 12	45	18.32	4.83	July	0.20	Jan.	42.7	85	101	191	74	n.
Energy	McLean	1,750	16	42.2	100	Sept. 3	−27	Jan. 4†	29	14.76	3.21	July	0.20	Jan.	27.0	55	158	123	85	nw.
Fessenden	Wells	1,610	29	40.6	98	July 5†	−27	Jan. 18	29	19.85	7.13	July	0.13	Jan.	29.2	80	138	109	119	n.
Fort Yates	Sioux	1,670	41	42.7	103	July 22	−26	Jan. 2	41	12.29	3.41	Apr.	T.	Dec.	17.0	37	194	89	83	nw.
Foxholm (near)	Ward	1,657	16	40.8	99	Sept. 3	−27	Jan. 18	20	15.21	3.36	May	0.13	Jan.	34.3	81	108	126	132	nw.
Gackle	Logan	1,951	11	41.2	102	July 22	−27	Jan. 18	11	14.35	2.42	Oct.	0.03	Jan.	28.9	77	107	141	118	nw.
Garrison	McLean	1,901	46	41.5	100	Sept. 3	−25	Jan. 18	46	16.76	4.53	July	0.04	Jan.	38.5	90	95	145	126	nw.
Granville	McHenry	1,504	34	40.7	100	Aug. 10†	−28	Dec. 12	34	17.51	3.84	July	0.14	Jan.	39.8	81	114	139	113	nw.
Hansboro	Towner	1,597	33	37.4	93	July 5†	−27	Jan. 15	33	16.57	4.91	July	T.	Jan.	33.5	71	113	154	99	nw.
Linton	Emmons	1,711	23	43.6	101	July 22†	−25	Jan. 2	24	16.42	4.82	Apr.	0.02	Jan.	22.0	73	178	96	92	nw.
McClusky	Sheridan	1,943	16	41.2	97	July 5†	−29	Jan. 18	23	20.53	4.82	July	0.12	Jan.	36.7	64	139	130	97	nw.
Maddock	Benson	1,604	26	39.8	99	July 5	−30	Dec. 12	26	14.14	4.38	July	0.09	Jan.	18.5	83	147	105	114	nw.
Mandan	Morton	1,750	27	42.4	100	Aug. 10	−23	Jan. 5	27	16.14	4.24	Apr.	0.03	Jan.	37.1	73	135	79	152	nw.
Max	McLean	2,093	12	39.3	98	Sept. 3	−28	Jan. 18	12	16.53	5.17	July	0.04	Jan.	28.7	84	103	91	172	nw.
Minot	Ward	1,557	45	41.5	101	Sept. 3	−25	Jan. 18	45	16.58	3.66	May	0.14	Jan.	40.6	101	111	65	190	nw.
Mohall	Renville	1,646	47	39.0	100	Sept. 3	−31	Dec. 12	47	19.16	3.49	July	0.28	Oct.	41.6	100	136	137	93	nw.
Napoleon	Logan	1,955	49	42.0	102	July 22	−30	Jan. 18	49	14.17	2.27	Oct.	0.07	Jan.	42.7	87	156	52	158	nw.
New Salem	Morton	2,163	37	40.9	98	July 5	−30	Jan. 18	37	15.93	3.97	July	0.04	Jan.	29.6	77	174	98	94	nw.
Pettibone	Kidder	1,856	32	40.5	99	July 22	−32	Jan. 18	32	16.15	3.82	Oct.	0.15	Feb.	26.7	57	131	95	140	nw.
Rolla	Rolette	1,860	3	38.2	95	July 5	−25	Jan. 18	3	21.79	5.06	July	0.17	Jan.	40.9	91	136	87	143	nw.
Rugby	Pierce	1,562	.....	.....	.....	.....	.....	.....	12	16.65	2.75	July	0.15	Dec.	28.8	82	124	131	111	nw.
Ryder	Ward	2,108	.....	.....	.....	.....	.....	.....	12	17.73	3.75	May	0.03	Jan.	33.0	71	178	82	106	se.
Selfridge	Sioux	2,183	.....	.....	.....	.....	.....	.....	4	15.39	3.87	Apr.	0.12	Dec.	25.8	71	95	154	117	nw.
Steele	Kidder	1,857	47	41.4	100	July 22	−28	Jan. 18	47	13.74	2.61	July	0.02	Jan.	23.0	71	154	90	122	nw.
Tagus (near)	Mountrail	2,179	.....	.....	.....	.....	.....	.....	12	17.76	3.76	June	0.12	Jan.	37.5	98	187	85	94	nw.
Towner	McHenry	1,482	39	40.5	98	July 31†	−30	Dec. 12	39	20.47	3.20	May	0.55	Jan.	49.7	79	145	125	96	nw.
Turtle Lake	McLean	1,899	27	41.8	98	Sept. 3	−26	Jan. 18†	27	14.21	4.54	July	T.	Jan.	21.5	69	175	83	108	nw.
Tuttle	Kidder	1,936	.....	.....	.....	.....	.....	.....	33	13.72	2.71	Apr.	0.07	Jan.	18.9	85	162	106	98	nw.
Velva	McHenry	1,511	14	41.6	99	Sept. 3	−25	Jan. 18	14	15.86	3.27	May	0.07	Jan.	38.1	81	120	131	115	nw.
Washburn	McLean	1,731	39	43.2	98	Sept. 3	−25	Jan. 18	40	17.41	6.94	July	T.	Jan.	15.7	63	164	79	123	s.
Willow City	Bottineau	1,471	49	37.0	95	Aug. 10	−36	Dec. 12†	49	19.95	5.00	July	0.14	Jan.	42.3	74	183	114	69	nw.
Wishek	McIntosh	2,010	12	40.4	97	July 22	−26	Jan. 17	12	18.31	4.83	July	0.09	Jan.	27.6	102	120	111	135	nw.
Western Division																				
Alpha	Golden Valley	.....	.....	.....	.....	.....	.....	.....	14	17.89	5.82	Apr.	0.08	Dec.	25.7	75	203	70	93	nw.
Amidon	Slope	.....	17	43.3	101	July 13	−31	Jan. 24	17	18.08	4.76	Apr.	0.14	Jan.	23.6	74	154	104	108	nw.
Beach	Golden Valley	2,579	35	43.6	103	July 22	−30	Jan. 4	35	16.12	3.56	June	0.04	Dec.	23.2	86	76	186	104	se.
Berthold Agency	McLean	2,082	48	43.4	103	Aug. 10	−29	Jan. 5	48	13.89	2.61	July	0.05	Dec.	26.7	55	199	74	93	nw.
Bowman	Bowman	2,872	26	43.3	102	July 14	−29	Jan. 22	26	16.80	4.36	July	T.	Jan.	19.1	57	171	67	128	nw.
Crosby	Divide	1,954	34	39.5	101	Aug. 12†	−29	Jan. 4	34	18.41	3.53	May	0.06	Jan.	37.4	76	85	136	145	s.
Dickinson	Stark	2,543	49	41.0	101	July 13	−35	Jan. 5	49	17.12	5.02	Apr.	0.04	Jan.	30.0	101	164	113	89	nw.
Dunn Center	Dunn	2,191	42	41.1	103	Aug. 10	−39	Jan. 4	42	15.61	3.81	July	T.	Jan.	20.4	73	146	110	110	nw.
Epping	Williams	2,224	31	39.7	100	Aug. 10	−33	Jan. 24	31	14.24	2.86	July	0.00	Jan.	21.8	49	194	96	76	se.
Fryburg	Billings	2,790	5	42.8	100	Sept. 1	−27	Jan. 18†	23	18.54	4.54	Apr.	0.05	Jan.	30.2	75	157	109	100	nw.
Hettinger	Adams	2,675	34	44.2	102	July 13	−32	Jan. 4	34	17.12	5.02	July	0.03	Dec.	36.1	71	117	133	116	nw.
Howard (near)	Williams	2,275	34	39.2	102	Sept. 3	−34	Jan. 18	34	11.76	2.34	June	0.06	Jan.	42.6	57	135	120	111	nw.
Kenmare	Ward	1,799	9	40.4	97	July 5	−27	Jan. 18	10	15.65	3.95	May	0.17	Jan.	30.4	90	191	101	74	nw.
Marmarth	Slope	2,714	27	43.3	101	July 23	−37	Jan. 5	32	16.23	3.64	July	0.14	Dec.	38.5	95	150	81	135	nw.
Mary	McKenzie	.....	.....	.....	.....	.....	.....	.....	12	14.36	4.96	June	T.	Jan.	32.3	66	186	74	106	nw.
Medora	Billings	2,271	.....	.....	.....	.....	.....	.....	24	16.38	4.40	Apr.	0.07	Jan.	25.8	71	180	115	71	nw.
Mott	Hettinger	2,424	34	44.2	102	July 13	−31	Jan. 4	34	14.29	2.98	Apr.	0.03	Jan.	21.3	88	117	115	134	se.
New England	Hettinger	2,400	47	43.4	102	Sept. 2	−29	Jan. 3	47	19.14	5.12	Apr.	0.19	Jan.	51.1	73	135	108	123	nw.
Parshall	Mountrail	1,929	8	39.5	101	Sept. 3	−29	Jan. 4	26	15.45	3.49	June	0.04	Jan.	21.3	91	75	215	76	nw.
Portal	Burke	1,954	28	38.6	99	Sept. 4	−31	Jan. 18	36	17.61	4.58	May	0.04	Jan.	30.2	68	162	106	98	w.
Powers Lake	Burke	2,205	15	40.7	101	Sept. 3	−29	Jan. 17	36	16.61	4.17	July	0.20	Dec.	47.9	64	162	146	58	e.
Richardton	Stark	2,467	25	42.6	99	July 13	−26	Jan. 18	25	18.07	5.30	July	0.04	Jan.	37.2	79	143	117	106	nw.
Sanish	Mountrail	1,835	16	40.2	103	Sept. 3	−29	Jan. 4†	16	14.49	2.83	June	0.04	Jan.	28.8	73	108	153	105	nw.
Stanley	Mountrail	2,258	3	39.1	100	July 3	−30	Jan. 18†	3	16.26	3.42	May	0.15	Jan.	33.6	70	140	135	91	nw.
Tioga	Williams	2,279	.....	.....	.....	.....	.....	.....	12	13.20	3.15	May	0.15	Jan.	26.0	53	154	99	113	nw.
Trotters	Golden Valley	.....	.....	.....	.....	.....	.....	.....	15	18.17	3.95	June	0.20	Dec.	38.4	78	97	166	103	nw.
Watford City	McKenzie	2,084	28	43.6	103	Sept. 3	−29	Jan. 4	28	19.17	4.78	June	0.02	Jan.	38.5	76	157	124	85	nw.
Wildrose	Williams	2,258	.....	.....	.....	.....	.....	.....	12	14.51	3.26	May	0.09	Jan.	31.9	86	163	78	125	nw.
Williston	Williams	1,878	62	42.1	100	Sept. 3	−26	Jan. 18	62	14.10	2.54	May	0.04	Jan.	33.6	93	169	98	99	se.

†Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1940, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.
Eastern Division																										
Casselton	0.10	−0.36	0.38	−0.12	1.28	+0.79	1.35	−0.32	1.52	−1.35	3.19	−0.52	5.05	+2.26	4.88	+2.29	0.83	−1.29	2.20	+0.73	0.70	+0.07	0.52	−0.02	22.00	+2.16
Cooperstown	0.06	−0.43	0.44	+0.04	1.31	+0.63	1.77	+0.38	1.28	−1.32	1.85	−1.48	2.88	+0.42	2.18	−0.45	1.15	−0.67	1.44	+0.32	0.56	−0.12	0.82	+0.26	15.74	−2.37
Courtenay	0.32	.....	0.38	.....	1.79	.....	1.96	.....	1.36	.....	2.94	.....	3.44	.....	1.99	.....	1.76	.....	2.70	.....	0.80	.....	1.10	.....	20.54	.....
Devils Lake	0.15	−0.32	0.83	+0.32	0.92	+0.14	2.54	+1.02	1.93	−0.10	1.80	−1.76	7.24	+4.67	3.38	+0.90	1.16	−0.47	2.21	+0.96	0.45	−0.27	0.56	+0.02	23.17	+5.11
Edgeley	0.11	−0.29	0.32	−0.01	1.39	+0.68	1.92	+0.15	1.49	−1.14	3.71	+0.05	3.75	+0.98	2.43	−0.04	0.93	−0.86	1.72	+0.63	0.34	−0.12	0.62	+0.22	18.73	+0.25
Edmore	0.04	−0.47	0.73	+0.29	0.44	−0.24	1.99	+0.77	1.32	−0.60	1.10	−2.16	5.90	+3.15	2.55	+0.25	1.83	+0.03	1.43	+0.38	0.23	−0.47	0.44	−0.14	18.00	+0.79
Ellendale	0.03	−0.46	0.57	+0.03	1.98	+1.07	2.26	+0.47	0.99	−1.78	2.36	−0.92	2.96	+0.22	4.02	+1.30	1.04	−0.72	1.56	+0.45	0.58	−0.04	0.71	+0.25	19.06	−0.13
Fargo	0.08	−0.22	0.39	+0.05	1.23	+0.35	0.92	−1.08	1.18	−1.39	2.06	−1.64	4.12	+0.59	3.10	+0.03	0.13	−1.77	1.82	−0.07	0.61	+0.08	0.62	+0.35	16.26	−4.72
Forman	0.08	−0.38	0.45	−0.09	1.73	+0.99	1.78	−0.09	2.06	−1.09	1.73	−1.76	5.10	+2.13	5.74	+2.96	0.63	−1.54	2.87	+1.42	0.64	+0.02	1.10	+0.54	23.91	+3.11
Fullerton	0.07	−0.72	0.70	−0.23	1.73	+0.53	2.84	+0.70	1.58	−1.60	2.95	−0.82	3.12	0.00	4.41	+1.88	0.75	−1.35	1.93	+0.50	0.69	−0.17	1.19	+0.34	21.96	−0.94
Grafton	0.11	−0.38	1.21	+0.67	0.79	+0.14	2.04	+0.83	0.95	−1.22	0.94	−2.46	5.08	+2.53	2.90	+0.32	0.82	−1.52	1.48	+0.26	0.84	+0.10	1.02	+0.48	18.18	−0.25
Grand Forks	0.12	−0.39	1.08	+0.52	0.82	+0.08	1.48	−0.14	1.71	−0.88	0.85	−2.50	6.32	+3.57	2.05	−0.59	0.73	−1.31	2.27	+0.87	0.83	+0.01	0.88	+0.28	19.14	−0.48
Hankinson	0.06	−0.42	0.53	+0.02	1.84	+0.93	3.33	+1.16	2.34	−0.24	1.29	−1.46	1.48	−1.26	3.63	+1.43	0.29	−1.76	2.93	+1.98	0.52	+0.34	0.54	+0.02	18.78	+0.06
Hannah	0.06	−0.66	1.00	+0.41	0.45	−0.24	1.85	+0.81	1.62	−0.50	2.90	−0.49	7.12	+4.77	2.25	+0.13	0.80	−1.40	1.38	+0.24	1.10	+0.35	0.67	+0.05	21.20	+3.47
Jamestown	0.31	−0.24	0.63	+0.04	1.55	+0.68	1.49	−0.09	1.45	−1.55	3.49	−0.12	2.99	+0.21	2.41	−0.28	0.70	−1.14	3.85	+2.57	1.00	−0.32	1.08	+0.42	20.95	+0.82
Langdon	0.23	−0.34	1.06	+0.44	0.64	−0.16	1.99	+0.84	1.32	−0.70	1.87	−1.53	5.25	+2.88	2.27	−0.19	1.33	−0.99	1.38	+0.24	0.63	−0.19	0.63	0.00	18.60	+0.30
Larimore	0.12	−0.54	0.92	+0.34	1.58	+0.81	1.17	−0.43	2.03	−0.86	1.04	−2.82	6.78	+3.56	5.20	+2.42	0.57	−1.69	1.50	−0.06	0.75	−0.16	0.52	−0.05	22.18	+0.52
Lisbon	0.07	−0.50	0.32	−0.30	1.41	+0.77	1.77	−0.04	2.95	+0.03	1.96	−1.88	2.87	−0.32	4.79	+2.11	0.17	−1.97	2.15	+0.82	0.55	−0.11	0.83	+0.35	19.84	−1.04
McHenry (near)	0.10	−0.54	0.48	−0.23	0.91	+0.33	1.84	−0.08	1.26	−1.57	2.96	−0.43	4.77	+1.69	2.17	−0.74	1.04	−0.86	1.81	+0.82	0.52	−0.10	0.73	−0.10	18.59	−1.81
McLeod	0.21	−0.36	0.42	−0.19	1.36	+0.65	1.74	−0.19	1.90	−1.37	2.06	−1.95	4.23	+1.26	3.38	+0.96	0.32	−1.89	2.71	+1.23	0.83	+0.17	0.83	+0.35	19.99	−1.33
Mayville	T	−0.40	0.82	+0.40	0.32	−0.37	1.40	−0.17	1.91	−1.00	1.66	−1.69	2.09	−0.67	3.89	+1.26	0.02	−2.17	3.00	+1.66	0.35	−0.34	0.64	+0.10	16.10	−3.39
Oakes	0.01	−0.49	0.38	−0.07	1.25	+0.47	2.29	−0.33	1.63	−0.25	1.84	−0.74	2.44	+0.16	4.44	+2.37	0.24	−0.69	1.90	+0.64	0.60	+0.02	0.74	+0.32	17.76	+2.07
Park River	0.07	−0.32	1.18	+0.78	0.86	+0.24	2.64	+1.36	0.73	−1.33	1.22	−2.17	4.63	+2.13	2.27	−0.15	2.69	+0.45	1.58	+0.30	0.72	+0.03	0.73	+0.30	19.32	+1.62
Pembina	0.05	−0.59	0.80	+0.17	0.63	−0.18	2.06	+0.86	0.58	−1.78	2.33	−1.00	4.12	+1.77	1.42	−0.77	2.34	+0.12	1.70	+0.39	0.82	+0.01	0.66	+0.02	17.51	−0.98
Petersburg	0.07	.....	0.62	.....	0.96	.....	1.25	.....	1.59	.....	0.79	.....	5.32	.....	3.49	.....	1.00	.....	1.10	.....	0.59	.....	0.58	.....	17.36	.....
Sharon	0.08	−0.26	0.70	+0.37	1.25	+0.61	1.65	+0.15	1.78	−1.09	1.33	−2.40	3.79	+1.70	2.96	+0.86	0.55	−1.30	1.76	−0.30	0.63	−0.24	0.84	+0.39	17.32	−1.51
Valley City	0.12	−0.38	0.22	−0.25	1.19	+0.52	0.36	−1.18	2.10	−0.70	2.81	−0.65	4.80	+1.99	2.29	+0.08	0.25	−1.63	2.75	+1.57	0.45	−0.24	1.45	+0.97	18.79	+0.10
Wahpeton	0.09	−0.33	0.25	−0.24	1.71	+1.06	2.54	+0.61	2.97	+0.31	1.54	−2.17	2.39	−0.83	2.65	−0.03	0.19	−2.19	3.14	+1.57	0.48	−0.28	0.56	+0.10	18.51	−2.42
Middle Division																										
Ashley	0.07	−0.40	0.68	+0.19	1.63	+0.84	2.67	+1.01	1.25	−1.29	3.06	−0.18	2.00	−0.83	2.47	−0.08	0.92	−0.68	0.93	−0.23	0.21	−0.41	0.15	−0.41	16.04	−2.47
Bisbee	0.09	.....	0.81	.....	0.39	.....	1.63	.....	2.02	.....	1.90	.....	7.02	.....	3.75	.....	1.50	.....	1.39	.....	0.43	.....	0.35	.....	21.28	.....
Bismarck	0.02	−0.43	0.28	−0.18	0.79	−0.10	2.93	+1.41	1.04	−1.28	2.13	−1.22	3.35	+1.11	0.32	−1.50	1.38	+0.15	1.38	+0.44	0.47	−0.10	0.10	−0.47	14.19	−2.17
Bottineau	0.18	−0.23	0.96	+0.61	0.75	+0.09	0.81	+0.04	2.61	+0.54	3.48	+0.16	3.58	+1.21	3.43	+1.02	0.51	−1.12	1.24	+0.16	0.41	−0.08	0.25	−0.22	18.21	+2.18
Carrington	0.01	−0.31	0.47	+0.10	0.85	+0.18	3.18	+19.3	2.07	−0.50	1.09	−2.43	4.04	+1.46	1.82	−0.34	0.66	−0.85	3.19	+2.21	0.74	+0.16	0.55	+0.16	18.67	+1.77
Carson	0.00	−0.34	0.53	+0.09	2.57	+1.82	5.02	+3.78	0.90	−1.55	1.41	−2.09	2.07	+0.04	0.55	−1.25	1.45	−0.15	1.16	+0.19	1.09	+0.52	0.17	−0.34	16.92	+0.72
Dogden Butte	0.14	−0.09	0.79	+0.44	0.58	0.00	2.86	+1.62	2.97	0.00	2.50	−0.75	4.60	+1.46	1.03	−0.89	0.93	−0.23	1.06	−0.07	0.75	+0.24	0.39	−0.03	18.60	+1.70
Drake	0.15	.....	0.45	.....	0.45	.....	2.73	.....	2.32	.....	2.70	.....	3.31	.....	1.28	.....	0.43	.....	1.02	.....	0.52	.....	0.30	.....	15.66	.....
Dunseith	0.20	−0.24	1.12	+0.69	0.41	−0.22	1.04	+0.22	1.79	−0.05	3.28	+0.16	4.83	+2.28	2.71	+0.25	1.20	−0.54	0.96	+0.01	0.43	−0.12	0.35	−0.07	18.32	+2.37
Eckman	0.15	−0.21	1.03	+0.67	0.50	−0.03	0.92	+0.06	2.89	+0.97	3.56	+0.56	3.69	+1.46	2.45	+0.48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Energy	0.20	−0.11	0.50	+0.05	0.54	−0.23	2.60	+1.64	2.80	+0.64	1.71	−1.69	3.21	+0.86	0.92	−1.01	0.67	−0.80	0.70	−0.24	0.74	+0.30	0.17	−0.28	14.76	−0.87
Fessenden	0.13	−0.35	0.56	+0.06	0.68	−0.07	3.08	+1.83	2.12	−0.19	1.44	−2.25	7.13	+4.80	0.79	−1.52	0.51	−1.13	2.34	+1.25	0.79	+0.10	0.28	−0.32	19.85	+2.21
Fort Yates	0.10	−0.31	0.10	−0.39	0.60	−0.25	3.41	+2.13	1.08	−1.22	1.73	−1.73	1.24	−0.95	1.46	−0.71	1.47	−0.05	0.78	−0.34	0.32	−0.18	T.	−0.42	12.29	−4.42
Foxholm (near)	0.13	−0.20	0.41	−0.16	0.46	−0.21	1.08	−0.27	3.36	+1.39	2.68	−0.41	2.07	−0.16	2.95	+1.21	1.15	−0.35	0.28	−0.82	0.51	−0.16	0.16	−0.27	15.24	−0.41
Gackle	0.03	.....	0.29	.....	1.06	.....	1.67	.....	1.71	.....	1.83	.....	1.91	.....	1.77	.....	0.88	.....	2.42	.....	0.54	.....	0.24	.....	14.35	.....
Garrison	0.04	−0.30	0.78	+0.25	0.60	−0.25	1.81	+0.72	3.85	+1.52	2.31	−1.23	4.53	+2.07	0.78	−1.23	0.30	−1.25	0.77	−0.17	0.75	+0.30	0.24	−0.25	16.76	+0.18
Granville	0.14	−0.22	0.56	+0.12	0.68	+0.18	1.98	+1.17	3.29	+1.35	2.20	−1.02	3.84	+1.67	2.48	+0.58	0.69	−0.92	0.50	−0.43	0.93	+0.37	0.22	−0.25	17.51	+2.60
Hansboro	T.	−0.66	0.25	−0.29	0.26	−0.68	1.12	−0.14	1.11	−0.98	2.72	−0.66	4.91	+2.45	2.78	+0.48	1.26	−0.72	1.47	+0.36	0.46	−0.13	0.18	−0.41	16.53	−1.38
Linton	0.02	−0.36	0.32	−0.16	0.89	+0.10	4.82	+3.57	1.55	−0.86	1.51	−1.65	3.17	+1.04	1.23	−1.14	0.85	−0.75	1.32	+0.21	0.71	+0.21	0.03	−0.35	16.42	−0.14
McClusky	0.12	−0.20	0.76	+0.22	0.66	−0.14	3.70	+2.50	2.87	+0.39	1.73	−1.64	4.82	+2.29	2.17	+0.23	0.36	−1.07	2.43	+1.40	0.68	+0.11	0.23	−0.29	20.53	+3.71
Maddock	0.09	−0.21	0.47	+0.09	0.52	−0.01	1.33	+0.20	1.37	−0.74	1.91	−1.46	4.38	+1.79	1.93	−0.54	0.49	−1.32	1.11	+0.02	0.30	−0.16	0.24	−0.10	14.14	−2.44
Mandan	0.03	−0.32	0.45	+0.09	0.93	+0.08	4.21	+3.07	1.20	−1.24	1.95	−1.34	2.73	+0.35	0.25	−1.47	1.28	−0.21	1.69	+0.70	0.98	+0.47	0.41	−0.06	16.14	+0.12
Manfred	0.10	−0.39	0.54	+0.08	0.74	−0.04	2.91	+1.67	1.92	−0.34	1.21	−2.36	3.85	+1.61	1.07	−1.27	0.44	−1.11	2.33	+1.20	0.65	+0.02	0.36	−0.20	16.12	−1.13
Max	0.04	.....	0.46	.....	0.38	.....	1.68	.....	3.22	.....	2.57	.....	5.17	.....	1.18	.....	0.47	.....	0.55	.....	0.60	.....	0.21	.....	16.53	.....
Minot	0.14	−0.23	0.79	+0.34	0.51	−0.12	1.63	+0.43	3.66	+1.52	2.75	−0.45	3.26	+1.36	1.95	−0.12	0.45	−1.21	0.47	−0.54	0.76	+0.09	0.21	−0.25	16.58	+0.82
Mohall	0.32	+0.01	1.27	+0.96	0.91	+0.27	1.92	+1.02	3.21	+1.36	2.99	+0.10	3.49	+1.15	2.58	+0.65	1.24	−0.32	0.28	−0.89	0.49	−0.05	0.46	+0.04	19.16	+4.30
Napoleon	0.07	−0.26	0.52	+0.12	1.32	+0.49	2.11	+0.57	1.88	−0.55	1.44	−1.85	2.14	−0.36	0.62	−1.78	0.46	−1.02	2.27	+1.17	1.09	+0.52	0.25	−0.20	14.17	−3.15
New Salem	0.04	−0.41	0.31	−0.14	0.80	−0.05	3.47	+2.43	1.68	−0.44	1.19	−2.28	3.97	+1.79	0.34	−1.48	1.64	+0.28	1.68	+0.72	0.74	+0.25	0.07	−0.51	15.93	+0.16
Pettibone	0.18	−0.23	0.15	−0.24	0.82	+0.20	2.00	+0.88	1.22	−1.18	0.52	−2.73	3.57	+0.73	1.97	−0.31	0.65	−0.67	3.82	+2.89	0.70	+0.12	0.55	+0.08	16.15	−0.46
Rolla	0.17	.....	1.11	.....	0.44	.....	1.51	.....	1.97	.....	2.52	.....	5.06	.....	3.46	.....	2.66	.....	1.44	.....	0.53	.....	0.92	.....	21.79	.....
Rugby	0.29	−0.02	0.78	+0.43	0.41	+0.06	2.20	+1.37	2.31	+0.89	2.03	−0.28	2.75	+0.22	2.47	+1.47	1.34	+0.34	1.49	+0.55	0.43	+0.05	0.15	−0.33	16.65	+4.75
Ryder	0.03	−0.26	0.70	+0.31	0.58	+0.28	1.62	+0.82	3.75	+1.57	2.97	+0.46	3.39	+1.19	0.54	−0.65	2.22	+1.18	0.74	+0.13	0.76	+0.28	0.43	+0.07	17.73	+5.38
Selfridge	0.25	.....	0.46	.....	0.61	.....	3.87	.....	1.04	.....	1.78	.....	1.80	.....	2.98	.....	0.82	.....	0.89	.....	0.77	.....	0.12	.....	15.39	.....
Steele	0.02	−0.44	0.21	−0.23	0.60	−0.21	2.49	+1.33	1.36	−1.31	2.08	−1.43	2.61	−0.38	0.23	−2.16	1.54	+0.02	2.00	+0.83	0.46	−0.07	0.14	−0.43	13.74	−4.48
Tagus(near)	0.12	−0.09	0.65	+0.35	0.38	−0.02	1.08	+0.09	3.72	+2.13	3.76	+1.88	3.14	+0.90	2.19	+1.07	1.50	+0.60	0.52	−0.02	0.56	+0.21	0.14	−0.02	17.76	+7.08
Towner	0.55	+0.11	1.12	+0.68	1.05	+0.32	2.15	+1.28	3.20	+1.06	2.98	−0.17	2.71	+0.30	2.72	+0.69	1.26	−0.50	0.95	−0.04	1.03	+0.51	0.75	+0.31	20.47	+4.55
Turtle Lake	T.	−0.37	0.37	−0.13	0.28	−0.60	2.37	+1.34	2.58	+0.35	1.15	−2.49	4.54	+1.99	0.82	−1.30	0.66	−0.72	0.82	−0.09	0.47	+0.05	0.15	−0.36	14.21	−2.33
Tuttle	0.07	−0.38	0.27	−0.11	0.57	−0.22	2.71	+17.4	1.48	−1.03	1.28	−2.06	2.34	−0.18	2.16	+0.24	0.56	−0.90	1.37	+0.61	0.65	+0.23	0.26	−0.15	13.72	−2.21
Velva	0.07	−0.34	0.81	+0.44	0.43	−0.10	2.21	−1.30	3.27	+0.64	1.55	−0.89	3.26	+0.66	1.79	−0.11	0.66	−0.38	0.66	−0.39	0.86	+0.40	0.29	−0.11	15.86	+1.12
Washburn	T.	−0.33	0.32	−0.09	0.34	−0.40	2.79	+1.82	2.50	+0.21	1.16	−2.23	6.94	+4.46	1.32	−0.35	0.75	−0.59	0.63	−0.42	0.62	+0.16	0.04	−0.43	17.41	+1.81
Willow City	0.14	−0.44	1.08	+0.53	0.39	−0.35	1.48	+0.61	2.85	+1.01	3.02	−0.13	5.00	+2.86	2.32	+0.20	1.26	−0.47	1.19	+0.31	0.56	0.00	0.66	+0.07	19.95	+4.20
Wishek	0.09	−0.41	0.30	−0.05	1.21	+0.50	2.18	+0.83	2.00	−0.84	3.05	+0.05	4.83	+2.30	1.31	−0.60	1.47	+0.28	1.17	+0.39	0.61	+0.26	0.09	−0.55	18.31	+2.16
Western Division																										
Alpha	0.11	−0.35	0.62	+0.15	0.56	−0.30	5.82	+4.65	0.89	−1.54	1.90	−1.50	4.40	+2.34	0.76	−0.95	1.34	+0.07	1.24	+0.26	0.17	−0.22	0.08	−0.42	17.89	+2.19
Amidon	0.14	−0.28	0.54	+0.06	1.25	+0.52	4.76	+3.50	0.67	−1.85	2.19	−0.90	4.01	+1.54	1.96	+0.74	0.85	−0.65	1.16	+0.02	0.39	−0.08	0.16	−0.32	18.08	+2.30
Beach	0.12	−0.35	0.62	+0.21	0.52	−0.24	2.26	+1.11	0.94	−1.38	3.56	−0.14	2.57	+0.76	0.88	−0.81	1.99	+0.70	2.32	+1.38	0.30	−0.18	0.04	−0.46	16.12	+0.60
Berthold Agency	0.15	−0.10	0.67	+0.27	0.55	−0.01	1.23	+0.22	2.56	+0.32	1.89	−1.98	2.61	+0.25	0.95	−0.97	1.60	+0.01	1.02	+0.13	0.61	+0.24	0.05	−0.33	13.89	−1.95
Bowman	T.	−0.46	0.11	−0.37	0.57	−0.10	4.03	+2.91	0.78	−1.51	2.54	−0.41	4.36	+2.23	1.93	+0.13	1.29	+0.01	0.65	−0.33	0.33	−0.06	0.21	−0.15	16.80	+1.89
Crosby	0.06	−0.35	0.49	+0.13	0.86	+0.19	1.27	+0.29	3.53	+1.59	2.97	−0.39	2.69	+0.58	2.45	+0.46	0.74	−0.65	2.52	+1.68	0.57	−0.03	0.26	−0.25	18.41	+3.25
Dickinson	0.04	−0.38	0.49	+0.06	0.71	−0.03	5.02	+3.94	1.01	−1.32	1.53	−1.81	3.12	+0.95	0.37	−1.62	1.86	+0.54	2.25	+1.27	0.49	+0.02	0.23	−0.27	17.12	+1.32
Dunn Center	T.	−0.39	0.37	−0.13	0.60	−0.23	2.44	+1.18	1.98	−0.41	1.79	−2.08	3.81	+1.58	0.98	−0.73	1.75	+0.31	1.40	+0.49	0.41	−0.05	0.08	−0.38	15.61	−0.84
Epping	0.00	−0.44	0.46	+0.05	0.17	−0.42	0.52	−0.51	2.78	+0.60	2.68	−0.89	2.86	+0.88	1.38	−0.32	0.88	−0.51	2.02	+1.23	0.32	−0.12	0.17	−0.28	14.24	−0.73
Fryburg	0.05	−0.40	0.74	+0.27	1.25	+0.47	4.54	+3.37	1.74	−0.65	2.28	−1.02	3.00	+0.81	0.58	−1.38	2.52	+1.15	1.26	+0.21	0.35	−0.14	0.23	−0.28	18.54	+2.41
Hettinger	0.13	−0.17	0.55	+0.13	1.38	+0.68	2.98	+2.01	0.44	−1.94	2.23	−0.97	5.02	+2.66	1.52	−0.11	0.97	−0.43	0.99	+0.22	0.88	+0.46	0.03	−0.37	17.12	+2.17
Howard (near)	0.06	−0.45	0.77	+0.21	0.66	−0.24	1.11	−0.01	1.37	−0.90	2.34	−0.72	1.53	−0.30	0.48	−1.16	0.54	−0.84	2.00	+1.21	0.67	+0.12	0.23	−0.40	11.76	−3.48
Kenmare	0.17	−0.18	0.77	+0.40	0.42	−0.21	1.22	+0.27	3.95	+1.99	2.56	−0.50	2.41	+0.12	2.15	+0.21	0.82	−0.79	0.20	−0.86	0.71	+0.16	0.27	−0.19	15.65	+0.42
Marmarth	0.29	−0.11	0.76	+0.32	1.06	+0.34	3.18	+2.16	1.06	−1.26	2.73	−0.33	3.64	+1.76	0.89	−0.85	1.01	−0.28	1.26	+0.41	0.21	−0.18	0.14	−0.27	16.23	+1.71
Mary	T.	−0.40	0.33	+0.07	0.27	−0.21	1.35	+0.46	2.16	−0.02	4.96	+2.51	1.64	−0.14	1.03	+0.05	1.40	+0.63	0.86	+0.16	0.32	−0.07	0.04	−0.26	14.36	+2.78
Medora	0.07	−0.45	0.52	+0.04	0.94	+0.04	4.40	+3.37	1.32	−1.24	2.03	−1.13	1.98	−0.18	0.56	−1.15	2.86	+1.71	1.01	+0.28	0.51	+0.05	0.18	−0.27	16.38	+1.07
Mott	0.03	−0.61	0.70	+0.08	0.89	−0.04	2.98	+1.77	0.69	−1.71	1.46	−1.76	2.77	+0.63	1.33	−0.60	1.03	−0.38	1.39	+0.45	0.87	+0.39	0.15	−0.45	14.29	−2.23
New England	0.19	−0.31	0.76	+0.27	1.81	+1.03	5.12	+4.11	0.64	−1.34	1.17	−1.79	4.04	+1.97	1.24	−0.46	1.38	0.00	1.68	+0.84	0.68	+0.24	0.43	+0.02	19.14	+4.58
Parshall	0.04	−0.20	0.51	+0.09	0.44	−0.07	1.07	+0.12	3.23	+1.06	3.49	−0.07	2.93	+0.93	0.60	−1.36	1.75	+0.21	0.68	−0.13	0.55	+0.18	0.16	−0.24	15.45	+0.52
Portal	0.04	−0.38	0.35	−0.05	0.31	−0.29	0.88	−0.09	4.58	+2.52	2.56	−0.73	2.73	+0.62	3.74	+1.85	0.75	−0.84	0.98	+0.09	0.54	−0.01	0.15	−0.32	17.61	+2.37
Powers Lake	0.37	−0.11	0.38	−0.08	0.84	+0.15	1.33	+0.12	3.51	+1.33	2.88	−0.72	4.17	+1.58	0.95	−0.82	0.52	−0.99	0.82	−0.40	0.64	+0.15	0.20	−0.36	16.61	−0.18
Richardton	0.04	−0.34	0.45	+0.05	1.29	+0.57	3.86	+2.72	1.06	−1.52	1.47	−1.94	5.30	+3.05	0.73	−1.22	1.70	+0.34	1.69	+0.81	0.44	−0.04	0.04	−0.35	18.07	+2.13
Sanish	0.04	−0.70	0.54	+0.11	0.52	−0.06	1.47	+0.40	2.70	+1.43	2.83	−0.03	2.62	+0.92	0.67	−0.64	1.15	+0.35	0.85	+0.23	0.84	+0.37	0.26	−0.35	14.49	+2.03
Stanley	0.15	.....	0.67	.....	0.47	.....	1.01	.....	3.42	.....	3.00	.....	1.89	.....	1.76	.....	1.87	.....	0.98	.....	0.65	.....	0.39	.....	16.26	.....
Tioga	0.15	−0.24	1.15	+0.82	0.25	−0.36	1.08	+0.42	3.15	+1.37	2.32	+0.24	2.31	+0.61	0.78	−0.30	0.72	−0.09	0.69	−0.10	0.45	+0.07	0.15	−0.31	13.20	+2.13
Trotters	0.24	−0.16	0.88	+0.51	1.00	+0.24	2.90	+1.87	0.99	−1.33	3.95	+0.47	2.66	+1.10	0.93	−0.58	2.06	+0.81	1.85	+1.02	0.51	+0.07	0.20	−0.20	18.17	+3.82
Watford City	0.02	−0.45	1.07	+0.65	0.65	−0.03	1.66	+0.50	2.37	+0.40	4.78	+1.58	3.71	+1.88	0.73	−0.98	1.78	+0.46	1.36	+0.49	0.77	+0.27	0.27	−0.27	19.17	+4.50
Wildrose	0.09	.....	0.79	.....	0.46	.....	0.78	.....	3.26	.....	3.12	.....	1.18	.....	2.16	.....	0.73	.....	1.17	.....	0.58	.....	0.19	.....	14.51	.....
Williston	0.04	−0.50	0.80	+0.37	0.77	+0.08	1.09	−0.11	2.54	+0.48	2.38	−1.05	2.20	+0.31	0.73	−0.74	1.02	−0.07	1.28	+0.42	0.90	+0.32	0.35	−0.23	14.10	−0.72

The departures from normal precipitation for stations with 15 years or more of record are computed from a normal or "standard mean," adjusted to a uniform 35-year period; for stations of 10 to 14 years, the means for the period of record are used. T. indicates trace. ‡Precipitation measured with recording gage.

Monthly and Annual Mean Temperatures for the Year 1940, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Eastern Division																										
Casselton	5.3	+0.4	17.0	+8.2	22.4	−2.2	41.1	−0.9	55.2	+1.2	63.8	+0.4	72.8	+4.1	67.1	+0.6	63.6	+6.3	52.0	+7.4	25.1	−2.9	19.3	+7.1	42.1	+2.5
Cavalier	4.2	.....	14.2	.....	17.8	.....	36.5	.....	55.2	.....	61.6	.....	70.2	.....	68.4	.....	62.4	.....	50.4	.....	23.0	.....	17.2	.....	40.1	.....
Cooperstown	1.0	−5.6	12.6	+3.2	17.4	−6.0	36.0	−4.7	54.0	+1.7	62.0	−0.4	72.4	+4.2	67.2	+1.0	62.7	+6.4	49.1	+5.7	21.0	−6.6	16.0	+3.7	39.3	+0.2
Devils Lake	1.6	−0.2	12.5	+7.4	16.6	−3.2	36.1	−2.7	53.0	+0.4	61.4	−0.5	70.2	+2.8	66.0	+1.2	61.0	+5.1	49.1	+6.7	21.2	−3.3	16.1	+6.6	38.7	+1.7
Edgeley	2.2	−6.6	16.1	+3.4	25.2	−2.1	38.8	−3.9	53.1	−0.6	65.4	+2.5	73.6	+4.8	67.8	+0.9	62.6	+5.0	49.8	+4.5	22.1	−7.7	19.8	+5.2	41.4	+0.5
Edmore	1.9	+0.6	11.8	+4.6	13.6	−7.4	34.7	−5.9	51.6	−0.8	60.2	−2.8	67.6	+1.2	64.5	+0.8	59.4	+3.9	48.0	+5.8	20.8	−4.0	13.8	+4.9	37.3	+0.1
Ellendale	4.8	−5.9	17.4	+6.7	26.2	+0.6	40.9	−2.7	56.3	+0.6	65.2	−0.8	73.5	+2.8	67.6	−1.2	63.8	+5.4	52.4	+6.8	24.4	−1.7	22.0	+5.2	42.9	+1.3
Fargo	3.2	.....	14.8	.....	19.4	.....	40.0	.....	54.9	.....	63.0	.....	72.4	.....	67.0	.....	63.6	.....	52.0	.....	24.0	.....	17.8	.....	41.0	.....
Forman	3.0	−6.5	14.4	+1.3	22.8	−4.8	39.4	−4.8	54.6	−0.8	63.6	−1.2	74.0	+3.9	67.7	−0.5	63.0	+4.3	52.8	+6.7	24.3	−5.7	20.6	+5.3	41.7	−0.2
Fullerton	4.7	−4.2	17.6	+5.6	25.8	−1.0	40.8	−2.0	55.6	+1.6	65.0	+1.6	73.6	+4.6	67.4	+0.3	63.1	+5.9	53.0	+8.2	24.5	−4.7	22.4	+8.0	42.8	+2.0
Grafton	5.8	+3.6	16.1	+9.4	18.0	−3.2	38.0	−2.6	55.4	+2.1	63.4	+0.6	71.2	+3.5	68.2	+3.0	62.8	+6.5	51.2	+9.1	24.0	−0.7	16.8	+7.9	40.9	+3.3
Grand Forks	3.0	−0.5	13.0	+5.4	16.6	−5.8	37.8	−3.9	54.0	+0.3	62.4	−0.6	70.8	+3.3	66.2	+0.8	61.3	+4.9	49.6	+6.0	22.4	−3.6	15.9	+5.3	39.4	+1.0
Hankinson	3.4	−4.3	17.9	+2.8	23.6	−5.8	41.8	−2.3	57.0	−0.8	65.7	−1.5	73.7	−1.0	68.2	−2.9	63.4	+3.1	53.0	+6.6	32.4	+4.5	20.2	+3.7	43.3	+0.2
Hannah	1.8	+2.9	11.8	+9.3	15.2	−3.6	35.4	−2.7	52.4	+1.8	60.2	+0.3	70.8	+6.1	66.8	+3.9	62.6	+8.6	47.8	+7.2	19.7	−0.6	11.1	+4.3	38.0	+3.2
Hillsboro	6.6	−2.0	16.9	+6.6	19.8	−5.8	40.2	−2.6	55.4	+1.5	63.3	−0.9	72.3	+2.7	67.7	+0.2	62.8	+4.2	51.7	+6.5	24.2	−3.6	17.8	+6.6	41.6	+1.5
Jamestown	4.0	−3.0	16.2	+6.6	24.3	+0.3	40.6	−1.5	56.8	+3.3	66.2	+3.0	75.0	+6.5	68.2	+1.8	64.2	+7.7	52.2	+7.7	23.6	−3.7	20.8	+7.4	42.7	+3.0
Langdon	2.2	+3.1	12.4	+7.6	16.0	−3.6	34.4	−3.4	52.9	+2.0	60.5	+0.6	68.2	+3.6	64.8	+2.3	60.7	+8.4	47.8	+6.9	20.1	−3.9	13.5	+5.2	37.8	+2.4
Larimore	4.2	+0.6	15.0	+7.7	17.3	−5.0	3.72	−3.2	54.8	+2.2	63.1	+0.7	70.8	+3.8	66.4	+1.4	62.8	+7.5	50.2	+6.3	23.4	−2.4	17.6	+6.6	40.2	+2.0
Lisbon	3.9	−3.4	17.4	+6.2	25.0	−2.1	40.1	−2.3	54.4	+0.5	64.6	+1.1	75.3	+6.0	67.6	+0.6	65.0	+7.5	51.0	+7.2	24.7	−4.2	20.0	+5.9	42.4	+1.9
McHenry (near)	0.6	−0.9	12.5	+6.7	16.4	−6.8	35.7	−5.5	52.5	+0.2	60.8	−1.4	70.2	+2.5	64.6	−0.5	60.6	+5.5	48.6	+5.7	20.9	−6.5	14.9	+5.4	38.2	+0.4
McLeod	4.8	−3.6	16.4	+3.1	23.9	+3.8	41.0	−3.2	55.6	+1.1	64.9	+0.4	73.4	+3.2	67.1	−0.8	63.2	+4.2	53.8	+7.6	25.5	−4.8	19.8	+5.4	42.4	+0.7
Mayville	6.6	+0.8	16.5	+7.4	20.0	−4.5	38.5	−4.5	55.1	+0.4	61.2	−2.8	71.9	+2.9	67.6	+0.6	65.0	+7.6	52.7	+6.8	22.7	−5.5	17.8	+4.9	41.3	+1.1
Oakes	3.8	−3.3	16.8	+2.7	25.2	−4.0	39.4	−4.0	54.4	−2.2	63.8	−3.8	72.8	−1.4	67.2	−3.9	63.4	+3.3	52.6	+6.2	25.0	−3.2	21.6	+6.1	42.2	−0.6
Park River	4.6	+1.9	13.8	+6.1	17.9	−5.2	36.9	−4.4	53.2	+0.2	61.2	−1.7	68.9	+1.0	66.8	+0.6	61.6	+5.0	49.9	+6.1	23.4	−4.4	16.2	+5.7	39.5	+0.9
Pembina	5.0	+7.4	14.0	+11.0	17.4	−0.8	37.2	−1.5	55.0	+2.2	64.4	+1.7	70.0	+2.5	67.9	+3.6	63.9	+9.8	50.8	+9.4	23.6	+0.3	15.0	+8.7	40.4	+4.6
Sharon	1.6	−2.7	13.1	+1.7	16.4	−8.2	36.0	−3.9	53.4	−0.5	62.0	−1.6	71.7	+0.8	65.6	−1.7	62.4	+5.8	49.4	+6.5	22.2	−2.3	16.4	+5.8	39.2	0.0
Valley City	4.3	−1.2	15.6	+4.1	24.0	−2.0	41.0	−1.6	55.8	+2.3	64.2	+1.1	72.8	+4.1	67.1	+0.3	63.4	+5.2	52.3	+7.7	25.8	−2.2	20.3	+6.6	42.2	+2.0
Wahpeton	5.0	−3.4	17.4	+5.4	22.8	−4.7	42.1	−2.3	55.8	+0.2	65.8	+0.7	73.7	+3.9	68.1	+0.2	65.6	+6.4	53.4	+6.8	25.8	−3.0	20.1	+4.8	43.0	+1.3
Middle Division																										
Ashley	2.4	−6.2	14.2	+3.1	23.3	−1.0	36.7	−5.9	53.8	+0.3	63.7	+1.3	72.2	+4.0	66.2	−0.3	62.1	+4.8	49.4	+5.3	22.0	−6.0	20.6	+6.4	40.6	+0.5
Bisbee	2.2	.....	13.0	.....	17.4	.....	35.9	.....	53.5	.....	61.6	.....	68.8	.....	65.8	.....	61.3	.....	49.4	.....	21.3	.....	14.8	.....	38.8	.....
Bismarck	2.2	−5.6	16.0	+5.7	26.6	+2.4	39.1	−3.0	55.6	+1.1	64.4	+0.7	73.5	+3.7	69.9	+2.6	64.4	+6.3	50.9	+6.0	22.6	−5.9	22.0	+7.3	42.3	+1.8
Bottineau	1.5	+0.9	12.8	+8.6	19.6	−0.5	35.0	−4.1	53.6	+2.3	61.6	+0.3	69.3	+2.7	66.2	+2.1	63.0	+8.1	48.8	+7.8	18.6	−5.0	14.2	+6.8	38.7	+2.5
Carrington	4.4	−2.3	15.3	+6.6	22.0	−1.4	36.5	−3.1	53.6	+1.1	62.5	−0.5	71.5	+2.8	67.0	+0.2	60.6	+4.0	49.8	+6.0	22.6	−5.2	18.8	+7.1	40.4	+1.3
Carson	5.0	−4.0	15.8	+0.4	26.7	+0.4	38.6	−4.1	56.0	+2.9	64.2	+1.8	74.4	+5.6	69.6	+1.7	64.8	+8.4	51.2	+7.9	22.5	−7.5	24.0	+9.3	42.7	+1.9
Center	2.6	.....	17.0	.....	26.0	.....	37.2	.....	54.6	.....	63.2	.....	71.1	.....	66.6	.....	61.0	.....	50.6	.....	21.4	.....	20.6	.....	41.0	.....
Dogden Butte	4.8	−2.7	15.5	+1.0	23.7	−2.7	37.6	−3.8	54.6	0.0	62.3	−0.4	70.0	+0.9	67.2	+0.2	63.6	+7.3	50.8	+6.8	21.8	−4.6	17.1	+4.0	40.8	+0.6
Drake	2.9	.....	14.0	.....	21.9	.....	36.7	.....	53.9	.....	62.4	.....	70.6	.....	67.5	.....	62.0	.....	49.8	.....	20.9	.....	18.8	.....	40.1	.....
Dunseith	3.2	+0.7	12.2	+5.8	19.1	−1.1	35.6	−4.3	53.5	+1.4	60.4	−0.5	69.2	+3.3	65.2	+1.3	61.8	+7.4	49.4	+8.0	19.8	−4.6	16.0	+6.9	38.8	+2.0
Eckman	2.5	−0.6	11.9	+4.3	19.1	−3.8	35.8	−4.8	54.6	+3.2	61.8	+0.2	69.2	+2.4	66.8	+2.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Energy	3.8	−5.8	15.3	−0.6	28.0	−1.0	39.5	−4.5	56.7	+0.6	64.6	+0.1	72.2	+0.2	68.2	−0.2	63.0	+5.6	51.1	+6.9	22.1	−6.4	21.6	+7.2	42.2	+0.2
Fessenden	2.6	−1.9	14.4	+0.3	20.8	−2.6	3.78	−2.9	54.6	+2.6	63.1	+1.4	71.8	+3.8	68.2	+2.3	63.2	+7.5	50.2	+7.2	21.8	−5.3	18.7	+8.1	40.1	+2.0
Fort Yates	3.2	−6.0	17.8	+6.0	27.5	+1.2	39.4	−5.5	55.4	−0.7	64.8	−1.4	74.8	+3.1	68.8	−0.5	63.4	+3.6	49.6	+3.2	24.2	−5.6	24.0	+5.6	42.7	+0.2
Foxholm (near)	4.9	−1.4	14.4	+1.0	23.6	−1.6	37.3	−3.6	55.2	+1.2	62.3	+0.2	70.8	+1.4	68.2	+2.0	62.7	+7.7	50.2	+8.4	20.5	−4.8	19.0	+6.6	40.8	+1.5
Gackle	2.0	.....	14.7	.....	22.8	.....	37.8	.....	53.6	.....	63.2	.....	73.0	.....	67.6	.....	62.7	.....	51.2	.....	23.0	.....	22.2	.....	41.2	.....
Garrison	4.2	−3.4	15.2	+4.3	26.1	+2.3	38.2	−4.1	55.2	+2.5	63.8	+1.6	71.2	+3.0	68.0	+1.9	63.5	+8.6	50.2	+7.5	21.9	−4.4	20.0	+6.3	41.5	+2.2
Granville	4.0	−0.6	15.2	+5.1	23.5	−0.6	38.2	−2.6	54.9	+3.3	62.0	−0.2	70.6	+3.1	68.4	+3.5	63.0	+8.2	50.4	+7.1	20.2	−6.5	17.8	+5.8	40.7	+2.1
Hansboro	2.4	+2.5	11.2	+5.4	15.5	−5.1	34.6	−4.3	51.6	+0.9	60.0	−0.4	67.3	+2.1	64.7	+2.3	60.0	+6.5	48.0	+7.3	19.8	−3.7	13.8	+5.8	37.4	+1.6
Linton	2.8	−6.7	18.0	+3.5	28.2	+0.5	41.2	−1.5	57.3	+3.1	66.0	+1.7	74.4	+3.1	70.1	+0.9	66.3	+7.8	52.1	+7.4	24.0	−5.0	22.8	+8.9	43.6	+2.0
McClusky	1.2	−4.8	15.1	+1.9	21.8	−1.3	38.2	−2.9	54.0	+0.4	63.4	+1.2	72.6	+2.7	68.0	+1.2	64.0	+7.8	50.8	+8.4	21.2	−4.3	20.9	+8.9	41.2	+1.6
Maddock	1.8	−3.0	12.8	+1.7	18.0	−6.6	37.1	−3.9	54.3	+1.6	63.0	+1.9	71.6	+4.0	67.2	+1.5	62.6	+6.9	50.2	+7.3	22.0	−4.6	16.7	+6.7	39.8	+1.2
Mandan	2.2	−6.1	15.4	+2.5	26.3	−0.4	39.0	−3.7	55.4	+1.5	65.2	+1.9	74.2	+3.6	70.5	+2.4	65.3	+7.9	51.3	+7.3	22.1	−7.1	21.3	+7.6	42.4	+1.5
Max	1.2	.....	13.1	.....	22.6	.....	35.7	.....	53.2	.....	62.2	.....	69.8	.....	66.2	.....	61.6	.....	48.4	.....	19.6	.....	17.8	.....	39.3	.....
Minot	5.9	−0.3	16.2	+6.5	25.2	+2.4	38.6	−2.2	56.4	+4.2	62.4	+0.1	70.9	+3.0	68.5	+3.5	63.6	+7.7	50.0	+6.7	20.6	−6.9	19.5	+7.6	41.5	+2.7
Mohall	2.8	−1.8	12.0	+4.9	20.3	−0.6	36.0	−4.5	54.0	+1.7	60.8	−0.3	69.2	+2.9	66.7	+2.8	60.8	+6.8	49.4	+7.7	19.0	−5.8	17.0	+6.0	39.0	+1.6
Napoleon	1.6	−4.8	15.4	+7.1	24.2	+1.5	38.4	−3.0	55.0	+2.6	63.6	+1.2	73.0	+4.4	69.6	+3.2	64.7	+8.0	52.4	+8.7	22.8	−3.9	23.0	+10.4	42.0	+3.0
New Salem	3.2	−5.9	14.6	+1.5	24.8	−1.1	38.2	−4.2	54.1	+1.7	62.4	−0.5	71.2	+1.3	67.6	+0.4	62.6	+5.1	49.3	+4.5	21.3	−8.5	21.6	+6.3	40.9	0.0
Pettibone	1.0	−2.0	13.8	+5.0	22.8	−1.5	38.3	−2.6	53.8	+2.0	63.0	+1.5	73.1	+5.1	66.6	−1.7	63.2	+8.0	50.4	+8.6	21.0	−5.4	18.6	+8.1	40.5	+2.1
Rolla	3.5	.....	12.4	.....	17.1	.....	34.7	.....	53.0	.....	61.0	.....	68.8	.....	65.0	.....	60.4	.....	48.6	.....	19.6	.....	14.8	.....	38.2	.....
Steele	1.1	−6.2	16.1	+6.7	24.8	+0.7	38.2	−5.0	54.4	+1.0	63.0	+0.5	71.8	+2.4	69.0	+2.3	64.0	+7.1	51.0	+7.2	22.7	−3.6	21.0	+8.7	41.4	+1.8
Towner	3.8	0.0	15.8	+8.1	21.7	−0.4	37.6	−4.3	55.2	+2.0	62.2	−0.6	70.6	+2.6	67.0	+1.6	62.2	+6.0	49.2	+5.8	22.0	−3.2	18.6	+8.5	40.5	+2.2
Turtle Lake	3.8	−4.0	15.8	+4.0	25.8	+1.0	39.1	−2.4	55.4	+2.6	64.3	+2.5	72.5	+4.2	67.4	+1.0	63.4	+7.1	51.0	+7.7	22.2	−6.0	20.5	+8.9	41.8	+2.2
Velva	5.5	−0.4	16.1	+2.2	25.0	−1.8	38.8	−3.3	55.4	−0.5	63.6	−0.9	71.0	−0.4	68.5	+0.6	63.1	+6.0	50.7	+6.8	22.0	−5.6	19.8	+4.7	41.6	+0.6
Washburn	3.6	−3.8	16.8	+7.3	27.2	+2.8	39.8	−4.0	55.8	+3.0	65.8	+1.7	73.2	+3.7	69.6	+2.2	65.6	+7.1	53.1	+8.6	24.0	−6.3	23.3	+9.3	43.2	+2.6
Westhope	2.2	+0.9	12.0	+5.0	18.6	−3.4	36.4	−3.5	55.9	+4.1	62.1	+0.1	70.0	+3.2	67.1	+2.4	61.6	+6.7	49.1	+7.3	18.9	−6.7	14.8	+4.8	39.1	+1.8
Willow City	0.0	−0.9	10.8	+5.9	16.1	−3.6	34.9	−4.7	52.8	+1.3	60.6	−0.4	67.0	+1.3	64.2	+0.6	59.2	+5.0	47.1	+5.7	18.2	−4.4	13.1	+4.4	37.0	+0.8
Wilton	2.8	.....	15.1	.....	24.4	.....	37.6	.....	54.0	.....	63.0	.....	70.8	.....	66.4	.....	62.5	.....	50.1	.....	[a]20.4	.....	20.2	.....	40.6	.....
Wishek	[a]0.8	−6.2	14.9	+5.9	23.5	−2.8	37.4	−4.5	54.4	+3.7	62.3	0.0	70.8	+2.2	66.1	+0.3	61.6	+6.0	49.8	+5.9	21.6	−8.2	21.2	+8.2	40.4	+0.9
Western Division																										
Amidon	6.2	−7.9	16.2	−1.2	27.4	−0.5	38.2	−3.0	56.0	+3.2	65.7	+4.7	72.0	+1.9	70.2	+2.3	64.0	+6.9	52.8	+9.2	24.2	−6.7	27.1	+10.0	43.3	+1.5
Beach	6.0	−5.1	17.8	+1.6	29.6	+2.4	39.2	−2.8	57.2	+5.8	64.4	+2.7	73.1	+4.6	69.7	+3.3	63.9	+7.5	51.2	+7.6	23.4	−7.6	27.4	+10.4	43.6	+2.6
Berthold Agency	3.8	−4.8	16.9	+4.7	29.0	+3.0	40.0	−3.5	57.8	+3.7	66.6	+3.8	73.7	+4.5	70.5	+2.8	64.7	+7.8	51.4	+6.8	23.0	−5.5	22.9	+7.5	43.4	+2.6
Bowbells	3.6	.....	12.2	.....	22.2	.....	34.9	.....	54.0	.....	60.2	.....	68.9	.....	65.4	.....	59.9	.....	47.8	.....	19.1	.....	18.0	.....	38.8	.....
Bowman	8.0	−5.0	17.0	−1.5	28.5	+0.8	38.6	−4.0	59.9	+7.7	64.1	+1.6	72.0	+2.6	68.8	+1.1	63.3	+6.5	51.4	+7.4	22.8	−7.8	25.7	+10.6	43.3	+1.6
Crosby	2.3	−1.3	14.4	+5.0	23.6	+0.1	34.6	−5.6	55.0	+3.8	60.8	−0.3	69.0	+2.2	66.6	+2.0	60.7	+6.6	50.0	+8.2	19.2	−7.5	17.8	+6.2	39.5	+1.6
Dickinson	3.1	−7.4	14.5	+1.4	26.3	+1.0	37.2	−4.9	53.4	+1.2	62.3	+0.6	71.2	+3.0	67.5	+1.2	61.6	+5.6	49.7	+6.1	21.4	−6.9	23.6	+7.2	41.0	+0.7
Dunn Center	3.3	−10.5	15.4	+0.8	26.8	+1.3	35.6	−6.2	53.4	+0.7	60.8	−1.2	71.4	+3.4	68.9	+2.7	62.0	+5.8	50.4	+6.0	21.6	−6.3	23.4	+5.7	41.1	+0.2
Epping	−0.6	−8.6	11.0	+0.2	22.2	−1.8	36.0	−6.2	55.6	+2.8	63.8	+1.3	71.1	+3.1	68.2	+2.3	60.6	+5.2	48.6	+5.2	19.0	−8.9	20.2	+6.6	39.7	+0.2
Fryburg	7.0	.....	16.9	.....	28.2	.....	38.2	.....	55.0	.....	62.9	.....	72.0	.....	68.8	.....	64.1	.....	51.5	.....	22.7	.....	26.1	.....	42.8	.....
Hettinger	6.4	−6.6	17.4	+0.9	28.6	0.0	40.2	−2.6	56.6	+3.0	65.3	+2.4	75.4	+5.3	70.4	+1.6	65.2	+7.6	52.6	+7.0	23.4	−8.2	28.4	+11.6	44.2	+1.9
Howard (near)	−0.6	−5.0	11.0	+2.0	22.5	+0.6	35.6	−3.5	54.5	+4.7	61.4	+1.2	71.0	+5.0	68.0	+3.1	61.9	+7.6	49.0	+7.4	17.1	−9.2	19.2	+7.6	39.2	+1.8
Kenmare	5.8	.....	14.2	.....	23.7	.....	34.4	.....	54.2	.....	61.9	.....	69.8	.....	66.9	.....	61.2	.....	51.6	.....	21.0	.....	20.0	.....	40.4	.....
Marmarth	5.6	−7.2	19.8	+2.1	31.2	+3.5	39.6	−3.4	56.2	+5.0	64.2	+2.2	73.1	+3.7	68.6	+1.3	62.8	+6.3	51.1	+5.6	22.6	−8.8	24.5	+7.7	43.3	+1.5
Mott	7.4	−1.4	18.3	+4.8	29.2	+2.3	41.4	−0.4	57.6	+4.1	65.2	+0.8	74.8	+4.5	69.4	+2.3	64.0	+7.4	51.7	+8.4	25.2	−4.0	26.2	+12.4	44.2	+3.4
New England	6.2	−7.2	18.8	+4.7	28.2	+3.0	39.8	−2.5	56.6	+4.6	65.4	+2.8	73.8	+5.0	69.6	+2.7	63.8	+7.4	51.0	+7.6	22.8	−6.3	24.8	+8.3	43.4	+2.5
Parshall	1.8	.....	14.8	.....	25.2	.....	36.6	.....	53.4	.....	61.3	.....	69.6	.....	66.1	.....	60.8	.....	49.0	.....	18.0	.....	17.7	.....	39.5	.....
Portal	1.2	−1.3	11.3	+5.9	20.4	+2.7	34.0	−7.4	53.5	+3.0	61.1	+1.9	69.8	+3.6	66.4	+2.2	60.7	+6.3	48.8	+7.4	18.4	−7.0	17.2	+5.0	38.6	+1.9
Powers Lake	−0.2	−7.9	15.0	+2.3	23.4	−1.6	35.0	−5.3	54.2	+1.0	62.8	+1.5	71.6	+0.8	68.0	+2.8	62.6	+7.6	52.5	+8.9	23.2	−1.8	20.8	+6.7	40.7	+1.2
Richardton	6.6	−3.6	17.0	+1.8	26.9	−0.2	38.2	−2.9	54.8	+2.2	64.0	+1.4	72.0	+1.9	69.1	+1.0	63.5	+6.7	51.3	+7.9	22.2	−6.1	25.2	+11.2	42.6	+1.8
Sanish	0.8	−3.5	12.4	+3.0	25.5	+1.0	38.4	−3.4	54.8	−0.2	62.3	−1.4	70.9	+0.3	68.4	+0.9	61.0	+4.4	49.3	+6.0	19.4	−9.2	19.6	+8.2	40.2	+0.5
Stanley	1.4	.....	12.2	.....	22.3	.....	35.4	.....	53.4	.....	61.6	.....	69.7	.....	66.8	.....	61.4	.....	49.2	.....	18.4	.....	17.2	.....	39.1	.....
Watford City	5.0	−4.0	17.6	+3.7	29.2	+3.9	38.6	−2.5	57.7	+5.0	64.3	+2.6	72.4	+3.1	74.0	+6.7	66.3	+10.0	52.2	+9.3	22.2	−6.1	24.2	+11.2	43.6	+3.5
Williston	3.1	−3.3	14.8	+6.7	27.3	+4.4	38.6	−3.4	57.1	+3.1	64.0	+1.3	72.6	+3.7	70.6	+4.5	63.8	+7.2	51.9	+8.5	20.5	−6.7	21.4	+7.6	42.1	+2.8

The departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49]

SEPTEMBER.—Although the temperature averaged somewhat above normal, frost occurred in all sections on the 10th and 11th. Temperatures were considerably below freezing in the south-central part of the state on the 11th. Precipitation was light in most places during the first and second decades, but many stations received good soaking rains from the 22d to the 24th. The weather was generally favorable for harvesting and threshing which was well along by the close of the month. It was too dry for fall plowing in many sections. Livestock was mostly good and feed ample.

OCTOBER.—The month was warm and moist. It was the second warmest October since state-wide records began in 1892. The temperature dropped below freezing on only a few days, mostly near the close of the month. The precipitation was the greatest October amount since 1932. No measurable amount of snowfall was reported in any section. It was an excellent month for outdoor work and most crops were harvested. Corn picking was well along by the close of the month. Livestock was good and feed ample.

NOVEMBER.—The month was average for precipitation but below average for temperature. The minimum temperatures on the 13th and 14th were the lowest ever recorded so early in the season at many stations. The precipitation was evenly distributed throughout the state with the greatest amount from the 9th to 13th and from the 26th to 30th. It was a good month for livestock except for the cold weather near the middle of the month and for a few windy days. Rivers and lakes froze over in all sections during the second week. Plowing was discontinued early in the month due to frozen ground.

DECEMBER.—Mild and generally dry weather prevailed. Temperatures were above normal most of the month and much above normal during the last decade. Precipitation was light generally and the ground was nearly bare of snow in many sections. However, rainfall in the southeastern part of state on the 27-28th soaked the ground to a considerable depth. Outdoor work progressed satisfactorily and livestock were able to range in open fields much of the month.

COMPARATIVE ANNUAL DATA FOR THE STATE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892...	37.8	108	−52	20.24	21.00	13.79	18.34	34.9	70	157	95	114
1893...	35.8	112	−54	18.02	16.33	13.19	15.85	46.1	65	154	104	107
1894...	40.3	107	−47	17.45	14.55	14.84	15.61	24.6	56	174	100	91
1895...	37.7	104	−50	18.41	16.97	16.69	17.36	20.9	63	155	117	93
1896...	37.3	107	−42	26.30	21.67	19.97	22.65	48.3	80	143	111	112
1897...	37.8	109	−48	18.75	16.04	13.26	16.02	33.9	63	162	105	98
1898...	39.2	106	−38	18.97	15.55	13.92	16.15	22.7	57	159	108	98
1899..	36.9	109	−48	17.40	19.48	15.98	17.62	26.6	60	161	105	99
1900...	40.9	114	−48	21.61	18.70	16.88	19.06	23.2	62	178	97	90
1901...	40.4	110	−43	24.35	17.54	16.33	19.41	20.2	63	175	92	98
1902...	39.4	106	−39	21.66	18.50	17.89	19.35	29.9	62	160	79	126
1903...	38.3	108	−49	20.18	18.27	19.28	19.24	28.8	65	166	81	118
1904...	37.6	103	−52	21.59	18.26	13.59	17.81	38.1	68	150	73	143
1905...	39.3	107	−46	23.23	19.17	14.34	18.91	29.6	66	152	79	134
1906...	39.4	109	−40	21.14	17.68	21.28	20.03	35.4	78	164	93	108
1907...	36.9	104	−49	17.17	13.06	12.69	14.31	33.7	63	175	101	89
1908...	40.7	104	−41	18.84	17.77	19.05	18.55	43.7	75	164	97	105
1909...	38.2	109	−48	21.79	15.89	16.61	18.10	33.5	71	143	110	112
1910...	41.1	114	−50	11.88	12.17	13.56	12.54	21.0	52	180	92	93
1911...	38.0	108	−43	21.73	18.60	14.94	18.42	36.5	76	160	100	105
1912...	38.2	124	−52	22.72	19.73	18.71	20.39	19.3	74	161	102	103
1913...	40.0	106	−54	17.85	13.39	12.70	14.65	19.4	64	166	104	95
1914...	40.1	109	−47	19.81	19.57	17.53	18.97	30.0	70	155	110	100
1915...	39.7	104	−48	21.06	19.06	17.72	19.28	21.2	72	148	101	116
1916...	36.2	105	−56	24.11	18.88	16.63	19.87	54.2	70	170	97	99
1917...	36.3	114	−48	12.61	10.44	9.20	10.75	40.5	60	154	111	100
1918...	40.0	102	−44	18.01	16.00	14.01	16.01	29.7	63	159	104	102
1919...	38.6	108	−44	20.55	14.71	11.51	15.59	47.2	60	165	107	93
1920...	39.5	108	−44	17.67	14.26	13.92	15.28	27.9	64	166	108	92
1921...	42.0	110	−33	23.05	18.96	16.30	19.44	29.4	74	158	111	96
1922...	39.7	115	−46	21.97	19.09	18.62	19.89	42.8	75	155	100	110
1923...	40.7	103	−40	19.12	16.65	17.60	17.79	30.1	64	160	110	95
1924...	38.2	105	−46	20.23	16.39	14.74	17.12	26.1	66	158	101	107
1925...	40.6	111	−39	21.91	14.74	13.29	16.65	19.7	64	158	107	100
1926...	40.7	108	−36	18.05	14.40	13.65	15.37	23.7	68	151	105	109
1927...	38.0	101	−44	22.72	21.25	20.56	21.51	36.2	79	150	102	113
1928...	41.1	107	−41	20.03	18.12	15.48	17.88	17.3	59	177	101	88
1929...	38.0	109	−44	15.09	13.27	14.57	14.31	41.8	65	171	98	96
1930...	41.4	107	−43	17.13	14.19	13.36	14.89	25.0	66	166	101	98
1931...	44.9	111	−31	18.48	14.10	12.41	15.00	18.0	56	180	92	93
1932...	40.0	108	−34	18.43	16.39	16.71	17.18	34.9	69	156	108	102
1933...	41.1	110	−45	14.01	12.74	13.59	13.45	42.2	65	161	104	100
1934...	43.4	112	−44	13.33	8.61	6.60	9.51	15.2	54	160	109	96
1935...	39.4	110	−44	21.24	17.97	14.91	18.04	33.3	77	137	113	115
1936...	38.8	121	−60	10.09	8.21	8.18	8.83	35.2	59	171	110	85
1937...	39.1	111	−44	20.10	17.37	13.63	17.03	36.0	69	150	111	104
1938...	41.9	109	−41	15.27	14.60	16.13	15.33	30.6	73	149	116	100
1939...	41.9	108	−46	15.56	13.88	13.01	14.15	25.5	71	161	109	95
1940...	41.0	107	−39	19.23	16.79	16.14	17.39	33.6	80	142	110	114
Period	39.5	124	−60	19.19	16.35	15.09	16.88	31.0	67	160	102	103

CLIMATOLOGICAL SUMMARY, 1940

Month	Temperature in degrees Fahrenheit				Precipitation, in inches			Number of days				Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Precip., .01 inch or more	Clear	Pt. cloudy	Cloudy	
January	3.4	−2.8	48	−39	0.10	−0.37	1.4	3	13	9	9	nw.
February....	15.0	+5.4	52	−29	0.61	+0.14	7.8	7	5	8	16	nw.
March	23.1	−0.7	64	−26	0.87	+0.11	9.1	7	9	9	13	nw.
April	37.8	−3.6	78	−9	2.22	+0.80	4.1	8	7	10	13	ne.
May..........	54.9	+1.3	96	17	1.97	−0.32	0.1	8	14	11	6	nw.
June..........	63.1	+0.1	102	27	2.24	−1.15	0	9	13	11	6	nw.
July	71.6	+2.6	107	37	3.70	+1.25	0	11	14	13	4	se.
August	67.8	+1.3	103	33	2.05	+0.05	0	7	18	7	6	se.
September ..	62.8	+5.9	103	20	1.06	−0.44	0	4	17	9	4	se.
October	50.7	+6.8	89	18	1.56	+0.54	T.	6	14	8	9	nw.
November...	22.0	−4.6	59	−28	0.59	0.00	7.1	6	8	8	14	nw.
December ...	19.8	+6.7	59	−36	0.42	−0.07	4.0	4	10	7	14	nw.
Annual ...	41.0	+1.5	107	−39	17.39	+0.51	33.6	80	142	110	114	nw.

Killing Frosts

STATIONS	Last in Spring	First in Autumn	STATIONS	Last in Spring	First in Autumn
Eastern Div.			Garrison	May 15	Sept. 10
Casselton	May 9	Sept. 25	Granville	" 15	" 10
Cavalier.............	" 14	" 25	Hansboro	" 15	" 11
Cooperstown	" 24	" 10	Linton	" 15	" 10
Devils Lake	" 15	" 10	McClusky	" 15	" 10
Edgeley	" 25	" 11	Maddock...........	" 15	" 10
Edmore	June 19	" 25	Mandan............	" 15	" 11
Ellendale...........	May 1	" 25	Max	" 15	" 9
Fargo	" 3	" 25	Minot	" 15	" 10
Forman	" 3	" 10	Mohall.............	" 15	" 10
Fullerton...........	" 2	" 25	Napoleon	" 15	" 10
Grafton	" 6	" 25	New Salem	" 15	" 10
Grand Forks........	" 3	" 11	Pettibone	" 15	" 10
Hankinson	" 1	" 24	Rolla...............	" 15	" 10
Hannah..............	June 19	" 24	Steele..............	" 15	" 10
Hillsboro	May 1	" 25	Towner	" 15	" 10
Jamestown	" 1	" 25	Turtle Lake	" 15	" 10
Langdon	June 20	" 10	Velva	" 15	" 10
Larimore............	May 7	" 25	Westhope	" 6	" 10
Lisbon	" 3	" 25	Willow City........	June 19	" 10
McHenry............	June 19	" 10	Wilton	Apr. 14	" 10
McLeod	May 2	" 10	Wishek	May 15	" 10
Mayville	" 8	" 25			
Oakes	" 2	" 25	*Western Div.*		
Park River...	" 16	" 25	Amidon	May 15	Sept. 9
Pembina	" 25	" 25	Beach..............	" 1	" 10
Sharon	" 7	" 25	Berthold Agency..	" 15	" 10
Valley City	" 16	" 11	Bowbells	May 15	" 10
Wahpeton	" 3	" 25	Bowman	Apr. 17	Oct. 17
Moorhead. Minn....	" 2	" 25	Crosby.............	May 2	Sept. 10
			Dickinson..........	" 15	" 10
Middle Div.			Dunn Center.......	" 15	" 10
Ashley	May 16	Sept. 10	Epping	" 14	" 10
Bisbee	" 15	" 25	Fryburg............	" 15	" 10
Bismarck	" 15	" 10	Hettinger	" 15	" 10
Bottineau	" 15	" 10	Howard	" 14	" 10
Carrington..........	" 15	" 10	Kenmare	" 1	" 10
Carson	" 15	" 10	Marmarth..........	Apr. 30	" 9
Center	" 15	" 9	Mott	May 15	" 10
Dogden Butte	" 24	" 10	New England......	" 14	" 10
Drake...............	" 15	" 10	Parshall	" 15	" 10
Dunseith.......	June 19	" 10	Portal	" 15	" 10
Eckman..............	May 15	....	Powers Lake	" 14	" 9
Energy..............	" 15	Sept. 10	Richardton	Apr. 30	Oct. 17
Fessenden	" 15	" 10	Sanish	May 15	Sept. 10
Fort Yates..........	" 15	" 11	Stanley	" 15	" 10
Foxholm	" 1	" 25	Watford City	" 1	Oct. 14
Gackle............. .	" 15	" 10	Williston	" 1	Sept. 10

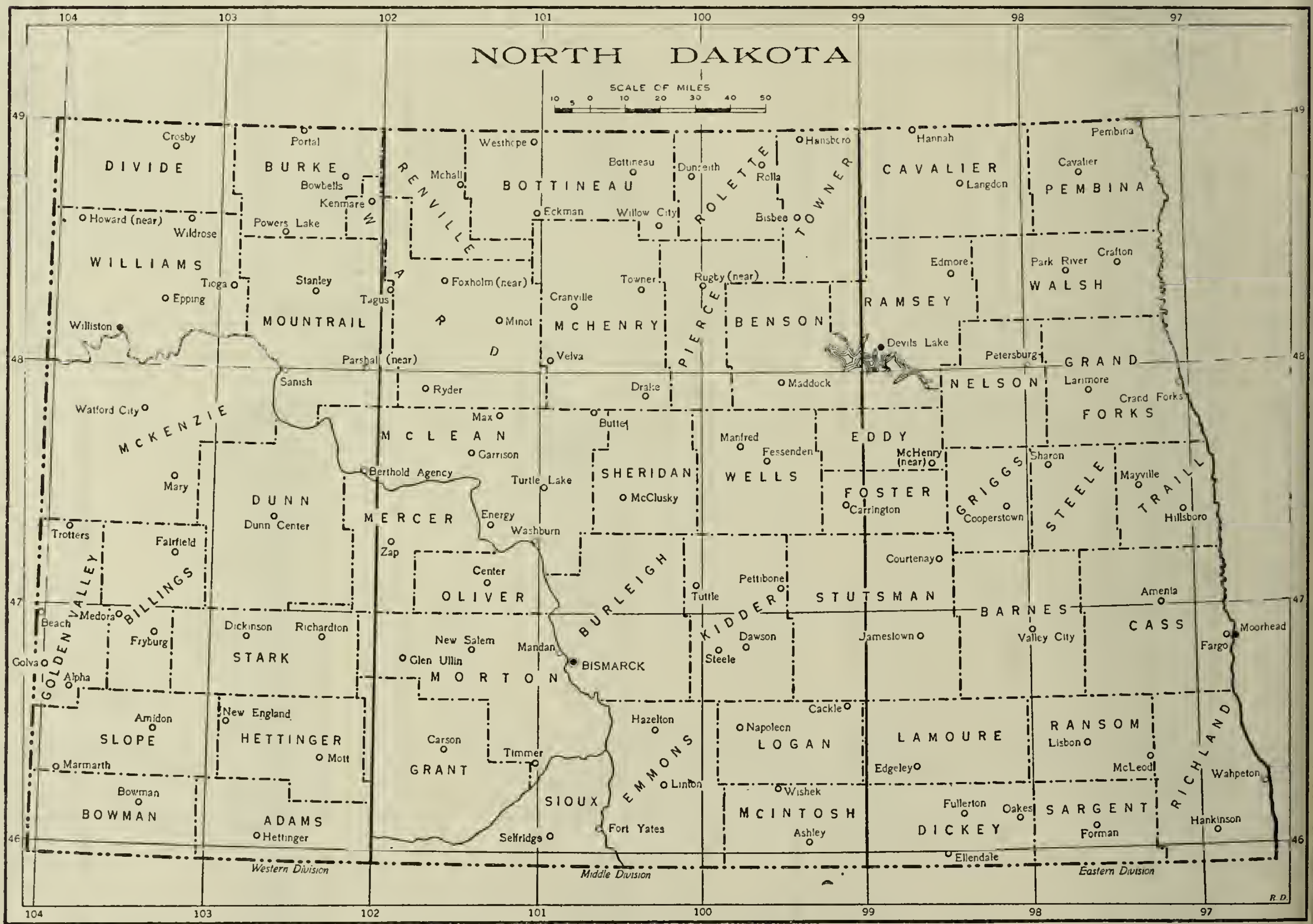
Additional Monthly and Annual Precipitation Stations for the Year 1940, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.
Bowbells	0.07	......	0.55	......	0.36	......	0.66	......	3.84	......	2.40	......	2.87	......	1.80	......	0.68	......	0.20	......	0.37	......	0.09	......	13.89	......
Cavalier	T.	−0.67	1.15	+0.62	0.99	+0.28	2.11	+0.76	1.25	−1.15	1.50	−1.70	5.49	+2.82	0.82	−1.54	3.00	+0.74	0.98	−0.43	0.87	+0.08	0.73	−0.11	18.89	−0.29
Center	0.08	......	0.36	......	0.46	......	4.20	......	3.04	......	1.18	......	4.55	......	0.16	......	0.88	......	0.91	......	0.63	......	0.37	......	16.82	......
Fairfield	T.	......	0.33	......	0.61	......	2.47	......	1.41	......	2.68	......	3.63	......	0.79	......	2.13	......	1.03	......	0.41	......	0.10	......	15.59	......
Hillsboro	T.	−0.51	0.82	+0.24	1.10	+0.35	1.64	−0.20	1.83	−1.26	1.78	−1.53	3.76	+1.08	4.64	+1.94	0.14	−2.01	2.09	+0.62	0.73	−0.09	0.64	−0.02	19.17	−1.45
Timmer	0.00	......	0.39	......	1.46	......	2.81	......	0.87	......	1.24	......	2.41	......	0.51	......	1.64	......	0.80	......	0.23	......	0.06	......	12.42	......
Westhope	0.26	−0.06	1.21	+1.00	0.27	−0.26	0.96	+0.16	3.01	+1.18	2.84	−0.19	4.54	+2.37	4.54	+2.54	0.45	−0.98	0.59	−0.27	0.38	−0.14	0.55	+0.25	19.60	+5.60
Wilton	T.	......	0.33	......	0.45	......	2.08	......	2.24	......	1.54	......	4.51	......	0.55	......	1.01	......	1.18	......	0.36	......	0.09	......	14.34	......

MONTHLY AMOUNTS OF EVAPORATION—inches—and WIND MOVEMENT—miles

Station	Data	Apr.	May	June	July	Aug.	Sept.	Seasonal
Dickinson	Evaporation	1.894	5.315	7.317	7.614	7.488	5.603	30.191
	Wind movement	4,940	3,940	4,450	3,500	3,550	3,100	28,480
Mandan	Evaporation	1.992	4.310	7.289	7.097	6.659	4.889	32.236
	Wind movement	5,428	3,626	3,726	3,054	3,498	3,032	22,364

CHART SHOWING METEOROLOGICAL STATIONS



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). [WBO, Minneapolis, 4-4-41—1500]

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

28

NORTH DAKOTA SECTION

F. J. BAVENDICK

Vol. L — Bismarck, N. D., January 1941 — No. 1

GENERAL SUMMARY

The temperature was somewhat above normal in all sections and the precipitation was above normal in the eastern and central divisions but below normal in the west. The low temperature was scattered throughout the month while the high temperature occurred mostly during the second week and near the close of the month. The precipitation was scattered throughout the month but with the greatest amount on the 1st and from the 15th to the 25th. There was much foggy weather but there were no severe winds or snow storms. Freezing drizzle and rime caused considerable trouble to telephone and telegraph companies and highways were very slippery. There was only a slight snow cover over the western range but more than a foot of snow in some eastern sections.

TEMPERATURE

The mean temperature for the state was 11.0°, or 4.7° above the 1892-1941 average for January. The mean temperature for the eastern division was 9.2°; for the middle division, 9.5°; and for the western division, 14.3°. The highest mean temperature was 20.4° at Amidon, and the lowest, 3.3° at Willow City making a range in mean temperature of 17.1°. The absolute range was 86°, from 53° at New England on the 29th to -33° at Pembina Airport and Willow City on the 18th. The average daily excess in temperature for the state since January 1, 1941, is 4.7°.

PRECIPITATION

The average precipitation for the state was 0.54 inch, or 0.06 more than the 1892-1941 average for January. In the eastern division the average amount was 0.80 inch; in the middle division, 0.56 inch; and in the western division, 0.25 inch. The greatest monthly amount reported was 1.58 inches at Hannah; the least was 0.05 inch at Bowbells and Bowman. The greatest amount recorded in any 24 consecutive hours was 0.70 inch at Bisbee and Courtenay on the 1st. The accumulated excess in precipitation for the state since January 1, 1941, is 0.06 inch. The average snowfall was 6.3 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	1	..	1	1	3	..	1	1	..	..	..	..	..	..	1	1	2	..	..	..	..	2	..	.	..	2	2	2	2	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	7	4	..	2	5	29	14	5	34	6	5	50	47	57	51	8	..	1	18	41	16	6	1	3	1	2	..	..	..	1	3
Lunar halos	..	..	..	..	2	..	1	..	..	1	1	1	..	1	2	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	4	1	1	1	..	1	..	1	..	..	..	..	..	..	2	..	..	..	..	1	..	..	1	..	..	..	..	..	..
Sleet	4	1	..	..	..	..	..	..	..	..	..	..	2	5	7	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.24	30.66	27	29.77	15	9.4	36	nw.	3	89	80	85	44
Devils Lake	30.23	30.61	27	29.83	16	8.7	26	nw.	3	97	91	91	49
Williston	30.20	30.63	27	29.76	15	6.5	23	nw.	3	80	74	75	47
Fargo	30.24	30.70	9	29.86	16	....	.....	......	....	93	86	92	....
Moorhead, Minn	......	....	....	....	....	8.6	22	nw.	3	....	....	....	38

† And other dates.

COMPARATIVE DATA FOR JANUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	3.3	58	−52	0.31	0.41	0.25	0.32	2.8	4	15	8	8
1893	0.8	52	−48	0.93	0.94	1.11	0.99	8.4	7	11	11	9
1894	0.6	60	−47	0.38	0.40	0.38	0.39	3.6	4	13	9	9
1895	−2.9	42	−46	0.53	0.69	0.47	0.56	5.5	5	16	8	7
1896	5.3	58	−42	0.75	0.77	0.80	0.77	6.6	6	9	9	13
1897	3.6	49	−38	0.91	0.64	0.76	0.77	7.5	5	11	9	11
1898	14.6	69	−32	0.14	0.12	0.07	0.11	1.1	2	15	8	8
1899	5.2	55	−41	0.29	0.20	0.26	0.25	2.4	3	13	9	9
1900	15.4	70	−30	0.27	0.27	0.12	0.22	2.0	3	15	9	7
1901	7.7	68	−39	0.29	0.29	0.26	0.28	3.0	4	14	8	9
1902	12.7	51	−40	0.17	0.03	0.23	0.14	1.4	2	17	7	7
1903	9.4	56	−37	0.72	0.58	0.68	0.66	6.7	5	13	8	10
1904	3.6	50	−52	0.41	0.36	0.42	0.40	4.0	5	15	6	10
1905	0.9	48	−40	0.26	0.30	0.41	0.32	2.9	3	15	8	8
1906	12.2	60	−38	0.75	0.72	0.61	0.69	6.9	4	14	6	11
1907	−6.2	45	−45	1.77	1.13	1.05	1.32	14.5	8	12	8	11
1908	17.0	70	−41	0.21	0.16	0.34	0.24	1.9	2	17	8	6
1909	3.5	53	−48	0.60	0.32	0.37	0.43	4.3	4	14	8	9
1910	9.4	49	−35	0.30	0.21	0.59	0.37	4.1	3	16	8	7
1911	−1.0	56	−43	0.86	0.96	0.69	0.84	8.5	6	11	8	12
1912	−4.6	63	−52	0.34	0.34	0.36	0.35	3.6	4	16	6	9
1913	3.2	60	−54	0.51	0.40	0.43	0.45	4.6	5	12	9	10
1914	14.8	62	−38	0.56	0.48	0.40	0.48	4.9	4	12	8	11
1915	5.8	51	−48	0.39	0.24	0.25	0.29	3.4	3	12	9	10
1916	−6.4	49	−56	1.58	1.24	1.26	1.36	15.1	6	13	8	10
1917	1.7	47	−46	0.82	0.69	0.65	0.72	8.6	5	13	8	10
1918	0.5	48	−44	0.41	0.43	0.58	0.47	5.0	5	12	8	11
1919	18.7	66	−44	0.24	0.21	0.10	0.18	1.7	2	17	8	6
1920	2.7	49	−44	1.26	0.96	0.68	0.97	10.0	5	10	9	12
1921	15.9	52	−31	0.29	0.20	0.22	0.24	2.5	2	13	9	9
1922	7.0	55	−46	0.68	0.36	0.42	0.49	5.2	5	12	9	10
1923	10.1	56	−35	0.59	0.43	0.54	0.52	6.0	5	9	9	13
1924	2.6	61	−42	0.30	0.20	0.18	0.23	2.5	3	14	9	8
1925	8.6	52	−35	0.33	0.18	0.22	0.24	2.5	3	11	10	10
1926	16.3	55	−30	0.31	0.34	0.49	0.38	4.1	4	13	8	10
1927	10.1	60	−44	0.50	0.36	0.41	0.42	4.3	4	14	8	9
1928	13.0	50	−41	0.21	0.19	0.19	0.20	2.3	3	14	9	8
1929	−4.8	42	−42	0.76	0.48	0.63	0.62	9.2	6	13	8	10
1930	−1.9	41	−43	0.26	0.22	0.40	0.29	2.7	4	12	9	10
1931	21.4	68	−31	0.15	0.15	0.14	0.15	1.4	2	15	8	8
1932	9.5	50	−34	0.47	0.62	0.59	0.56	6.3	4	12	7	12
1933	11.8	53	−30	0.92	0.70	0.79	0.80	10.0	7	12	7	12
1934	15.8	54	−36	0.29	0.14	0.17	0.20	2.0	3	11	9	11
1935	3.3	60	−44	0.55	0.29	0.39	0.41	4.9	6	8	10	13
1936	−5.8	43	−44	0.51	0.48	0.69	0.56	6.9	7	11	8	12
1937	−8.3	38	−44	1.04	0.55	0.42	0.67	9.0	6	13	8	10
1938	9.5	50	−40	0.36	0.42	0.67	0.48	6.1	6	10	9	12
1939	15.0	55	−32	0.56	0.32	0.54	0.47	6.0	6	8	10	13
1940	3.4	48	−39	0.10	0.11	0.10	0.10	1.4	3	13	9	9
1941	11.0	53	−33	0.80	0.56	0.25	0.54	6.3	5	10	7	14
Period	6.3	70	−56	0.54	0.44	0.46	0.48	5.1	4	13	8	10

Climatological Data for January 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	10.8	+5.8	39	31	−19	18	36	0.59	+0.13	0.23	8.2	9	11	4	16	nw.	James. H. Erickson.
Cavalier	Pembina	894	31	7.4	...	39	31	−32	25	36	1.36	+0.69	0.53	16.0	6	15	0	16	n.	City Light &Power Co.
Cooperstown	Griggs	1,428	44	6.5	+2.2	35	12	−26	18	39	1.19	+0.70	0.60	12.8	8	8	9	14	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	...	...	...	...	...	...	...	1.62	+0.98	0.70	14.0	4	6	8	17	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	6.8	+5.0	39	31	−26	25	39	0.78	+0.31	0.39	8.0	10	4	3	24	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	9.3	+0.5	40	31	−17	18	32	0.72	+0.32	0.44	8.0	3	5	15	11	nw.	O. A. Thompson.
Edmore	Ramsey	1,521	17	5.6	+5.5	36	31	−31	25	45	0.27	−0.24	0.17	5.0	3	13	6	12	se.	Mike Davis.
Ellendale	Dickey	1,457	46	12.0	+2.0	42	31	−16	25	35	0.81	+0.32	0.41	9.6	5	10	5	16	nw.	J. E. Demmer.
Fargo	Cass	895	14	10.5	+5.9	37	11	−20	18	36	0.63	+0.15	0.38	8.6	11	3	7	21	nw.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	11.4	+4.3	35	31	−20	18	35	0.61	+0.15	0.35	7.5	4	10	5	16	n.	Helge Dyste.
Fullerton	Dickey	1,439	43	12.4	+3.3	42	11	−16	18	36	1.03	+0.24	0.42	10.1	9	8	5	18	nw.	F. O. Alin.
Grafton	Walsh	827	49	8.7	+6.1	39	29†	−28	25	42	0.75	+0.26	0.25	9.9	5	9	6	16	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	7.2	+3.6	40	31	−26	25	42	1.25	+0.74	0.64	10.4	9	3	5	23	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	12	12.0^{d}	+4.1	44^{d}	31	−20^{d}	25	41^{d}	0.55	+0.04	0.28	7.5	5	14	4	13	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	49	4.8	+6.0	38	31	−32	25	41	1.58	+0.86	0.65	15.3	5	15	6	10	nw.	Charles McAdams
Hillsboro	Traill	901	41	10.2	+5.3	40	31	−21	18	38	0.78	+0.27	0.29	8.9	9	16	9	6	n.	Alfred Jahnke.
Jamestown Airport	Stutsman	...	1	9.0	...	38	29†	−21	18	45	0.67	...	0.40	5.1	11	3	8	20	nw.	U. S. Airway Comm. Sta.
Jamestown	Stutsman	1,457	49	10.6	+3.5	47	31	−19	18	36	0.40	−0.15	0.25	4.0	3	13	6	12	...	S. G. Calvelage.
Kensal	Stutsman	1,440	2	9.0	...	41	31	−21	18†	45	0.59	...	0.45	4.4	3	8	4	19	nw.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	45	5.8	+6.2	38	29	−32	25	40	1.07	+0.50	0.33	13.3	11	7	13	11	...	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	10.0	+6.2	40	31	−28	25	38	0.55	−0.11	0.27	6.8	4	10	4	17	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	37	12.0	+4.4	40	11	−20	18	35	0.65	+0.08	0.34	7.1	6	10	3	18	nw.	J. O. Halverson.
Mayville	Traill	975	45	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	5.8	+4.3	38	31	−26	18†	41	0.98	+0.34	0.38	7.6	11	10	5	16	nw.	C. E. Blasky.
McLeod	Ransom	1,075	30	12.6	+4.3	40	11†	−22	18	39	0.36	−0.21	0.30	3.6	3	11	11	9	se.	J. G. Carlson.
Medina	Stutsman	1,816	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Rudolph Graf.
Milnor	Sargent	1,117	2	8.1	...	37	31	−22	18†	36	0.81	...	0.58	6.7	3	16	1	14	n.	E. W. Wilson.
Oakes	Dickey	1,318	12	12.0	+4.5	41	11	−23	18	37	0.71	+0.21	0.36	8.0	5	11	6	14	nw.	F. H. Murray.
Park River	Walsh	998	37	7.4	+4.5	39	31	−31	25	42	0.65	+0.26	0.26	9.5	6	8	11	12	nw.	E. J. Taintor.
Pembina Airport	Pembina	789	67	5.4	+7.8	42	31	−33	25	46	0.58	−0.06	0.26	7.3	9	4	9	18	s.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	...	...	...	...	...	...	...	0.71	+0.25	0.38	7.3	7	6	11	14	ne.	T. M. Rykken.
Sharon	Steele	1,516	17	7.2	+3.7	38	31	−26	25	38	1.03	+0.69	0.63	10.6	11	9	7	15	ne.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	11.3	+5.2	38	30†	−21	18	39	0.73	+0.23	0.43	10.5	8	11	4	16	nw.	I. C. Robertson.
Wahpeton	Richland	962	49	12.9	+4.2	38	11†	−19	18	35	0.55	+0.13	0.29	7.1	7	9	3	19	se.	W. J. Cavanaugh.
Average for Eastern Division		...	...	9.2	+4.4	47	31	−33	25	46	0.80	+0.26	0.70	8.7	7	9	6	16	nw.	...
Middle Division																				
Ashley	McIntosh	2,014	45	9.4	+0.7	40	31	−25	23	35	0.64	+0.17	0.52	6.4	7	0	22	9	w.	U. S. Airway Comm. Sta.
Bisbee	Towner	1,601	5	7.2	+5.4	40	29	−28	25	43	1.20	+0.77	0.70	11.7	6	12	0	19	s.	I. K. Lund.
Bismarck	Burleigh	1,670	67	11.6	+3.8	47	31	−18	18	37	0.57	+0.12	0.34	6.7	7	6	9	16	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	5.8	+4.4	39	31	−24	9†	51	0.59	+0.18	0.35	5.9	8	7	9	15	nw.	N. D. School of Forestry
Carrington	Foster	1,579	43	10.3	+3.6	40	31	−20	25	40	0.77	+0.45	0.50	7.5	4	7	0	24	nw.	Soo Line Agent.
Carson	Grant	2,500	29	13.4	+3.3	47	31	−14	25	39	0.44	+0.10	0.25	5.0	3	12	4	15	nw.	J. W. Evens.
Center	Oliver	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	15	11.2	+3.3	43	31	−28	25	35	0.71	+0.48	0.37	8.0	3	12	1	18	nw.	R. L. Williams.
Drake	McHenry	1,634	12	8.6	+3.1	41	31	−24	25	50	0.71	+0.42	0.34	11.0	6	1	11	19	se.	Peter Anton.
Dunseith	Rolette	1,682	45	7.4	+4.6	47	11	−28	25	46	1.19	+0.75	0.61	9.2	5	9	10	12	se.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	12.8	+2.9	48	31	−20	6†	37	0.38	+0.07	0.15	6.0	4	10	9	12	se.	H. S. Solenberger.
Fessenden	Wells	1,610	29	9.1	+4.4	42	31	−19	25	39	0.70	+0.22	0.39	8.0	4	12	5	14	se.	John V. Zuber.
Fort Yates	Sioux	1,670	41	13.2	+3.6	50	29	−16	6†	37	0.20	−0.21	0.20	2.0	1	18	2	11	se.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	9.6	+2.8	41	31	−27	25	38	0.39	+0.06	0.20	7.6	4	7	9	15	se.	E. C. Bierbaum.
Gackle	Logan	1,951	11	9.8	...	38	11†	−18	25	33	0.53	+0.15	0.42	9.5	4	6	7	18	nw.	A. H. Haut.
Garrison	McLean	1,901	64	11.4	+3.5	45	31	−20	24	33	0.58	+0.24	0.27	7.0	7	8	8	15	se.	E. L. Vorachek.
Granville	McHenry	1,504	34	8.8	+3.7	40	11†	−26	25	46	0.63	+0.27	0.30	10.0	7	4	9	18	se.	W. A. Christianson.
Hansboro	Towner	1,597	33	5.6	+5.0	43	31	−31	25	44	0.42	−0.24	0.20	10.0	5	11	9	11	nw.	W. E. Disher.
Leeds	Benson	1,515	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Fred Holmes.
Linton	Emmons	1,711	24	11.1	+1.8	48	31	−22	18	38	0.48	+0.10	0.45	4.7	3	13	3	15	se.	Wm. Heyerman.
Maddock	Benson	1,604	26	7.8	+3.2	39	31	−26	25	42	0.63	+0.33	0.32	6.9	7	8	9	14	se.	A. T. Felland.
Mandan	Morton	1,750	27	11.8	+3.2	48	31	−16	18	43	0.31	−0.04	0.14	3.8	6	11	5	15	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	...	...	...	...	...	...	...	0.57	+0.08	0.30	7.2	5	10	7	14	nw.	P. B. Anderson.
Max	McLean	2,093	12	8.7	+4.2	41	30	−25	24	54	0.18	−0.17	0.10	3.4	4	11	1	19	nw.	A. W. Rice.
McClusky	Sheridan	1,943	23	10.4	+4.0	43	11	−19	26	40	0.91	+0.50	0.60	9.2	4	16	8	7	nw.	F. W. Perry.
Minot	Ward	1,557	45	10.5	+3.9	45	31	−23	25	42	0.44	+0.07	0.21	5.2	7	8	0	23	nw.	Robert C. Chatfield.
Mohall	Renville	1,646	48	7.6	+2.8	41	31	−28	25	39	0.48	+0.17	0.16	4.5	6	8	6	17	se.	Iver Johnson.
Napoleon	Logan	1,955	49	10.9	+4.1	41	11	−22	18	41	0.75	+0.42	0.25	7.0	6	11	1	19	nw.	C. J. Hoof.
New Salem	Morton	2,163	37	11.8	+2.1	46	31	−17	6†	36	0.41	−0.04	0.22	5.0	6	13	7	11	nw.	J. Christianson.
Pettibone	Kidder	1,856	32	7.6	+3.7	40	31	−22	18	37	0.60	+0.19	0.43	8.2	3	9	1	21	nw.	Sam Loeppke.
Rolla	Rolette	1,860	4	6.8	...	46	31	−29	25	42	1.06	...	0.40	10.7	7	10	3	18	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	...	...	...	...	...	...	...	0.42	+0.11	0.22	7.0	4	7	6	18	se.	W. B. Paterson.
Ryder	Ward	2,108	12	...	...	...	...	...	...	...	0.35	+0.06	0.10	4.5	6	6	7	18	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5	...	...	...	...	...	...	...	0.31	...	0.25	4.4	3	10	6	15	se.	J. B. Smith.
Steele	Kidder	1,857	47	10.0	+2.8	43	11	−19	18	33	0.58	+0.12	0.52	8.0	4	10	2	19	sw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	...	...	...	...	...	...	...	0.31	+0.02	0.09	4.5	7	9	8	14	nw.	G. N. Pilgard.
Timmer	Morton	...	4	...	...	...	...	...	...	...	0.27	...	0.19	6.0	2	...	...	...	...	Geo. M. Sinclair.
Towner	McHenry	1,482	39	8.2	+4.1	45	31	−24	18	44	0.60	+0.16	0.40	8.0	2	11	8	12	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	10.4	+3.7	41	31	−19	18	36	0.46	+0.09	0.28	6.5	2	9	7	15	w.	A. S. Haas.
Tuttle	Kidder	1,936	33	...	...	...	...	...	...	...	0.84	+0.39	0.58	8.6	9	10	6	15	sw.	Adam Leno.
Upham	McHenry	...	1	...	...	...	...	...	...	...	0.64	...	0.39	7.5	3	10	7	14	nw.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	14	11.0	+4.2	45	31	−22	25	43	0.62	+0.24	0.28	9.5	4	8	8	15	se.	Oscar Anderson.
Washburn	McLean	1,731	40	13.4	+5.2	48	31	−14	27	34	0.39	+0.06	0.29	4.0	2	9	5	17	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	5.6	+3.5	40	31	−28	25	38	0.48	+0.16	0.20	5.9	6	16	4	11	se.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	3.3	+2.2	40	31	−33	18	49	0.27	−0.31	0.16	5.7	4	14	7	10	se.	O. M. Sanderson.
Wilton	McLean	2,159	5	11.3	...	45	31	−15	25	41	0.28	...	0.18	4.1	4	10	6	15	...	Soo Line Agent.
Wishek	McIntosh	2,010	20	9.2	+1.9	41	11	−24	23	46	0.60	+0.10	0.30	7.4	8	9	7	15	nw.	H. M. Larson.
Zap	Mercer	1,838	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	John Kaufman, Jr.
Average for Middle Division		...	...	9.5	+3.5	50	29	−33	18	54	0.56	+0.12	0.70	6.8	5	10	6	15	nw.	...

Continued on page 4

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for January 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	.23	.05			T.		.03								.07	.10			.03		.01		T.	.04	.03							0.59
Cooperstown [2]	Sheyenne	.02	.60		.20		T.	T					T.		T.	.05		.06		.17					.02	.07		T.					1.19
Courtenay	James	.70				T.												.50				.35		T.	.07	T.							1.62
Devils Lake [1]‡	Devils Lake	.39	T.		.01	.01	T	T.		T.				T.	.01	.07	.03	T.	.02	.01	T	.18	T.	T.	.05	T.	T.	T.					0.78
Edgeley	James		.44														.26					.02											0.72
Edmore	Devils Lake	.17																				.09			.01								0.27
Ellendale	James	.41				T.	.07									.10	.13					.10			T.								0.81
Fargo [1]	Red	.38	.02	T.	T.	.02	.01	T.		T.	T.			T.	.01	.05	.07	T.	T.	.01	T.	.02	T.	T.	.03	.01	T.	T.			T.		0.63
Forman	Sheyenne	.35	T.				T									.12	.09					.05		T	T.								0.61
Fullerton	James	.42				T	.03	T.								.25	.10				T.	.15	T.	.02	.03	.02	.01						1.03
Gralton	Red	.25	.16					T.						T.			.16					.12			.06		T						0.75
Grand Forks [1]‡	do	.64	.04	T.	.01	T.	T	T.		T.	T			T	T.	.07	.30	T.	T.	.07	T.	.01	T.	T.	.06	T.	.05	T.					1.25
Hankinson [2]	do		.28		.01												.14	.08				.04											0.55
Hannah	Pembina	.33	.65		T.	T.		T.		T.			T.		T.	T	.08			.25	T.	.27			T.		T.						1.58
Hillsboro	Red	.29	.06	T.			.02	.04							T.	.09	.13			.06		.03			T	T.		.06					0.78
Jamestown	James	.40		.01	T.	.01	.01	T.							T.	.03	.04	.02	T.	T.	T.	.08		.01	.05	T	.01	T.					0.67
Langdon	Pembina	.33	.20			.04		.02							.02	.06	.07			.09	.01	.18				.05							1.07
Larimore	Red	.27	.05												T.	T.	.15			T.		.08			T.		T						0.55
Lisbon	Sheyenne	.34	.02			T	.05	T.		T.					T.	.06	.15	T		T	T	.03			T.	T							0.65
Mayville	Red																																
McHenry	James	.38	.09				.02	T.								.17	.05	.04		.03		.07	T.		.05		.05	.03					0.98
McLeod	Sheyenne	.30														.01						.05			T								0.36
Oakes	James	.36					.05									.06	.19					.05											0.71
Park River	Red	.26	.08												T.	.03	.17			.02					.09	T							0.65
Pembina	do	.26	T.	.01	T	T	.01	T.		T.	T		T.	T.	.08	.10	.02			T	T.	.05	T	T	.03		.02	T.					0.58
Petersburg	do	.38	.02													.05	.06			.05		.13			.02		T						0.71
Sharon	do	.63	.05	T.		.02		.04		T.	T.				T.	.08	.09	T.		.03	T	.03			.02	.01	.03	T					1.03
Valley City	Sheyenne	.43	.06													.07	.05			.02		.06		T.	.01	.03	T.	T.					0.73
Wahpeton	Red	.29		T	.01	T.	.02	T.								.06	.14	T.				.01			.02								0.55
Middle Division																																	
Ashley [1]	Missouri	.52			T.	.02	.01	T.		T.				T.	T	.01	.04	T.		T.	T.	.01	.03	T.	T.	T.	T.	T.					0.64
Bisbee	Devils Lake	.70	T.			T.		T.								.08	.10			.04		.25			.03								1.20
Bismarck [1]‡	Missouri	.34		T.	T	.01	T.	T.	T.					T.	T	.02	.04	T	T	T.	T.	.14	.01		.01	T.	T.						0.57
Bottineau [2]	Mouse	.35	.12		.01			.01							T.		.02			.02	T.	.02			.04								0.59
Carrington	James	.50														.07		T.				.10			.10	T.							0.77
Carson	Heart	.25															T.	.11				.08											0.44
Center	Missouri																																
Dogden Butte	Mouse	.37															T.	T	T.	T.		.27			T	.07							0.71
Drake [2]	do	.34	.13			T.											.02	.02		.04		.16											0.71
Dunseith	do	.61													T.	.08	T.		.07			.27			.16								1.19
Eckman	do																																
Energy	Missouri	.15															T.		T			.08			.07	.08							0.38
Fessenden	James	.39				T.										T.	.08					.15				.08							0.70
Fort Yates	Missouri	.20				T.																				T.							0.20
Foxholm (near)	Mouse	.14															.03		.02	T.		.20	T.		T.								0.39
Gackle	James	.42	.03														.05	T				.03			T								0.53
Garrison [1]	Missouri	.09	.27			T.										.05	.02		.02		.03	T.			.10	T.							0.58
Granville	Mouse	.30	.07	T		T.	T.	T.					T.			T	.06			.04		.12			.02			.02					0.63
Hansboro	Devils Lake	.20			T.	T.									T.	.03	.10			.06		.03											0.42
Linton	Missouri	.46				T.										T.	.01	.01				T.	T.		T.	T							0.48
Maddock	Sheyenne	.32	T.	T.	T.	.04									T.	.04	.03			.03		.12			.05	T.							0.63
Mandan [2]	Missouri	.10				.01									T.	T.	.02		T		.14	T.		.02	.02	T							0.31
Max [2]	do	.04	.02																	.10				.02									0.18
McClusky	do	.60															.04		T.		T	.15				.12							0.91
Minot [1]	Mouse	.21			T.	T.	T.										.04		.07	T	.06	.01	.01	T.	.04	T.							0.44
Mohall	do	.16				T									T.	T.	.01		.07	T.		.04	T.	T.	.12	.08							0.48
Napoleon [2]	Missouri	.25	.10													.20	.08						.10			.02							0.75
New Salem	Heart	.22				.01											.01		.02			.11			.04								0.41
Pettibone	James	T.	.43												T.	T	T.		T.			.15			.02								0.60
Roila	Devils Lake	.40	T												.10	.15	.08		T.	.14		.15			T.			.04					1.06
Rugby (near)	Mouse	T.	T.		.22											T.	.10		T.	.02	T	.08			T.	T.	T.						0.42
Ryder	Missouri	.10	T.																.10	.02	.03	.03			.07	T.							0.35
Selfridge	do	.25				T								T		T.	.02		T.				.04		T.								0.31
Steele	do	.52														T	.01					.04			.01	T							0.58
Tagus	Mouse	.09		.01	T.									T.			.07		.03			.02	T		.08	T.	.01						0.31
Towner	do	T														T.				T.		.40			.20	T							0.60
Turtle Lake	Missouri	.28																T.	T.	T.		T.				.18							0.46
Tuttle	do	.58	.01				T.	T					T	T.	.01	.02	.02		.01			.14			.02	.03							0.84
Velva	Mouse	.28														T	T.	T.	.02	T		.25			.07	T.							0.62
Washburn	Missouri	.29															T.		T.			.10			T.								0.39
Westhope	Mouse	.20					T	.10						T.	.02	T.	.05		.06	T.	T				.05								0.48
Willow City	do	.08	T.												T.	.02	T		T.			.16			.01								0.27
Wishek [2]	Missouri	.30	.15				.01	T					T.				.07	.02			.02		T.		T.	.02	T.	.01					0.60
Zap	Knife																																
Western Division																																	
Alpha	Lit. Missouri	.20		T.															.02		.02		.02	T.									0.26
Amidon	do	.13															T		.01		.02	.02	.01										0.19
Beach	do	.15		.01												T.	T	T	T			.01		T	.05	T.							0.22
Berthold Agency	Missouri	.10																T.			.02			.05									0.17
Bowman [2]	Grand																					.05	T.										0.05
Crosby	Mouse	.30																						.10	.20								0.60
Dickinson [2]	Heart	.04	T.	T.	T.	T	.01	T.							T.	.01	.01	T.	.01		T.	.02	.01	T	.03	T.	T.						0.14
Dunn Center	Knife	.12															T.		.03	T.		T.	T	T.	.03	T.	T.						0.18
Fairfield	Lit. Missouri	.20																	.05						.03								0.28
Fryburg	Heart	.12				T.								T.	T.	T.	.03	T.	.02				.03		T.	T.							0.20
Hettinger	Grand																																
Howard (near)	Missouri	.18					T.										.01	.04				.01	T.	T.									0.24
Kenmare	Mouse	.16												.01	.02	.05	.03		.02	T		.01	T.		.09	T.							0.39
Marmarth	Lit. Missouri	.14															T.	T	.04		.02		T.		T.	T							0.20
Mary	do	.09														T.			.02							.04							0.15
Medora	do		.15			T										T.	T.		.02			.01	T.	T.	.04	T							0.22
Mott	Cannon Ball						T.		T.								T.	.08				.04	T.	T	T.	.05							0.17
New England [2]	do																		T.			.08											0.08
Parshall	Missouri	.14																				.06											0.20
Portal [2]	Mouse	.33	T.												T	T									T.								0.33
Powers Lake	Missouri		.26	.17	T												.03							.06									0.52
Richardton	Heart	.14															T.		.02			.03	.01		.02								0.22
Sanish [2]	Missouri	.40															T.								.18	.02							0.60
Stanley	do	.09															T.					T.			.08								0.17
Tioga	do																T.		T		T.			.08	.10	T							0.18
Trotters	Lit. Missouri	.22	.01			.01											.02		.02			.03		.01		.10		.02					0.44
Watford City	Missouri	.18															T.		.04			.03			.11	.03	T.						0.39
Wildrose	do	.12															T.		.04			T	T.		.08	.03							0.27
Williston [1]‡	do	.15				T.										T.	T.		T.		T.	.01	T.	.09	.08	T							0.33

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First- or second-order Weather Bureau station; data are for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for January 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum...	31	15	12	0	7	18	23	15	29	33	39	25	20	28	28	27	7	7	18	23	22	4	4	10	−5	16	15	32	37	35	40	19.8
	Minimum...	8	3	−10	−10	−10	−17	12	−10	2	14	12	6	12	15	22	6	−20	−22	−5	10	−2	−23	−25	−12	−15	−13	−15	8	17	15	18	−0.9
Beach	Maximum..	32	20	19	1	6	8	39	25	39	44	48	49	34	30	23	23	15	41	39	42	33	22	20	20	8	40	46	50	43	51	50	30.9
	Minimum..	4	2	−4	−12	−16	−8	5	−2	7	20	31	24	16	16	19	8	3	−1	17	17	12	9	8	−12	−14	0	−1	21	28	19	27	7.8
Bismarck [1]	Maximum...	33	22	12	2	6	11	24	10	39	32	45	28	20	27	30	27	8	13	16	21	18	5	8	9	−2	19	15	35	40	43	47	21.4
	Minimum...	9	−1	−7	−7	−7	−15	10	−8	2	16	11	11	15	17	27	8	−15	−18	0	13	5	−6	−3	−10	−11	−9	−16	2	15	14	11	1.7
Bottineau§	Maximum...	30	10	−4	4	6	9	11	9	27	20	34	26	16	23	23	23	4	11	14	12	13	0	8	−5	−2	12	11	27	32	30	39	15.3
	Minimum...	26	−5	−8	−11	−11	−7	−6	−23	−24	7	6	14	15	8	9	16	−13	−21	−8	10	5	−9	−3	−7	−24	−24	−22	−22	3	6	8	−3.7
Carson	Maximum...	32	24	14	0	3	6	21	20	37	41	45	40	25	25	36	25	10	15	25	30	18	10	9	9	−5	21	26	46	40	44	47	23.8
	Minimum...	9	0	−8	−10	−13	−12	−3	−9	1	18	23	14	14	16	22	9	−11	−11	8	12	8	−3	−3	−10	−14	−12	−13	14	22	16	21	3.1
Crosby	Maximum...	32	13	11	−4	7	6	7	7	31	34	40	30	26	19	15	16	4	20	18	22	15	11	17	15	0	22	20	31	39	33	42	19.3
	Minimum...	5	−7	−9	−11	−14	−16	−4	−16	7	9	23	11	19	14	8	2	−12	−5	−15	9	7	6	5	−21	−21	−3	−16	12	24	14	−22	0.9
Devils Lake [1]	Maximum...	29	15	4	1	6	6	24	−1	28	26	35	22	16	24	25	22	−1	6	12	15	13	−1	8	8	−11	16	10	15	32	32	39	15.3
	Minimum...	15	0	−8	−9	0	−9	−1	−15	−11	4	7	9	8	8	21	−1	−15	−18	6	12	−14	−11	−5	−16	−36	−12	−16	2	13	11	20	−1.6
Dickinson [1]	Maximum...	29	23	9	2	5	10	31	23	37	43	45	44	23	22	25	23	9	34	34	36	21	13	16	16	2	39	40	47	41	48	49	27.1
	Minimum...	4	3	−8	−9	−9	−5	3	−5	5	18	26	20	16	18	22	0	−6	−3	13	9	9	−4	5	−13	−12	−2	−4	21	26	20	24	5.9
Dunn Center	Maximum...	32	22	16	2	6	9	21	16	36	41	44	39	30	23	28	25	10	24	33	22	23	10	19	20	0	30	34	39	41	50	49	25.6
	Minimum...	9	−3	−9	−11	−18	−14	−7	−12	0	13	28	11	15	16	18	6	−5	−13	15	10	8	4	−1	−14	−15	−5	−11	17	23	11	25	2.9
Fargo	Maximum...	30	22	5	8	12	17	26	24	24	25	37	24	23	29	25	25	7	5	14	23	21	4	12	12	−4	19	19	14	35	32	36	19.5
	Minimum...	22	−2	−6	−8	4	−1	17	−12	−14	3	5	9	10	20	23	7	−16	−20	5	13	−8	−11	−1	−13	−15	−4	−4	3	8	16	18	1.5
Fessenden	Maximum...	28	19	12	−2	5	6	27	20	27	34	39	31	23	22	23	23	11	9	14	14	20	3	10	10	−4	16	18	28	36	39	42	19.5
	Minimum...	14	0	−8	−10	−10	−14	−9	−15	−12	8	7	13	12	10	22	11	−9	−18	0	6	−9	−17	−3	−11	−19	−15	−15	2	12	14	24	−1.3
Fullerton	Maximum...	33	24	18	2	9	20	25	17	21	35	42	34	22	29	29	26	20	6	15	23	22	7	6	13	0	19	20	23	37	35	39	21.6
	Minimum...	23	9	−3	−8	1	−8	16	−5	−9	11	6	11	14	12	24	20	−7	−16	2	15	7	−11	−3	−8	−15	−11	−8	1	9	16	12	3.1
Garrison [1]	Maximum...	32	30	19	−1	2	6	21	9	35	27	42	33	21	23	29	20	5	11	17	22	12	3	11	7	−4	19	17	35	37	40	45	20.2
	Minimum...	26	7	−1	−8	−16	−12	−2	−13	3	16	21	12	16	15	20	−5	−12	−15	8	13	0	−1	0	−20	−9	−8	−16	8	20	14	19	2.6
Grafton	Maximum...	30	29	10	12	11	8	26	26	19	30	35	27	19	24	25	25	12	−3	13	18	18	0	5	9	−3	16	20	9	39	37	39	18.9
	Minimum...	27	5	−4	−5	−3	−7	−11	−8	−19	4	5	17	10	7	22	11	−12	−25	−4	4	−3	−9	−17	−3	−28	−19	−9	−4	−3	19	17	−1.5
Grand Forks [1]	Maximum...	29	24	7	10	13	12	25	14	24	23	33	21	15	26	25	24	3	3	14	20	16	0	6	10	−7	18	15	9	37	29	40	17.4
	Minimum...	24	−5	−7	−8	−2	−18	12	−16	−18	−1	1	14	9	13	21	3	−19	−25	3	12	−12	−14	−13	−18	−26	−7	−10	−5	−4	10	11	−3.1
Jamestown [1]	Maximum...	31	16	4	2	10	15	24	12	30	29	37	22	18	27	27	26	6	9	16	19	19	1	7	12	−9	18	12	27	38	37	38	18.7
	Minimum...	14	4	−7	−8	0	−13	12	−13	−15	6	6	10	11	12	22	6	−15	−21	0	11	−14	−15	−9	−13	−17	−10	−11	8	12	14	9	−0.8
Kenmare	Maximum...	29	14	13	−1	7	4	17	10	35	39	42	35	26	18	21	21	6	14	18	26	16	9	13	13	−4	23	21	35	40	40	44	20.8
	Minimum...	12	0	−9	−11	−6	−14	−2	−16	3	12	17	15	16	12	11	6	−7	−15	0	1	4	−2	−1	−16	−23	−4	−15	12	24	21	30	1.8
Langdon	Maximum...	29	26	6	9	9	4	23	18	22	28	35	20	18	10	23	22	7	7	10	16	14	1	3	5	−13	14	15	18	38	30	35	16.2
	Minimum...	24	0	−10	−11	−5	−5	−7	−15	−18	1	−1	13	5	4	9	5	−16	−24	2	8	1	−16	−21	−17	−32	−19	−15	−6	2	7	12	−4.7
Marmarth	Maximum...	32	24	21	10	7	15	26	....	40	45	45	45	43	33	29	26	15	31	43	43	....	19	32	18	9	44	46	52	45	47	51	[b]32.3
	Minimum...	9	−7	2	−10	−13	−3	−4	....	1	13	17	13	13	13	20	10	7	5	16	16	....	7	−1	−5	−7	−1	3	14	21	13	16	[b] 6.3
Minot [1]	Maximum...	31	19	6	2	9	6	21	12	38	32	43	25	22	20	27	21	5	14	16	25	13	4	13	12	−1	19	25	36	40	42	45	20.7
	Minimum...	6	−7	−8	−9	−11	−17	−6	−11	10	10	11	13	15	14	17	5	−16	−17	−2	12	−12	0	1	−16	−23	−6	−17	7	27	17	26	0.3
Mott	Maximum...	36	28	25	9	8	13	34	28	42	47	48	48	39	28	29	30	17	24	31	39	32	18	19	18	4	39	43	52	44	50	50	31.4
	Minimum..	16	16	0	−3	−6	−10	−1	−3	−3	17	14	12	15	17	22	11	1	−5	17	16	12	7	3	−7	−11	−5	−4	15	18	15	20	6.6
Pembina [1]	Maximum...	30	25	10	12	10	7	24	−1	25	22	25	20	12	21	24	21	−4	2	12	17	14	−2	5	8	−6	18	7	5	37	32	42	15.3
	Minimum...	25	2	−4	−5	1	−6	−1	−19	−21	0	0	12	7	6	11	−4	−18	−28	−2	8	−9	−24	−26	−21	−33	−6	−9	−5	5	13	13	−4.5
Sharon	Maximum...	28	25	2	2	8	8	23	19	20	26	35	25	18	23	26	23	10	2	12	17	15	−2	5	9	−12	17	17	18	35	28	38	16.8
	Minimum...	25	2	−9	−10	−1	−8	−3	−13	−15	1	0	10	9	8	20	10	−14	−21	0	10	−6	−15	−8	−12	−26	−21	−13	0	6	8	13	−2.4
Steele	Maximum...	32	17	2	−1	5	4	25	18	23	32	43	33	20	24	28	24	12	9	14	23	16	6	5	10	−6	17	16	30	35	37	41	19.2
	Minimum...	15	0	−6	−11	−10	−14	−5	−11	8	16	15	9	13	13	23	12	−11	−19	−2	10	4	−8	−5	−8	−18	−12	−17	5	12	11	12	0.7
Valley City	Maximum...	32	28	10	2	11	10	22	20	21	30	37	32	24	25	27	27	19	18	16	20	20	6	8	14	0	18	20	17	37	38	38	20.9
	Minimum...	27	7	−2	−8	−1	−11	2	−8	−12	12	4	11	11	13	22	19	−9	−21	2	14	5	−12	−3	−3	−18	−15	−9	1	6	14	16	1.7
Wahpeton	Maximum...	34	31	13	5	13	15	28	27	18	18	38	34	32	29	29	27	23	2	15	25	25	10	16	15	0	20	22	20	36	33	38	22.3
	Minimum...	31	7	−1	−9	2	0	11	−2	−14	7	3	10	9	20	22	22	−8	−19	−2	11	9	−12	0	−2	−15	−5	−2	−2	5	16	16	3.5
Williston [1]	Maximum...	33	16	6	0	7	10	12	12	39	38	39	31	24	23	23	22	4	26	25	21	16	12	18	17	5	25	29	40	39	43	44	22.5
	Minimum..	−2	−6	−7	−12	−12	−6	−4	−14	9	16	22	12	19	20	20	4	−6	−8	15	12	11	9	9	−18	−16	−4	−11	14	26	14	21	4.1

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for January 1941—Continued from page 2.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	....	......	...	....	....	...	.....	0.26	−0.20	0.20	4.0	4	12	8	11	nw.	H. A. Bury.
Amidon	Slope	......	18	20.4	+5.8	50	28†	−14	5	52	0.19	−0.23	0.13	1.3	5	11	7	13	nw.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	19.4	+7.3	51	30	−16	5	47	0.22	−0.25	0.15	2.3	4	6	15	10	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	14.4	+5.8	48	31	−18	5	44	0.17	−0.08	0.10	2.3	3	10	7	14	se.	H. W. Case.
Bowbells	Burke	1,958	12	8.4	+4.3	42	31	−27	25	57	0.05	−0.50	0.05	1.0	1	2	10	19	e.	Charles Kaufman.
Bowman	Bowman	2,872	26	18.2	+3.6	50	28†	−14	5	53	0.05	−0.41	0.05	T.	1	12	1	18	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	32	10.1	+5.7	42	31	−21	24†	36	0.60	+0.19	0.30	5.0	3	4	13	14	sw.	J. H. Phelps.
Dickinson	Stark	2,543	48	14.2	+3.6	48	30†	−13	25	50	0.18	−0.24	0.10	3.4	5	14	4	13	nw.	Leroy Moomaw.
Dickinson Airport	Stark	......	1	16.5	......	49	31	−13	24	44	0.14	....	0.04	3.1	8	5	10	16	nw.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	14.2	+2.0	50	30	−18	5	45	0.18	−0.21	0.12	1.5	3	11	8	12	nw.	O. T. Evenson.
Epping	Williams	2,224	30	12.4	+7.2	43	31	−19	25	35	0.09	−0.35	0.09	3.0	1	17	10	4	se.	T. Beachler.
Fairfield	Billings	......	4	.....	......	.	..	....	.	.....	0.28	−0.29	0.20	2.7	3	8	15	8	sw.	Thomas Knudtson.
Fryburg	Billings	2,790	22	18.6	......	50	28†	−13	6†	46	0.20	−0.25	0.12	3.1	4	7	16	8	nw.	Verne King.
Hettinger	Adams	2,675	33	.....	......	....	....	....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	11.2	+6.3	40	31	−22	25	35	0.24	−0.27	0.18	2.5	4	4	12	15	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	11.3	......	44	31	−23	25	36	0.39	+0.04	0.16	5.2	8	15	11	5	se.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	19.3	+5.8	52'	28	−13	5	45'	0.20	−0.20	0.14	3.6	3	16	10	5	nw.	S. P. Grane.
Mary	McKenzie	......	12	.....	......	..	....	....	....	.....	0.15	−0.29	0.09	4.5	3	10	10	11	nw.	Fred Hartman.
Medora	Billings	2,271	25	.....	......	..	..	....	...	.....	0.22	−0.30	0.15	3.0	4	15	8	8	nw.	Vernon Thompson.
Mott	Hettinger	2,424	33	19.0	+8.8	52	28	−11	25	47	0.17	−0.47	0.08	2.4	3	9	14	8	se.	P. G. Wick.
New England	Hettinger	2,400	46	17.8	+4.3	53	29†	−11	5†	45	0.08	−0.42	0.08	0.8	1	13	8	10	se.	F. S. Sleight.
Parshall	Mountrail	1,929	25	10.5	+5.8	45	30	−22	25	41	0 20	−0.04	0.14	3.0	2	6	12	13	se.	C. E. Shubert.
Portal	Burke	1,954	35	10.8	+7.8	43	31	−35	25	57	0.33	−0.09	0.33	4.0	1	11	5	15	w.	R. G. Wegener.
Powers Lake	Burke	2,205	35	10.7	+2.6	43	31	−24	25	35	0.52	+0.01	0.26	7 1	4	9	17	5	e.	Geo. B. Gee.
Richardton	Stark	2,467	24	16.4	+5.3	47	31	−15	24†	41	0.22	−0.16	0.14	2.4	5	13	7	11	se.	Assumption Abbey.
Sanish	Mountrail	1,835	15	9.8	+4.7	45	30	−17	25	45	0.60	+0.12	0.40	7.0	3	9	6	16	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	10.0	......	40	31	−23	25	38	0.17	....	0.09	0.9	2	8	11	12	nw.	Leroy Edwards.
Tioga	Williams	2,279	12	.....	......	....	....	....	...	.....	0.18	−0.28	0.10	1.2	2	6	8	17	nw.	B. V. Olson.
Trotters	Golden Valley	......	15	.....	.....	..	....	....	...	.....	0 44	+0.04	0.22	7.0	9	8	12	11	nw.	Walter Grunewald
Watford City	McKenzie	2,084	27	15.5	+5.7	48	30	−15	25	46	0.39	−0.08	0.18	5.5	5	12	8	11	se.	J. C. Zeller.
Wildrose	Williams	2,258	13	.....	......	....	....	.	..	.....	0.27	−0.24	0.12	3.4	4	14	4	13	sw.	L Holter.
Williston	Williams	1,878	61	13.3	+6.9	44	31	−18	24	40	0.33	−0.21	0.16	4.2	4	11	8	12	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	14.3	+5.0	53	29†	−25	25	57	0.25	−0.21	0.40	3.3	4	10	9	12	nw.	....
Average for the State		......	.....	11.0	+4.7	53	29†	−33	18†	57	0.54	+0.06	0.70	6.3	5	10	7	14	nw.	....

[WBO, Minneapolis, 3-14-41—1100]

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. L BISMARCK, N. D., FEBRUARY 1941 No. 2

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GENERAL SUMMARY

The weather was mild with temperatures well above the February normals. Daily temperatures were far above normal from the 1st to the 16th and some stations had no subzero readings during this period. Temperatures were considerably lower from the 18th to the 26th. Precipitation was fairly well distributed over the state. Very little moisture fell during the first ten days but moderate amounts occurred in all sections from the 12th to the 28th. All three winter months, December to February, averaged above normal in temperature and December and February averaged above normal in precipitation. Wind and sunshine averaged about normal Very few highways were blocked because snowfall was light in most sections. Ranges in the southwestern part of the state were open for grazing but other sections were still snow covered at the end of the month. Livestock was mostly in good to excellent condition.

TEMPERATURE

The mean temperature for the state was 12.2°, or 2.6° above the 1892-1941 average for February. The mean temperature for the eastern division was 9.1°; for the middle division, 11.1°; and for the western division, 16.4°. The highest mean temperature was 23.5° at Marmarth and the lowest 4.0° at Westhope, making a range in mean temperature of 19.5°. The absolute range was 97°, from 57° at Amidon on the 28th, to −40° at Edmore on the 19th. The average daily excess in temperature for the state since January 1, 1941, is 3.6°.

PRECIPITATION

The average precipitation for the state was 0.22 inch, or 0.25 inch less than the 1892-1941 average for February. In the eastern division the average amount was 0.23 inch; in the middle division, 0.18; and in the western division, 0.24 inch. The greatest monthly amount reported was 0.70 inch at Cooperstown; the least reported was a trace at four stations. The greatest amount reported in any 24 consecutive hours was 0.50 inch at Cooperstown on the 17th. The accumulated deficiency in precipitation for the state since January 1, 1941, is 0.19 inch. The average snowfall was 2.8 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	2	3	6	4	4	3	1	1	..	1	..	..	1	1	1	..	..	1	4	1	2	3	1	..	..	4	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	20	27	38	29	1	1	3	3	10	6	19	39	5	1	1	..	1	..	1	..	..	7	3	..	1	..	15	1	..	..	..
Lunar halos	..	..	..	..	..	..	..	..	4	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Solar halos	..	..	..	..	..	..	1	2	..	..	..	1	1	..	..	..	..	1	..	..	..	1	..	..	..	1	1	1	..	..	..
Sleet	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.20	30.72	19	29.52	12	10.1	36	nw.	16	86	68	69	56
Devils Lake	30.21	30.72	20	29.61	12	9.3	32	nw.	16	95	85	90	64
Williston	30.18	30.69	20	29.51	12	6.3	27	nw.	16	82	69	67	65
Fargo	30.21	30.75	19	29.56	12	....	....	......	....	94	81	88	....
Moorhead, Minn	......	......	....	......	....	8.6	27	nw.	13	....	....	....	61

† And other dates.

COMPARATIVE DATA FOR FEBRUARY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	10.0	62	−45	0.59	0.77	0.37	0.58	4.9	4	14	7	8
1893	−0.3	52	−41	1.01	0.51	0.22	0.58	5.7	4	12	7	9
1894	8.0	55	−54	0.28	0.23	0.16	0.22	2.3	2	14	9	5
1895	5.9	65	−40	0.33	0.41	0.33	0.36	3.6	4	13	7	8
1896	14.3	64	−50	0.56	0.29	0.38	0.41	4.3	3	12	9	8
1897	6.1	52	−29	1.14	1.05	1.30	1.16	11.5	7	12	7	9
1898	13.3	65	−40	0.46	0.46	0.46	0.46	4.5	3	13	8	7
1899	0.4	60	−34	0.22	0.16	0.22	0.20	1.9	3	14	8	6
1900	1.3	46	−48	0.20	0.55	0.66	0.47	4.5	4	12	9	7
1901	7.1	60	−48	0.32	0.30	0.31	0.31	2.9	3	15	7	6
1902	12.1	51	−31	0.73	1.10	1.12	0.98	6.7	6	10	6	12
1903	3.1	46	−33	0.48	0.25	0.41	0.38	3.7	3	19	4	5
1904	−2.1	52	−49	0.81	0.56	0.69	0.69	7.6	5	13	6	10
1905	8.2	64	−42	0.25	0.31	0.37	0.31	2.9	2	19	4	5
1906	9.8	57	−46	0.20	0.07	0.28	0.18	1.4	2	13	8	7
1907	10.7	58	−38	0.36	0.21	0.42	0.33	2.8	3	15	7	6
1908	13.8	62	−49	1.56	0.68	0.87	1.04	10.1	5	12	7	10
1909	9.6	56	−34	0.28	0.36	0.37	0.34	3.7	4	11	7	10
1910	3.4	56	−34	0.57	0.40	0.81	0.59	5.6	4	14	7	7
1911	7.3	55	−50	0.84	0.74	0.52	0.70	8.0	3	15	8	5
1912	11.8	48	−38	0.19	0.18	0.09	0.15	1.7	2	10	9	10
1913	8.5	64	−33	0.08	0.09	0.09	0.09	1.0	2	12	9	7
1914	1.0	57	−44	0.34	0.28	0.40	0.34	3.8	3	12	8	8
1915	17.4	50	−47	1.32	0.27	0.26	0.62	6.1	3	9	5	14
1916	6.4	55	−20	0.41	0.45	0.58	0.48	4.8	4	14	8	7
1917	−0.7	61	−39	0.84	0.58	0.55	0.66	7.1	5	10	8	10
1918	10.8	60	−48	0.20	0.16	0.29	0.22	2.3	3	13	9	6
1919	7.7	58	−41	0.68	0.73	0.44	0.62	6.5	5	10	8	10
1920	12.5	53	−40	0.38	0.25	0.28	0.30	3.2	3	11	9	9
1921	19.9	64	−36	0.52	0.39	0.25	0.39	3.8	3	11	10	7
1922	0.7	45	−33	1.41	1.17	1.00	1.19	12.8	5	13	6	9
1923	4.1	48	−39	0.78	0.64	0.51	0.64	7.2	4	13	7	8
1924	20.3	67	−40	0.39	0.43	0.35	0.39	4.2	3	14	6	9
1925	16.5	62	−27	0.48	0.30	0.08	0.29	3.6	3	10	9	9
1926	22.3	58	−39	0.47	0.44	0.31	0.41	3.7	4	9	9	10
1927	13.3	50	−19	0.49	0.31	0.27	0.36	3.1	4	12	7	9
1928	18.8	59	−31	0.13	0.06	0.15	0.11	1.2	2	14	8	7
1929	2.8	44	−19	0.30	0.28	0.30	0.29	3.3	4	12	8	8
1930	21.7	63	−44	1.41	1.15	0.97	1.18	11.7	6	11	8	9
1931	28.0	62	−30	0.34	0.20	0.31	0.28	2.9	2	14	6	8
1932	13.6	69	−31	0.30	0.37	0.30	0.32	4.3	3	12	9	8
1933	7.9	58	−45	0.25	0.26	0.34	0.28	3.3	3	13	8	7
1934	19.5	61	−30	0.08	0.04	0.07	0.06	0.7	1	13	8	7
1935	24.0	63	−25	0.21	0.24	0.15	0.20	1.9	2	13	7	8
1936	−12.9	43	−60	0.90	0.70	0.50	0.70	9.1	6	12	8	9
1937	6.8	55	−35	0.83	0.40	0.25	0.49	6.6	4	12	9	7
1938	7.2	60	−35	0.71	0.63	0.71	0.68	8.6	5	11	7	10
1939	−0.8	51	−46	0.85	0.60	0.45	0.63	9.7	5	13	8	7
1940	15.0	52	−29	0.63	0.59	0.60	0.61	7.8	7	5	8	16
1941	12.2	57	−40	0.23	0.18	0.24	0.22	2.8	3	12	8	8
Period	9.6	69	−60	0.55	0.44	0.43	0.47	4.9	4	13	7	8

Climatological Data for February 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	11.6	+2.5	35	1	−24	19	29	0.13	−0.37	0.10	2.5	2	14	6	8	nw.	James. H. Erickson.
Cavalier	Pembina	894	31	8.6	......	36	1	−28	19	37	0.30	−0.22	0.16	3.0	2	14	2	12	n.	City Light &Power Co.
Cooperstown	Griggs	1,428	44	5.4	−2.4	38	1	−34	19	32	0.70	+0.30	0.50	12.5	3	8	5	15	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	......	......	......	......	......	......	......	0.35	−0.33	0.20	3.0	3	5	15	8	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	6.7	+1.6	34	1	−30	19	29	0.12	−0.38	0.08	1.2	5	7	7	14	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	10.8	−2.0	36	15	−24	19	26	0.21	−0.12	0.17	4.0	2	11	11	6	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	17	4.4	−0.4	35	1	−40	19	39	0.12	−0.32	0.05	2.5	4	20	1	7	nw.	Mike Davis.
Ellendale	Dickey	1,457	46	13.0	−0.1	35	15	−21	19	29	0.30	−0.24	0.09	3.9	4	10	9	9	nw.	J. E. Demmer.
Fargo	Cass	895	14	9.4	+2.0	34	1	−24	19	29	0.09	−0.44	0.03	1.9	4	4	11	13	nw.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	10.2	+0.3	38	1	−25	19	28	0.20	−0.34	0.15	2.4	3	15	7	6	uw.	Helge Dyste.
Fullerton	Dickey	1,439	43	12.2	−0.2	34	1†	−22	19	37	0.42	−0.51	0.32	4.2	4	6	16	6	nw.	F. O. Alin.
Grafton	Walsh	827	49	7.8	+0.5	40	1	−26	19	31	0.35	−0.19	0.21	5.8	2	9	11	8	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	5.6	−2.1	34	1	−31	18†	29	0.53	−0.03	0.30	5.8	5	8	8	12	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	12	10.8^{d}	−3.3	37^{d}	1	−22^{d}	19†	39^{d}	0.15	−0.38	0.13	1.9	2	3	15	10	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	49	4.8	+2.2	36	1	−38	19	31	0.40	−0.19	0.24	4.0	2	14	2	12	nw.	A. E. Prior.
Hillsboro	Traill	901	41	9.6	−0.6	38	1	−27	18	33	0.18	−0.40	0.10	3.0	4	11	7	10	nw.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	11.3	+1.4	38	1	−25	19	38	0.20	−0.39	0.20	2.0	1	17	6	5	nw.	U. S. Airway Comm. Sta.
Jamestown Airport	Stutsman	......	1	10.1	......	34	1	−25	19	34	0.13	......	0.10	1.3	3	2	15	11	nw.	S. G. Calvelage.
Kensal	Stutsman	1,440	2	10.0	......	40	1	−32	18	38	T.	......	T.	T	0	16	5	7	nw.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	45	5.8	+1.0	34	1	−38	18†	34	0.27	−0.35	0.13	4.0	5	10	9	9	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	8.1	+0.4	39	1	−29	19	32	0.36	−0.22	0.17	4.7	3	11	4	13	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	37	11.4	−0.2	35	1	−26	19	36	0.10	−0.52	0.07	1.6	3	11	6	11	nw.	J. O. Halverson.
Mayville	Traill	975	45	7.9	−1.9	36	1	−32	19	31	0.38	−0.01	0.13	4.5	5	3	23	2	nw.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	5.6	+0.2	33	1	−36	19	33	0.21	−0.50	0.05	2.4	6	12	8	8	nw.	C. E. Blasky.
McLeod	Ransom	1,075	30	12.2	−0.8	38	1	−27	19	35	0.29	−0.32	0.16	2.9	3	11	12	5	n.	J. G. Carlson.
Medina	Stutsman	1,816	1	......	......	......	......	......	......	......	T.	......	T.	T.	0	11	6	11	nw.	Rudolph Graf.
Milnor	Sargent	1,117	2	10.0	......	35	2	−32	18	42	0.40	......	0.40	3.0	1	20	0	8	n.	E. W. Wilson.
Oakes	Dickey	1 318	12	11.4	−1.9	37	1	−24	18†	38	0.13	−0.37	0.09	1.3	2	16	4	8	nw.	F. H. Murray.
Park River	Walsh	998	37	7.5	−0.2	37	1	−29	19	27	0.35	−0.05	0.13	5.5	4	6	9	13	nw.	E. J. Taintor.
Pembina Airport	Pembina	789	67	5.2	+2.4	36	1	−28	18	27	0.15	−0.48	0.06	2.2	5	8	8	12	n.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	......	......	......	......	......	......	......	0.08	−0.43	0.03	0.8	3	7	15	6	nw.	T. M. Rykken.
Sharon	Steele	1,516	17	6.5	−3.0	34	1	−33	19	40	0.22	−0.11	0.08	2.5	7	8	11	9	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	10.5	−1.0	38	1	−27	19	36	0.14	−0.33	0.05	3.0	4	13	8	7	nw.	I. C. Robertson.
Wahpeton	Richland	962	49	12.6	+0.2	37	1	−23	19	30	0.18	−0.31	0.12	2.6	4	10	8	10	nw.	W. J. Cavanaugh.
Average for Eastern Division		......	....	9.1	+0.1	40	1	−40	19	42	0.23	−0.32	0.50	3.0	3	10	9	9	nw.	......
Middle Division																				
Ashley	McIntosh	2,014	45	9.7	−1.7	34	10	−26	19	36	0.04	−0.45	0.01	0.6	4	1	18	9	n.	U. S. Airway Comm. Sta.
Bisbee	Towner	1,601	5	8.0	+1.5	35	1	−33	19	34	0.16	−0.20	0.05	1.8	4	15	1	12	nw.	I. K. Lund.
Bismarck	Burleigh	1,670	67	15.2	+4.9	46	9	−24	27	40	0.14	−0.30	0.12	2.9	4	9	6	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	5.8	+0.9	35	1	−33	18†	33	0.23	−0.12	0.11	2.3	7	8	9	11	uw.	N. D. School of Forestry
Carrington	Foster	1,579	43	10.5	+1.6	38	1	−28	18	30	0.10	−0.27	0.10	1.0	1	11	0	17	nw.	Soo Line Agent.
Carson	Grant	2,500	29	17.1	+2.6	50	9	−25	21	40	0.63	+0.19	0.42	6.0	3	12	10	6	nw.	J. W. Evens.
Center	Oliver	......	3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	B. Wilcox.
Dogden Butte ‡‡	McLean	1,880	15	12.4	−0.7	38	1	−26	18	32	0.20	−0.15	0.16	1.8	2	10	9	9	nw.	R. L. Williams.
Drake	McHenry	1,634	12	9.4	−1.0	38	10	−24	18†	35	0.12	−0.24	0.08	1.3	4	10	3	15	nw.	Peter Anton.
Dunseith	Rolette	1,682	45	8.8	+2.1	40	1	−32	18	36	0.37	−0.06	0.14	4.1	4	10	13	5	n.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	36	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	15.7	+1.4	46	4	−25	21	40	T.	−0.45	T.	T.	0	15	9	4	n.	H. S. Solenberger.
Fessenden	Wells	1,610	29	11.9	+2.2	42	2	−26	18†	38	0.28	−0.22	0.10	4.0	4	11	5	12	n.	John V. Zuber.
Fort Yates	Sioux	1,670	41	17.7	+5.1	53	5	−20	27	35	0.05	−0.44	0.05	2.0	1	17	3	8	uw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	11.4	−0.6	38	1†	−26	18	34	0.12	−0.45	0.04	1.7	7	9	9	10	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	11	11.1	......	37	1	−24	18	25	0.02	−0.42	0.02	1.0	1	13	0	15	nw.	A. H. Haut.
Garrison	McLean	1,901	64	12.7	−1.6	44	4	−24	21	37	0.22	−0.31	0.13	1.5	4	9	9	10	nw.	E. L. Vorachek.
Granville	McHenry	1,504	34	9.4	−0.6	39	1†	−32	18	34	T.	−0.44	T.	T.	0	10	13	5	nw.	W. A. Christianson.
Hansboro	Towner	1,597	33	7.8	+1.7	39	1	−28	18	26	0.06	−0.49	0.03	1.0	2	8	9	11	nw.	W. E. Disher.
Leeds	Benson	1,515	1	6.4	......	34	2	−32	18†	39	0.02	......	0.02	0.3	1	15	9	4	nw.	Carl T. Carlson.
Linton	Emmons	1,711	24	16.0	+2.2	43	10	−22	19	38	0.14	−0.34	0.07	1.8	3	16	5	7	se.	Wm. Heyerman.
Maddock	Benson	1,604	26	7.8	−2.4	37	1	−35	18	33	0.33	−0.05	0.19	3.9	3	4	15	9	nw.	A. T. Felland.
Mandan	Morton	1,750	27	14.7	+2.1	49	9	−21	27	49	0.22	−0.14	0.20	8.0	3	13	1	14	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	......	......	......	......	......	......	......	0.20	−0.26	0.10	2.5	4	12	8	8	nw.	P. B. Anderson.
Max	McLean	2,093	12	9.1	−0.5	40	3	−27	21	36	0.10	−0.40	0.20	2.0	1	10	6	12	......	A. W. Rice.
McClusky	Sheridan	1,943	23	12.4	+0.6	38	1	−26	19	37	0.18	−0.36	0.18	1.5	1	15	11	2	nw.	F. W. Perry.
Minot	Ward	1,557	45	11.1	+0.9	42	3†	−23	27	41	0.28	−0.17	0.10	3.8	5	9	5	14	nw.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	9.0	+1.5	39	4	−31	19	35	0.45	+0.14	0.24	2.9	6	9	14	5	nw.	Iver Johnson.
Napoleon	Logan	1,955	49	11.5	−2.1	40	10	−26	19	37	0.18	−0.22	0.10	3.0	3	11	3	14	nw.	C. J. Hoof.
New Salem	Morton	2,163	37	15.2	+2.2	49	9	−24	21	43	0.24	−0.21	0.15	3.9	5	16	8	4	nw.	J. Christiansen.
Pettibone	Kidder	1,856	32	8.3	−0.7	36	1	−29	19	40	0.24	−0.15	0.16	2.4	4	10	7	11	nw.	Sam Loeppke.
Rolla	Rolette	1,860	4	8.6	......	35	1	−28	18†	32	0.29	......	0.09	2.9	5	12	2	14	n.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	......	......	......	......	......	......	......	0.27	−0.15	0.10	4.5	5	10	8	10	nw.	W. B. Paterson.
Ryder	Ward	2,108	12	......	......	......	......	......	......	......	0.20	−0.27	0.08	2.0	4	15	4	9	nw.	S. C. Scheilenbaum.
Selfridge	Sioux	2,183	5	......	......	......	......	......	......	......	0.20	......	0.10	2.0	4	7	13	8	nw.	J. B. Smith.
Steele	Kidder	1,857	47	11.4	+1.8	40	1	−25	19	36	0.08	−0.36	0.07	0.8	2	10	10	8	uw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	......	......	......	......	......	......	......	0.17	−0.23	0.08	3.2	5	14	6	8	nw.	G. N. Pilgard.
Timmer	Morton	......	4	......	......	......	......	......	......	......	0.19	......	0.17	4.0	2	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	39	8.7	+1.0	37	1	−32	19	38	0.17	−0.27	0.10	1.5	3	12	8	8	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	13.0	+3.4	41	1	−26	21	40	0.13	−0.37	0.13	2.0	1	13	8	7	w.	A. S. Haas.
Tuttle	Kidder	1,936	33	......	......	......	......	......	......	......	0.10	−0.28	0.05	1.0	5	13	10	5	nw.	Adam Leno.
Upham	McHenry	......	1	......	......	......	......	......	......	......	0.34	......	0.15	3.5	6	12	9	7	nw.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	14	13.0	+1.6	41	4	−23	18†	36	0.20	−0.24	0.10	2.5	3	12	6	10	nw.	Oscar Anderson.
Washburn	McLean	1,731	40	16.7	+6.0	45	4†	−23	21	35	0.10	−0.31	0.10	1.0	1	17	2	9	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	4.0	−3.7	35	1	−37	18†	35	0.31	+0.10	0.16	3.6	2	17	7	4	nw.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	5.6	+0.5	36	8	−37	18†	39	0.21	−0.34	0.12	4.3	3	13	10	5	w.	O. M. Sanderson.
Wilton	McLean	2,159	5	14.4	......	44	1	−24	21	36	0.10	......	0.10	2.0	1	13	10	5	nw.	Soo Line Agent.
Wishek	McIntosh	2,010	20	10.4	+0.2	34	17	−25	19	36	0.06	−0.29	0.04	1.5	3	10	7	11	nw.	H. M. Larson.
Zap	Mercer	1,838	26	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	John Kaufman, Jr.
Average for Middle Division		......	......	11.1	+1.1	53	5	−37	18†	41	0.18	−0.26	0.42	2.3	3	12	7	9	nw.	......

Continued on page 8

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora.

Daily Precipitation for February 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red					T.	T.											T.						.03	T.	T.	.10	T.					0.13
Cooperstown [2]	Sheyenne		T					T.		T.								.50					T.		.04		.16						0.70
Courtenay	James						T.								T			.20			T					.05	.10						0.35
Devils Lake [1]‡	Devils Lake	T.	T.			T.	T.			T.	T.	T.	T.	T.	.01	T.	T.	T.			.01	T.	T.	.02		.04	.04	T					0.12
Edgeley	James																								.04		.17						0.21
Edmore	Devils Lake						.02										.02	.03						T.		T.	.05						0.12
Ellendale	James																	T.				T.		.08	.04	.09	.09						0.30
Fargo [1]	Red	T.		T.	T.	T.	.02					T		T.	T.	T.	T.	T.			T.	T.	T.	.02		.03	.02	T.					0.09
Forman	Sheyenne			T.		T.	T.											T							.02	.03	.15						0.20
Fullerton	James					T.	T.	T.						T	T.		T.	T.				.03		.03		.32	.04						0.42
Grafton	Red					T.												.21						T	T.		.14	T.					0.35
Grand Forks [1]‡	do	T.				T.	T.						T.	T.	T.	T.	.17	T			T.	.01	T.	.04		.01	.30	T.					0.53
Hankinson [2]	do																										.13	.02					0.15
Hannah	Pembina					T.	T.			T				T	T			.24			T	T.		T.		T.	.16	T.	T.				0.40
Hillsboro	Red					T.	T.						T		T.	T	.03					T.		.02		.03	.10						0.18
Jamestown Airport [1]	James			T		T.	T.	T.						T.	T.		T.	T.			T.	T.		.01		.10	.02	T.					0.13
Langdon	Pembina					.02	.02											.08			.02						.13						0.27
Larimore	Red					T.	T.								T.			.13					T.	T.			.17	.06					0.36
Lisbon	Sheyenne					T	T.										T.	T.						.02	T.	.01	.07						0.10
Mayville	Red					T.		.05						.03	T.		.03									.06	.13	.08					0.38
McHenry	James						T.							.03	T.		.02	.05			T.			.02		.04	.05						0.21
McLeod	Sheyenne						.08								T.									T.	.16	T.	.05						0.29
Oakes	James																	T.				T.		.04	T.	T.	.09	T					0.13
Park River	Red					T.												.06							.06	.10	.13						0.35
Pembina	do	T.	T.	T.	T.	T.	T			T	.01		T.	T.	T.	T.	T.	T.			.01	T	T.	.06		.01	.06	T.					0.15
Petersburg	do						T							T.				.03				T.			.02		.03						0.08
Sharon	do					T.	.01						T.		T.		.01	.02			T.			.02	.01	.07	.08						0.22
Valley City	Sheyenne						T.								T	T.	T	.02				T.		.03	T	.04	.05						0.14
Wahpeton	Red	T.		.03		T.									T.			.01					T.	.02		T.	.12	T					0.18
Middle Division																																	
Ashley [1]	Missouri	T.		T.	T.	T.	T.	T.					T.	T.	T.		.01	T.			.01	T.		.01		.01	T.						0.04
Bisbee	Devils Lake												T.					.03			.03			.05		T	.05						0.16
Bismarck [1]‡	Missouri		T.				T.						T.	T.	T		T.	.01			T.	T.		.01		.10	.02						0.14
Bottineau [2]	Mouse														.01	.02		.06			.01	.01			.01		.11						0.23
Carrington	James													T.												T.	.10						0.10
Carson	Heart												.15						.06							.42							0.63
Center	Missouri																																......
Dogden Butte	Mouse						T.						T.	T	T.			T.			T.			T.		.16	.04						0.20
Drake [2]	do							T							T	T.	T.	.01				.02			.01		.08						0.12
Dunseith	do											T.			T.		.12	T.			T.			.09		.02	.14						0.37
Eckman	do																																......
Energy	Missouri																	T.						T		T							T.
Fessenden	James													.06							.04					.08	.10						0.28
Fort Yates	Missouri						T.						T.													.05							0.05
Foxholm (near)	Mouse						.01						.01		.01		T.	T.			.01			.02		.02	.04						0.12
Gaekle	James						T											T.			T.	T		T.		T.	.02						0.02
Garrison [1]	Missouri						T.					T	.02								.02	T.		.05		.13							0.22
Granville	Mouse																T.				T	T.		T.		T	T.						T.
Hansboro	Devils Lake						T.								T.	T.	T.				T.		T.	.03		T.	.03						0.06
Linton	Missouri						T.						.03					.04						T.		.07							0.14
Maddock	Sheyenne						T							T.	T.		T.	.02			T.			T.		.12	.19						0.33
Mandan [2]	Missouri					T.	T.						T.		T.		.01	T.		T.	T.		T.	.01		.20							0.22
Max [2]	do																				T.						.10						0.10
McClusky	do												T.		T.						T.						.18						0.18
Minot [1]	Mouse						T.						.01	T.	T.			T.			.03			.05		.10	.09						0.28
Mohall	do												.05		.03			T			.02			.03		.08	.24						0.45
Napoleon [2]	Missouri															T.		.03							.05		.10						0.18
New Salem	Heart												.02					.01			.01			.05		.15							0.24
Pettibone	James						T								.03				.02		T.			.03				.16					0.24
Rolla	Devils Lake						T							T.		T.	.02	.08			T			.08		.02	.09						0.29
Rugby (near)	Mouse						T								.05			.05			T.			.05		.02	.10						0.27
Ryder	Missouri						T.						.02				T	T.			.05			.08		.05							0.20
Selfridge	do		T.				T						T.				T	.05	T.		.03			.02		.01							0.20
Steele	do						T.											T.			T.			T		.01	.07						0.08
Tagus	Mouse												T.		.01		T.	T.			T.	.02		.02		.08	.04						0.17
Towner	do						T.											T.			.02			.05			.10						0.17
Turtle Lake	Missouri														T.						T			T.		.13							0.13
Tuttle	do						T.						T.	T	.01			T.			.01	.01		.02		.05							0.10
Velva	Mouse						T.	T					T		T.			T.			T.			.05		.10	.05						0.20
Washburn	Missouri														T.			T			T.						.10						0.10
Westhope	Mouse												T			T.					T.			.16		.15							0.31
Willow City	do						T.									T.	.12				T			.03		.06							0.21
Wishek [2]	Missouri	T.					.01							T.		T.		.01								.04							0.06
Zap	Knife																																......
Western Division																																	
Alpha	Lit. Missouri												.07								T	T		.02		.09							0.18
Amidon	do												0.14						.01							.11							0.26
Beach	do											T	.01						T.		.01			.05		.08	T.						0.15
Berthold Agency	Missouri											T.	T.								.03			.03		.10							0.16
Bowman [2]	Grand												T.	.18												.22	T						0.40
Crosby	Mouse												T.				T.	.10			.10			.10		.08							0.38
Dickinson Airport [1]	Heart					T.	T.						T	T			T.	.01	.01	T	.08			.01		.03	T.						0.14
Dunn Center	Knife											T	T.		T.		T.	T.			T.	T.		T		.13							0.13
Fairfield	Lit. Missouri																				T.					.08							0.08
Fryburg	Heart											T.	.04				T.			T.	.02					.16							0.22
Hettinger	Grand																		.03		.01					.20							0.24
Howard (near)	Missouri												.10		T		T.	.10			.15			T.									0.35
Kenmare	Mouse												.06				T.	.01			.05			.06		.05	.05						0.28
Marmarth	Lit. Missouri						T						.25							T.	T.			T.	T.	.16							0.41
Mary	do											T.						.04		.07				T.		T.							0.11
Medora	do											T.	.02		T.				.01		.01			.05		.18							0.27
Mott	Cannon Ball						T						.04	T					.03	T.	T.	T.		T.	T.	.12							0.19
New England [2]	do											.14	.04					.07							.37	T.							0.62
Parshall	Missouri											T.	.03		T.			.02			T.					.06	.01						0.12
Portal [2]	Mouse																							.08		.03							0.11
Powers Lake	Missouri																.08									.16							0.24
Richardton	Heart													.08					.03							.05							0.16
Sanish [2]	Missouri																							.01	.06	T.	.23						0.30
Stanley	do																	T.			.09			.09		.21							0.39
Tioga	do																	T.			.10				T.	T.	.40						0.50
Trotters	Lit. Missouri											T.	.03				T.		.02	T.	.03			.03		.10							0.21
Watford City	Missouri											T.		T.			T.	T.	T		.05			.05		.08	T.						0.18
Wildrose	do													T				.03			.04			.06		.02	.03						0.18
Williston [1] ‡	do											T	T	T.	T		T.	T.		T.	.08		.01	.08		.09							0.26

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First- or second-order Weather Bureau station; data are for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for February 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum	33	27	29	30	28	14	18	32	30	34	24	27	23	27	33	31	16	−6	7	9	8	16	17	8	7	11	13	26	....	....	....	20.4
	Minimum	25	13	18	22	3	−1	0	3	−6	11	13	19	−1	7	7	13	−13	−22	−26	−13	−17	−18	−7	−19	−18	−11	−14	3	....	....	....	−1.0
Beach	Maximum	50	40	45	51	43	28	38	48	44	46	48	37	34	33	43	38	38	27	17	12	22	37	27	13	18	12	36	57	....	....	....	35.1
	Minimum	19	22	21	16	25	3	2	8	16	18	25	28	6	19	12	20	22	1	0	−3	−15	5	0	−14	3	−6	−9	16	....	....	....	9.3
Bismarck [1]	Maximum	34	30	39	43	30	15	30	40	46	42	28	30	27	30	41	36	22	−1	3	16	14	26	14	12	9	10	16	36	....	....	....	25.6
	Minimum	28	21	24	21	9	4	4	9	6	17	18	21	11	16	15	22	−3	−16	−15	−6	−18	−9	−1	−7	−6	−11	−24	7	....	....	....	4.9
Bottineau§	Maximum	35	21	29	30	23	14	21	33	21	24	20	27	15	21	23	27	5	−9	−6	1	−1	7	2	4	4	13	15	27	....	....	....	15.9
	Minimum	20	13	13	2	3	−2	−3	0	−2	2	12	9	2	1	−1	2	−1	−33	−33	−27	−26	−23	−6	−13	−14	−2	−10	−6	....	....	....	−4.4
Carson	Maximum	44	32	46	48	41	28	34	45	50	48	45	29	29	33	40	35	35	12	5	20	15	21	15	11	6	6	15	40	....	....	....	29.6
	Minimum	19	22	24	17	20	3	0	9	14	16	14	20	11	12	9	18	9	−12	−18	−3	−25	−6	−2	−15	−4	−10	−20	6	....	....	....	4.6
Crosby	Maximum	35	38	37	32	33	18	32	38	28	25	27	25	24	28	34	34	21	6	7	−4	13	29	24	5	9	7	20	41	....	....	....	23.6
	Minimum	25	24	18	−13	16	0	0	6	10	15	16	17	3	13	13	14	1	−20	−23	−17	−25	−9	−5	−14	−12	−14	−15	6	....	....	....	1.1
Devils Lake [1]	Maximum	34	19	28	30	22	13	14	21	27	22	20	25	20	21	22	25	7	−13	−7	−1	1	10	8	2	1	10	11	25	....	....	....	14.9
	Minimum	15	10	15	16	3	−2	−2	2	6	6	10	16	6	7	3	7	−22	−30	−30	−17	−24	−3	−7	−10	−16	−7	−4	10	....	....	....	−1.5
Dickinson Airport [1]	Maximum	44	29	46	50	40	24	36	45	45	47	43	34	30	34	41	38	27	8	8	16	14	26	15	12	9	10	22	51	....	....	....	30.1
	Minimum	22	22	15	16	11	4	4	13	16	17	25	19	9	14	14	21	8	−9	−13	−16	−21	−3	−7	−8	−1	−16	−18	10	....	....	....	5.3
Dunn Center	Maximum	40	33	45	51	38	23	37	46	42	46	35	31	31	33	44	37	33	13	12	17	13	28	21	13	10	9	20	51	....	....	....	30.4
	Minimum	21	24	22	14	20	4	0	5	8	14	20	18	5	16	13	20	10	−13	−16	−6	−24	−7	1	−10	−8	−5	−23	7	....	....	....	4.6
Fargo	Maximum	34	25	28	30	18	16	10	21	28	26	31	31	24	24	29	26	12	−11	−5	5	2	19	22	6	9	18	16	29	....	....	....	19.0
	Minimum	14	6	16	22	4	5	−4	−5	−1	8	9	24	2	3	3	12	−17	−22	−24	−17	−15	−9	0	−10	−16	4	−3	6	....	....	....	−0.2
Fessenden	Maximum	39	42	37	28	31	30	29	16	18	26	31	29	23	29	31	27	26	12	−5	8	6	18	11	7	6	10	14	34	....	....	....	21.9
	Minimum	14	24	27	11	15	20	6	0	0	7	3	12	6	8	7	15	10	−26	−26	−14	−22	−13	0	−10	−15	−2	−12	7	....	....	....	1.9
Fullerton	Maximum	34	30	31	34	30	15	13	29	26	28	28	27	25	27	32	27	32	−4	−3	10	5	13	18	10	8	15	17	30	....	....	....	21.0
	Minimum	25	14	18	23	15	3	4	4	0	13	12	21	8	4	10	15	−5	−21	−22	−14	−13	−9	−2	−5	−12	7	−4	8	....	....	....	3.5
Garrison [1]	Maximum	35	29	41	44	26	10	31	37	39	38	22	26	22	29	36	33	19	−2	2	12	13	23	6	9	6	7	16	40	....	....	....	23.2
	Minimum	29	21	22	17	7	1	1	6	6	14	15	15	5	10	10	19	−6	−16	−20	−6	−24	−10	−9	−11	−11	−9	−18	5	....	....	....	2.2
Grafton	Maximum	40	25	28	34	28	17	15	17	21	25	19	26	24	22	22	25	20	−8	−5	2	8	16	13	12	5	16	14	23	....	....	....	18.0
	Minimum	13	10	6	9	11	6	4	−4	−7	6	−5	9	11	−2	1	1	−11	−23	−26	−20	−13	−4	−10	−9	−19	1	−4	−1	....	....	....	−2.5
Grand Forks [1]	Maximum	34	21	26	31	21	17	9	16	23	23	24	29	23	22	22	23	5	12	4	−1	0	12	15	5	5	13	14	27	....	....	....	15.8
	Minimum	7	5	8	11	2	5	−3	−8	−6	4	−3	23	−1	0	−2	4	−20	−31	−31	−24	−15	−9	−8	−14	−20	1	−9	5	....	....	....	−4.6
Jamestown Airport [1]	Maximum	34	22	30	30	27	16	17	27	30	30	25	27	25	36	30	30	16	−6	1	5	8	10	11	9	4	13	15	28	....	....	....	19.3
	Minimum	19	13	18	23	4	3	3	4	10	11	8	21	4	7	5	15	−18	−24	−25	−18	−17	−10	−4	−12	−15	−3	−5	9	....	....	....	0.9
Kenmare	Maximum	40	31	42	40	37	19	36	42	34	37	26	24	26	26	32	32	31	6	4	0	13	20	19	10	9	11	17	37	....	....	....	25.0
	Minimum	26	18	19	18	16	0	2	6	11	13	14	14	3	15	11	15	6	−23	−24	−11	−23	−11	−2	−11	−16	−5	−19	11	....	....	....	2.6
Langdon	Maximum	34	20	27	28	20	22	20	25	21	20	26	25	23	25	20	22	18	−11	−4	3	8	10	11	8	4	15	10	20	....	....	....	16.8
	Minimum	18	6	11	8	1	0	−6	−7	6	7	3	4	4	−3	−3	6	−14	−38	−38	−26	−24	−4	−4	−16	−23	−3	−7	−1	....	....	....	−5.1
Marmarth	Maximum	51	42	47	53	47	33	37	50	48	49	48	41	31	32	43	38	41	35	15	20	22	34	30	17	20	17	32	50	....	....	....	36.5
	Minimum	13	13	18	15	21	6	1	5	10	14	27	31	10	20	10	20	22	10	5	10	−6	17	6	−3	2	−3	−8	7	....	....	....	10.5
Minot [1]	Maximum	36	29	42	42	29	11	32	38	32	36	23	26	25	27	33	32	15	−5	2	−3	11	23	15	9	6	7	18	37	....	....	....	22.4
	Minimum	14	19	22	14	7	2	−1	7	9	12	15	15	5	11	11	15	−10	−21	−22	−21	−22	−15	−9	−14	−17	−17	−23	9	....	....	....	−0.2
Mott	Maximum	46	40	49	52	41	33	35	50	51	51	44	39	32	34	41	38	37	22	10	21	13	26	20	16	13	12	24	50	....	....	....	33.6
	Minimum	19	22	24	17	22	6	3	9	11	15	21	23	4	11	3	15	13	−1	−17	2	−22	−5	3	−9	0	−6	−26	11	....	....	....	6.0
Pembina [1]	Maximum	36	22	18	30	19	16	8	16	19	18	18	27	21	19	19	22	0	−18	−10	−2	3	18	10	4	4	14	14	26	....	....	....	14.3
	Minimum	9	9	12	10	3	3	−2	−9	−2	2	−4	7	−1	0	3	0	−22	−28	−26	−20	−10	−6	−7	−9	−16	−1	−12	7	....	....	....	−3.9
Sharon	Maximum	34	21	26	27	25	15	12	20	21	24	16	25	22	21	26	22	25	−15	−9	0	0	12	12	2	1	13	11	23	....	....	....	15.4
	Minimum	20	8	10	19	6	1	0	1	−1	7	4	15	0	−3	−3	10	−15	−29	−33	−21	−21	−9	−1	−12	−16	−4	−5	4	....	....	....	−2.4
Steele	Maximum	40	33	32	32	28	13	22	31	33	37	30	26	24	26	34	31	28	−6	−4	12	7	18	14	7	6	8	14	32	....	....	....	21.7
	Minimum	28	14	13	19	13	0	−1	3	−3	10	12	18	5	8	8	16	−6	−24	−25	−14	−23	−14	2	−9	−14	−1	−14	6	....	....	....	1.0
Valley City	Maximum	38	31	28	30	30	15	15	23	25	23	26	27	26	27	26	26	23	−13	−12	4	2	10	17	13	13	16	14	26	....	....	....	18.9
	Minimum	31	12	14	23	13	2	3	2	8	14	9	22	12	2	3	13	−13	−25	−27	−18	−17	−6	−3	−8	−16	3	−3	8	....	....	....	2.1
Wahpeton	Maximum	37	32	28	28	29	18	16	25	29	29	31	33	31	27	31	31	22	3	1	8	10	20	27	10	10	19	18	30	....	....	....	22.3
	Minimum	24	8	15	22	12	3	2	−4	−1	10	9	21	14	2	5	19	−5	−22	−23	−15	6	−8	5	−7	−13	5	−6	3	....	....	....	2.9
Williston [1]	Maximum	40	34	39	43	30	21	33	41	32	37	30	30	29	30	40	35	26	3	8	4	7	33	9	7	11	12	29	47	....	....	....	26.4
	Minimum	28	24	18	17	12	3	3	9	15	15	19	17	7	18	17	18	3	−9	−12	−20	−21	0	−5	−10	−2	−9	−10	10	....	....	....	5.5

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for February 1941—Continued from page 6.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	......	......	....	....	.....	....	......	0.18	−0.29	0.09	2.0	3	18	3	7	nw.	H. A. Bury.
Amidon	Slope	......	18	22.8	+6.6	55	28	−17	21	37	0.26	−0.22	0.14	2.6	3	12	10	6	nw.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	22.2	+6.2	57	28	−15	21	45	0.15	−0.26	0.08	2.1	4	7	17	4	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	18.4	+6.3	49	4	−23	21	42	0.16	−0.24	0.10	3.0	3	11	10	7	nw.	H. W. Case.
Bowbells	Burke	1,958	12	10.2	+4.7	40	8	−26	21	36	0.17	−0.26	0.15	3.3	2	9	7	12	w.	Charles Kaufman.
Bowman	Bowman	2,872	26	19.5	+2.1	51	1†	−17	21	39	0.40	−0.08	0.22	4.0	2	12	4	12	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	32	12.4	+2.9	41	28	−25	21	45	0.38	+0.02	0.10	4.5	4	11	5	12	nw.	J. H. Phelps.
Dickinson	Stark	2,543	48	16.1	+3.3	53	28	−26	27	56	0.27	−0.16	0.07	4.8	8	12	3	13	nw.	Leroy Moomaw.
Dickinson Airport	Stark	......	1	17.7	......	51	28	−21	21	41	0.14	......	0.08	3.3	5	7	11	10	nw.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	17.5	+3.4	51	4†	−24	21	44	0.13	−0.37	0.13	1.5	1	12	9	7	nw.	O. T. Evenson.
Epping	Williams	2,224	30	14.6	+5.2	41	1	−27	21	34	0.06	−0.35	0.06	1.0	1	19	7	2	se.	T. Beachler.
Fairfield	Billings	......	4	......	......		..	.....	..	.....	0.08	−0.31	0.08	1.5	1	11	13	4	nw.	Thomas Knudtson.
Fryburg	Billings	2,790	22	20.4	......	55	28	−20	21	51	0.22	−0.25	0.16	2.8	3	12	7	9	nw.	Verne King.
Hettinger	Adams	2,675	33	21.1	+4.6	54	28	−19	21	48	0.24	−0.18	0.20	2.9	3	16	7	5	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	13.7	+4.7	41	8	−23	21	39	0.35	−0.21	0.15	4.0	3	8	11	9	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	13.8	......	42	3†	−24	19	36	0.28	−0.09	0.06	3.0	6	18	6	4	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	23.5	+6.3	53	4	−8	27	45	0.41	−0.03	0.25	4.0	2	13	9	6	nw.	S. P. Grane.
Mary	McKenzie	......	12	......	......	....	....	.....	....	......	0.11	−0.23	0.07	1.3	2	12	9	7	nw.	Fred Hartman.
Medora	Billings	2,271	25	......	......	..	..	.....	....	......	0.27	−0.21	0.18	3.2	5	16	10	2	nw.	Vernon Thompson.
Mott	Hettinger	2,424	33	19.8	+5.7	52	4	−26	27	50	0.19	−0.43	0.12	3.0	3	6	14	8	nw.	P. G. Wick.
New England	Hettinger	2,400	46	19.8	+5.8	51	4†	−23	26	39	0.62	+0.13	0.37	6.5	4	18	1	9	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	25	13.5	+5.8	43	4†	−26	21	42	0.12	−0.30	0.06	1.5	4	10	12	6	nw.	C. E. Shubert.
Portal	Burke	1,954	35	10.2	+4.0	43	4	−29	18†	45	0.11	−0.29	0.08	1.5	2	12	7	9	w.	R. G. Wegener.
Powers Lake	Burke	2,205	35	11.6	−0.2	41	1†	−23	18†	38	0.24	−0.22	0.16	4.0	2	17	9	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	24	18.0	+3.3	49	4	−20	21	40	0.16	−0.24	0.08	1.5	3	12	9	7	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	15	12.5	+3.9	45	5†	−27	21†	42	0.30	−0.13	0.23	5.0	3	11	4	14	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	10.2	......	36	4	−28	19	43	0.39	......	0.21	2.9	3	16	7	5	nw.	Leroy Edwards.
Tioga	Williams	2,279	12	......	......	....	....	.....	....	......	0.50	+0.08	0.40	4.1	2	13	4	11	nw.	B. V. Olson.
Trotters	Golden Valley	......	15	......	......	....	....	.....	...	......	0.21	−0.16	0.10	2.6	5	9	13	6	nw.	Walter Grunewald
Watford City	McKenzie	2,084	27	19.4	+5.7	53	28	−22	21	42	0.18	−0.24	0.08	2.3	3	16	6	6	nw.	J. C. Zeller.
Wildrose	Williams	2,258	13	......	......	....	....	.....	....	......	0.18	−0.25	0.06	2.4	5	11	7	10	sw.	L Holter.
Williston	Williams	1,878	61	16.0	+7.9	47	28	−21	21	39	0.26	−0.15	0.09	3.1	4	14	7	7	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	16.4	+4.0	57	28	−29	21†	51	0.24	−0.19	0.40	3.0	3	13	8	7	nw.	....
Average for the State		......	.....	12.2	+2.6	57	28	−40	19	51	0.22	−0.25	0.50	2.8	3	12	8	8	nw.	....

[WBO, Minneapolis, 4-18-41-1100]

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

F. J. BAVENDICK

Vol. L Bismarck, N. D., March 1941 No. 3

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GENERAL SUMMARY

Temperatures were moderate except for a cold spell on the 16th-17th when subzero readings were reported. The precipitation was mostly light but a heavy snowfall on the 21st was very beneficial for adding moisture to the topsoil. The outstanding feature of the month was the storm on March 15. The strong wind, light snow, and colder weather appeared in the northwest part of the state about 3:00 p.m. and moved southeastward with increasing force and astonishing speed. By 8:00 p.m. the northern Red River Valley was in the grip of the storm and the southeastern counties felt its force by 10:00 p.m. Thirty-nine people lost their lives in North Dakota in this storm, all in the eastern and central counties where there was snow on the ground, snow in the air and winds of gale force. Many people were on the highways because it was Saturday and most of them did not have on heavy clothing because temperatures were moderate before the storm. Livestock losses were comparatively light.

TEMPERATURE

The mean temperature for the state was 24.5°, or 0.7° above the 1892-1941 average for March. The mean temperature for the eastern division was 23.1°; for the middle division, 23.7°; and for the western division, 26.7°. The highest mean temperature was 31.1° at Amidon, and the lowest, 17.3° at Bottineau and Hannah, making a range in mean temperature of 13.8°. The absolute range was 93°, from 68° at five stations in the west on the 29th, to -25° at Edmore on the 17th. The average daily excess in temperature for the state since January 1, 1941, is 2.7°.

PRECIPITATION

The average precipitation for the state was 0.58 inch, or 0.18 inch less than the 1892-1941 average for March. In the eastern division the average amount was 0.65 inch; in the middle division, 0.64 inch; and in the western division, 0.46 inch. The greatest monthly amount reported was 1.36 inches at Cavalier; the least was a trace at Bowman. The greatest amount recorded in any 24 consecutive hours was 0.76 inch at Cavalier on the 22d. The accumulated deficiency in precipitation for the state since January 1, 1941, is 0.37 inch. The average snowfall was 6.8 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	2	..	1	1	..	..	..	..	..	1	..	..	10	5	..	..	..	..	..	..	..	1	1	3	..	1	5	11	19	15	10
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	7	2	..	1	1	1	6	2	..	..	..	..	6	3	1	..	..	1	2	5	8	14	20	6	7	12	..	3	1	7	11
Lunar halos	..	..	..	..	..	..	1	1	..	1	2	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	1	1	..	..	2	1	..	..	1	..	..	1	..	1	1	..	..	..	..	..	1	2	..	..	..	..	..	..	..
Sleet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	3	..	..	..	..	1	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.17	30.70	13	29.61	29	11.2	48	nw.	15	88	65	69	52
Devils Lake	30.16	30.65	12	29.51	15	9.9	42	nw.	15	96	80	85	61
Williston	30.17	30.78	12	29.58	29	7.7	35	nw.	15	82	66	62	45
Fargo	30.15	30.62	13	29.53	15	.....	.....	......	....	93	80	82	....
Moorhead, Minn	......	....	....	....	....	8.7	41	w.	15	....	....	....	51

† And other dates.

COMPARATIVE DATA FOR MARCH

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	24.2	66	−35	0.87	0.98	0.65	0.83	1.9	4	12	8	11
1893	13.9	68	−35	1.10	1.30	0.46	0.95	10.0	5	13	7	11
1894	24.8	69	−22	1.20	1.71	1.43	1.45	10.1	5	12	9	10
1895	23.2	75	−35	0.07	0.21	0.24	0.17	1.0	2	16	10	5
1896	15.7	70	−35	1.19	1.15	1.06	1.13	8.0	8	12	10	9
1897	11.9	58	−48	1.15	1.04	1.90	1.36	8.0	7	15	7	9
1898	21.3	79	−24	0.77	0.80	0.80	0.79	6.7	5	13	8	10
1899	7.5	72	−30	1.23	0.96	0.68	0.96	10.0	5	12	10	9
1900	20.3	77	−24	0.96	0.96	1.11	1.01	8.5	5	14	7	10
1901	25.3	85	−32	0.95	0.85	0.78	0.86	5.2	5	15	8	8
1902	27.4	65	−25	2.75	2.90	2.55	2.73	11.7	8	10	6	15
1903	22.1	80	−24	0.78	0.44	0.42	0.55	5.1	3	12	6	13
1904	18.2	64	−26	1.26	1.33	1.64	1.41	11.5	5	11	6	14
1905	32.5	81	−25	1.09	0.85	0.32	0.75	2.3	4	11	8	12
1906	18.5	67	−34	0.31	0.39	0.44	0.38	3.1	3	15	6	10
1907	23.1	83	−20	0.57	0.58	1.00	0.72	5.1	4	14	9	8
1908	21.1	68	−31	1.17	0.94	1.53	1.21	12.1	8	10	9	12
1909	24.0	61	−24	0.34	0.40	0.26	0.33	2.7	4	10	9	12
1910	41.3	90	− 7	0.83	0.93	1.08	0.94	0.3	3	18	8	5
1911	30.6	78	−18	0.14	0.26	0.29	0.23	1.6	2	16	10	5
1912	15.4	65	−28	0.28	0.32	0.52	0.37	3.6	3	17	8	6
1913	17.2	70	−31	0.82	0.73	1.00	0.85	8.2	6	12	9	10
1914	25.5	76	−20	0.83	1.06	0.75	0.88	9.2	5	10	9	12
1915	22.9	63	−23	0.38	0.20	0.07	0.22	2.0	2	16	6	9
1916	20.3	69	−45	1.43	1.82	1.00	1.42	13.5	6	11	9	11
1917	22.2	67	−39	0.44	0.33	0.37	0.38	3.9	3	13	10	8
1918	35.0	82	−15	0.32	0.46	0.42	0.40	2.9	2	16	8	7
1919	17.8	67	−35	0.63	0.93	0.78	0.78	6.2	4	12	9	10
1920	22.4	67	−32	0.46	0.83	1.20	0.83	7.1	4	15	8	8
1921	25.2	75	−22	1.07	1.02	0.81	0.97	9.1	6	9	12	10
1922	25.8	60	−30	0.96	0.67	0.50	0.71	6.4	4	12	7	12
1923	18.3	65	−35	0.34	0.44	0.35	0.38	4.8	4	10	10	11
1924	25.5	58	−20	0.32	0.36	0.75	0.48	4.4	4	10	9	12
1925	27.4	75	−26	0.74	0.56	0.75	0.68	6.0	4	14	9	8
1926	25.8	83	−23	0.35	0.19	0.17	0.24	1.8	3	13	10	8
1927	30.4	77	−10	0.90	0.78	0.47	0.72	6.5	5	13	8	10
1928	28.1	85	−17	0.69	0.55	0.31	0.52	4.8	3	15	8	8
1929	30.5	77	−15	0.68	0.65	1.02	0.78	5.3	5	12	8	11
1930	26.1	62	−17	0.17	0.05	0.05	0.09	0.9	1	17	8	6
1931	25.7	63	−24	0.99	0.85	0.99	0.94	4.8	5	11	8	12
1932	18.9	64	−30	0.52	0.60	0.80	0.64	6.0	6	10	11	10
1933	28.5	70	−14	0.46	0.41	0.49	0.45	3.7	3	14	10	7
1934	26.3	74	−12	0.43	0.34	0.71	0.49	3.6	4	11	11	9
1935	26.3	75	−37	2.00	0.89	0.90	1.26	7.0	5	9	11	11
1936	25.4	61	−27	0.73	0.75	0.94	0.81	8.1	6	10	11	10
1937	24.8	72	−20	0.42	0.34	0.42	0.39	4.3	3	12	11	8
1938	33.1	72	−14	0.63	0.57	0.58	0.59	2.5	4	13	10	8
1939	23.3	81	−29	0.33	0.41	0.42	0.39	5.3	3	16	8	7
1940	23.1	64	−26	1.19	0.71	0.72	0.87	9.1	7	9	9	13
1941	24.5	68	−25	0.65	0.64	0.46	0.58	6.8	5	11	8	12
Period	23.8	90	−48	0.78	0.75	0.75	0.76	5.9	4	13	9	9

Climatological Data for March 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	26.0	+1.3	57	29	−9	17	36	0.36	−0.13	0.17	4.7	8	13	11	7	nw.	James. H. Erickson.
Cavalier	Pembina	894	31	21.0	......	43	24†	−12	17	40	1.36	+0.65	0.76	13.2	3	14	2	15	n.	City Light &Power Co.
Cooperstown	Griggs	1,428	44	17.8	−6.5	46	29	−20	17	47	1.00	+0.37	0.54	11.5	6	9	7	15	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	......	......	...	...	......	...	......	0.86	+0.04	0.25	6.9	5	12	12	7	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	20.1	+0.3	47	29	−14	17	32	0.86	+0.08	0.75	7.6	6	6	9	16	n.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	26.8	−0.5	60	30	−9	17	40	0.46	−0.25	0.20	8.0	3	10	13	8	ne.	O. A. Thompson.
Edmore	Ramsey	1,524	17	18.0	−3.1	40	8	−25	17	43	0.50	−0.18	0.20	6.0	4	17	7	7	nw.	Mike Davis.
Ellendale	Dickey	1,457	46	26.3	−0.9	61	30	−8	4	33	0.71	−0.20	0.32	7.9	9	11	5	15	s.	J. E. Demmer.
Fargo	Cass	895	14	24.8	+2.4	57	29	−8	17	28	0.61	−0.19	0.21	6.9	9	8	7	16	n.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	25.5	−0.5	58	30	−8	17	33	0.41	−0.33	0.20	4.8	6	13	3	15	nw.	Helge Dyste.
Fullerton	Dickey	1,439	43	26.4	−0.7	58	30	−8	17	36	0.71	−0.49	0.45	6.7	5	9	10	12	nw.	F. O. Alin.
Grafton	Walsh	827	49	22.2	+0.5	42	31	−11	17	38	0.94	+0.29	0.52	12.7	3	10	12	9	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	19.9	−2.6	48	29	−16	17	35	0.88	+0.14	0.40	8.5	8	2	10	19	nw.	U. S. Weather Bureau.
Hankinson	Richland	1,068	12	26.4	−2.2	66	30	−5	17	36	0.34	−0.59	0.19	3.4	4	5	21	5	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	49	17.3	−1.9	40	31	−22	17	42	1.07	+0.38	0.63	9.8	3	14	4	13	sw.	A. E. Prior.
Hillsboro	Traill	901	41	24.6	−0.7	57	29	−10	17	37	0.85	+0.10	0.30	9.8	6	12	9	10	sw.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	26.0	+1.6	58	29	−8	17	36	0.62	−0.25	0.15	6.2	6	9	7	15	sw.	S. G. Calvelage.
Jamestown Airport	Stutsman	......	1	24.4	......	57	29	−8	17	31	0.34	......	0.12	3.4	7	9	8	14	nw.	U. S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	24.6	......	61	30	−14	17	42	0.51	......	0.21	3.7	3	18	5	8	n.	U. S. Wildlife R fuge.
Langdon	Cavalier	1,615	45	19.0	−0.8	45	30	−23	17	42	1.00	+0.20	0.31	11.9	9	10	13	8	n.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	22.6	−0.1	48	31	−14	17	39	0.63	−0.14	0.23	7.0	5	9	10	12	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	37	26.4	−0.9	59	29	−11	17	36	0.35	−0.29	0.11	3.9	7	11	8	12	ne.	J. O. Halverson.
Mayville	Traill	975	45	24.2	−0.5	55	29	−18	16	48	0.31	−0.38	0.14	4.8	3	10	15	6	nw.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	19.0	−4.0	47	29	−21	17	39	0.79	+0.14	0.28	8.7	7	10	8	13	n.	C. E. Blasky.
McLeod	Ransom	1,075	30	26.4	−1.4	60	31	−12	17	38	0.47	−0.24	0.24	4.7	4	16	6	9	sw.	J. G. Carlson.
Medina	Stutsman	1,816	1	......	......	...	...	......	...	......	0.35	......	0.20	3.8	3	12	6	13	sw.	Rudolph Graf.
Milnor	Sargent	1,117	2	23.0	......	41	30	−11	16	28	0.82	......	0.58	7.2	4	18	5	8	nw.	E. W. Wilson.
Oakes	Dickey	1 318	12	25.8	−1.9	60	30	−8	4†	35	0.41	−0.43	0.21	3.0	7	13	5	13	nw.	F. H. Murray.
Park River	Walsh	998	37	21.6	−1.2	45	31	−12	17	37	0.78	+0.16	0.55	12.5	3	10	8	13	nw.	E. J. Taintor.
Pembina Airport	Pembina	789	67	18.0	−0.4	40	31	−11	4†	36	0.52	−0.29	0.30	7.4	9	5	12	14	n.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	......	......	...	...	......	...	......	0.56	−0.11	0.25	6.8	4	10	6	15	nw.	T. M. Rykken.
Sharon	Steele	1,516	17	20.5	−3.7	47	31	−17	17	38	0.83	+0.19	0.42	8.0	9	7	12	12	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	25.6	−0.7	54	30	−11	17	36	0.47	−0.20	0.12	7.5	7	12	7	12	nw.	I. C. Robertson.
Wahpeton	Richland	962	49	27.6	0.0	57	29†	−8	17	38	0.23	−0.42	0.08	3.9	6	12	6	13	nw.	W. J. Cavanaugh.
Average for Eastern Division		......	....	23.1	−1.1	66	30	−25	17	48	0.65	−0.13	0.76	7.3	6	11	8	12	nw.	......
Middle Division																				
Ashley	McIntosh	2,014	45	23.8	−1.1	63	30	−15	17	40	0.25	−0.54	0.08	4.2	8	4	17	10	n.	U. S. Airway Comm. Sta.
Bisbee	Towner	1,601	5	20.8	−1.7	45	29	−19	17	41	0.42	−0.31	0.15	6.5	5	16	2	13	w.	I. K. Lund.
Bismarck	Burleigh	1,670	67	26.6	+2.4	64	30	−4	16	37	0.79	−0.10	0.59	10.2	6	6	9	16	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	17.3	−3.5	46	31	−21	17	45	0.54	−0.12	0.35	5.4	5	11	9	11	nw.	N. D. School of Forestry
Carrington	Foster	1,579	43	24.6	+0.9	56	31	−9	16†	41	0.70	+0.03	0.45	7.0	3	8	0	23	nw.	Soo Line Agent.
Carson	Grant	2,500	29	26.4	−0.6	56	29	−7	16†	36	1.13	+0.38	0.60	12.7	6	6	15	10	nw.	J. W. Evens.
Center	Oliver	......	3	......	......	...	...	......	...	......	......	......	......	......	......	......	......	......	......	Fred L. Heinz.
Dogden Butte ‡‡	McLean	1,880	15	24.8	−1.6	55	29†	−15	17	41	0.77	−0.08	0.60	8.5	3	9	7	15	nw.	R. L. Williams.
Drake	McHenry	1,634	12	21.4	−3.3	55	31	−10	17	35	0.73	+0.28	0.37	10.8	5	9	8	14	nw.	Peter Anton.
Dunseith	Rolette	1,682	45	21.3	+0.8	46	30	−15	17	43	0.82	+0.19	0.56	9.5	5	9	13	9	ne.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	36	......	......	...	...	......	...	......	......	......	......	......	......	......	......	......	......	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	27.0	−1.9	65	29	−9	17	42	0.68	−0.09	0.60	7.0	2	11	10	10	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	29	24.4	+0.7	55	29	−9	17	39	0.93	+0.18	0.89	11.0	2	16	5	10	n.	John V. Zuber.
Fort Yates	Sioux	1,670	41	26.9	−0.3	63	29	−3	17	38	0.21	−0.64	0.18	2.4	2	16	5	10	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	23.6	−1.8	58	29†	−12	17	34	0.74	−0.09	0.50	8.1	4	8	6	17	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	11	26.0	......	55	30†	−10	17	36	0.27	−0.52	0.12	3.4	6	13	7	11	nw.	A. H. Haut.
Garrison	McLean	1,901	64	24.5	+0.1	64	29	−9	17	51	0.67	−0.18	0.47	7.0	5	8	7	16	sw.	E. L. Vorachek.
Granville	McHenry	1,504	34	24.0	−0.5	57	31	−13	17	40	0.30	−0.20	0.16	3.6	2	8	11	12	nw.	W. A. Christianson.
Hansboro	Towner	1,597	33	20.5	−0.2	45	8	−11	17	30	0.38	−0.56	0.30	5.5	2	7	11	13	sw.	W. E. Disher.
Leeds	Benson	1,515	1	18.5	......	38	30	−15	17†	42	0.71	......	0.54	9.1	4	11	11	9	w.	Carl T. Carlson.
Linton	Emmons	1,711	24	28.8	+0.8	67	30	−9	17	43	0.50	−0.29	0.16	5.0	7	14	5	12	nw.	Wm. Heyerman.
Maddock	Benson	1,604	26	22.0	−2.3	52	29	−16	17	43	1.06	+0.53	0.47	12.6	6	9	10	12	nw.	A. T. Felland.
Mandan	Morton	1,750	27	26.6	−0.2	62	29†	−4	16	37	1.00	+0.15	0.37	10.8	5	7	7	17	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	......	......	...	...	......	...	......	0.74	−0.04	0.60	8.0	6	11	7	13	nw.	P. B. Anderson.
Max	McLean	2,093	12	22.0	−2.5	62	29	−12	17	47	0.43	−0.30	0.20	6.0	4	11	5	15	nw.	A. W. Rice.
McClusky	Sheridan	1,943	23	24.8	−1.4	61	29	−12	16	43	0.98	+0.18	0.60	12.3	3	11	12	8	nw.	F. W. Perry.
Minot	Ward	1,557	45	24.6	+1.0	61	29	−9	17	36	0.54	−0.09	0.33	6.6	4	9	1	21	nw.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	22.4	+0.9	59	29	−15	17	35	1.16	+0.52	0.53	13.5	8	8	13	10	nw.	Iver Johnson.
Napoleon	Logan	1,955	49	24.4	+1.1	62	30	−15	17	46	0.72	−0.11	0.25	8.0	6	10	6	15	nw.	C. J. Hoof.
New Salem	Morton	2,163	37	26.4	+0.2	62	29†	−10	16†	45	0.58	−0.27	0.38	6.9	6	16	4	11	nw.	J. Christiansen.
Pettibone	Kidder	1,856	32	22.4	−2.0	58	31	−19	17	36	0.31	−0.31	0.12	5.5	3	9	4	18	nw.	Sam Loeppke.
Rolla	Rolette	1,860	4	20.7	......	47	8	−12	17	30	0.68	......	0.17	6.8	6	12	5	14	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	......	......	...	...	......	...	......	0.50	−0.06	0.18	6.0	3	8	9	14	sw.	W. B Paterson.
Ryder	Ward	2,108	12	......	......	...	...	......	...	......	0.39	−0.18	0.35	4.6	3	11	6	14	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5	......	......	...	...	......	...	......	0.38	......	0.08	4.4	7	7	14	10	nw.	J. B. Smith.
Steele	Kidder	1,857	47	25.7	+1.2	59	29	−15	17	37	0.41	−0.40	0.23	6.0	2	9	9	13	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	......	......	...	...	......	...	......	0.41	−0.11	0.26	8.0	4	11	8	12	sw.	G. N. Pilgard.
Timmer	Morton	......	4	......	......	...	...	......	...	......	0 42	......	0.25	8.0	3	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	39	22.4	−0 2	50	31	−16	17	35	1.10	+0.37	0.60	9.0	4	10	11	10	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	26.0	+0.8	61	29	−10	17	46	0.78	−0.10	0.65	9.0	3	11	7	13	nw.	A. S. Haas.
Tuttle	Kidder	1,936	33	......	......	...	...	......	...	......	0.60	−0.19	0.33	5.4	10	11	11	9	nw.	Adam Leno.
Upham	McHenry	......	1	......	......	...	...	......	...	......	1.15	......	0.43	9.1	5	11	13	7	nw.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	14	26.0	+0.7	62	29	−9	17	35	0.52	−0.02	0.34	8.0	3	7	9	15	nw.	Oscar Anderson.
Washburn	McLean	1,731	40	28.0	+2.5	64	29	−5	16†	34	0.49	−0.25	0.44	7.6	2	16	6	9	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	19.8	−2.7	42	8	−21	17	38	0.84	+0.31	0.45	11.0	4	16	6	9	nw.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	19.0	−1.1	44	30	−23	17	43	0.67	−0.07	0.35	10.0	3	18	9	4	nw.	O. M. Sanderson.
Wilton	McLean	2,159	5	26.0	......	60	29	−11	17	45	0.55	......	0.52	9.0	4	8	16	7	......	Soo Line Agent.
Wishek	McIntosh	2,010	20	23.8	−2.3	62	30	−12	17	41	0.34	−0.36	0.09	7.3	5	10	9	12	nw.	H. M. Larson.
Zap	Mercer	1,838	26	......	......	...	...	......	...	......	......	......	......	......	......	......	......	......	......	John Kaufman, Jr.
Average for Middle Division		......	.....	23.7	−0.7	67	30	−23	17	51	0.64	−0.11	0.65	7.7	4	11	8	12	nw.	......

Continued on page 12

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods: Dogden Butte, near Butte; Eckman, Maxbass: Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for March 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red		.05	.05											.01	.03	.01					.03	.17					.01					0.36
Cooperstown[2]	Sheyenne		.15									.05			T	.02	.20					.54	T.					.04					1.00
Courtenay	James		.19			T.						.05					.22					.25					T.	.15					0.86
Devils Lake[1]‡	Devils Lake		.04			T.		T.				.01			T	.05			T.	T		.74	.01				T.	.01				T.	0.86
Edgeley	James			.20			.14						.12																				0.46
Edmore	Devils Lake											.01					.12					.20	.17										0.50
Ellendale	James		.32	.05			.11					T.	.03		.05		.04						.02			.07		.02					0.71
Fargo[1]	Red		.06				T.					.02			.10	.10	.02					.06	.21	T.			.02	.02			T		0.61
Forman	Sheyenne		.20	.07			.05	T.				T.			T.	T.	.02					.05	.02										0.41
Fullerton	James		.45				.11					.06			.07	.02	T.										T.	T					0.71
Grafton	Red											.05					.37			T.			.52					T.					0.94
Grand Forks[1]‡	do		T.							T.		.02			.04	.18	.04	T.	T	T.		.40	.15				.04	.01					0.88
Hankinson[2]	do			.19				.01								.09							.05					T					0.34
Hannah	Pembina		T.									.20					.24		T.	T.			.63				T.	T.					1.07
Hillsboro	Red											.03			T.	.06	.13					.30	.30					.03					0.85
Jamestown Airport[1]	James	T.	.07	.01			T.					.03			.07	.03	T.						.12	T			T.	.01					0.34
Langdon	Pembina											.07	.09				.29	.03		.02		.16	.31				.01	.02					1.00
Larimore	Red											.04				.05	.10					.21	.23										0.63
Lisbon	Sheyenne		.11	.08			T.					.01	T.		.03	T.	.04					T.	.05					.03					0.35
Mayville	Red		T.									T			.06				T.			.11	.14			T.							0.31
McHenry	James		.14			T.	T.					.06			T.	T.	.08					.28	.15				.02	.06					0.79
McLeod	Sheyenne			.24											.02		.07											.14					0.47
Oakes	James		.21	.05			.05						.01		.05	.01	T.						.03					T.					0.41
Park River	Red											T.					.05					.18	.55										0.78
Pembina	do	T	T.				T.				.01	T.			T	.06	.01		.01	.03	T.	.30	.08			T.	.01	.01					0.52
Petersburg	do		T									T.					.20					.25	.08					.03					0.56
Sharon	do	T.	.07	T		T	T.					.03			.02	.02	.08					.42	.16				.02	.01					0.83
Valley City	Sheyenne		.12	.04			T					.09	T.		.08	T.	.05	T.				.04						.05					0.47
Wahpeton	Red		.08				.01					.03				.02	T.	T.					.08					.01					0.23
Middle Division																																	
Ashley[1]	Missouri		.02	T.		.08	.05			T.	.03	.04	T		.01	T.	T.					.01	T.	T		.01	T.	T.					0.25
Bisbee	Devils Lake		.05									T.	.03			T.	.05					.15	.14				T.						0.42
Bismarck[1]‡	Missouri		T.			T.	.03			T.	.04	.10	T.		.02	.01	T.		T.			.59	T.				T.	T.					0.79
Bottineau[2]	Mouse		.06	.02							T.	.01	T.			T.	.10					T.	.35										0.54
Carrington	James			.07								T.			T.		T					.45	.18										0.70
Carson	Heart					.09	.10			.04		.24			.06							.60											1.13
Center	Missouri																																......
Dogden Butte	Mouse		T.				T.				T	.14	.03		T.	T.	T.					.60						T.					0.77
Drake[2]	do							T.				.25	.05			.03							.37					.03					0.73
Dunseith	do		.08								.08	.02	T			.08	T.		T.	T.		.56	T.										0.82
Eckman	do																																......
Energy	Missouri		T.								T.	.08			T.	T.	T.					.60						T.					0.68
Fessenden	James											.04										.89											0.93
Fort Yates	Missouri						.18					.03			T.								T.					T.					0.21
Foxholm (near)	Mouse		.06							T.		.15				T	T					.50	.03										0.74
Gackle	James		.10									.01	T		.01	.01	.02					T.	.12					T.					0.27
Garrison[1]	Missouri		.01			T.	T.		T		T	.05				.04						.47					T.	T.				.10	0.67
Granville	Mouse		T.								.14	.16				T.																	0.30
Hansboro	Devils Lake		T								T.	T				T				T		.30	.08										0.38
Linton	Missouri		.03				.10				T.	.16			.03	T.	.06					.07	.05					T.					0.50
Maddock	Sheyenne		.21				T					T.	.03		T.	T.	.27					.47	.06					.02					1.06
Mandan[2]	Missouri		T.			.03	T.				.24	.03			T.	T.			T.		.33	.37					T.	T.					1.00
Max[2]	do			T.						T	.05		.04			T.						.20	.14										0.43
McClusky	do		.14	T.								.24							T.			.60						T.					0.98
Minot[1]	Mouse		.08			T	T.		T		.07	.06			T.	T.			T.			.33	T.				T.	T.					0.54
Mohall	do		.33							.01	.01	.03				.04						.53	.19				.02						1.16
Napoleon[2]	Missouri			.08			.08					.25	.08							T.			.20					.03					0.72
New Salem	Heart		T.							T.	.07	.06	.02		.02				.03			.38					T						0.58
Pettibone	James			.12								.07			T.	T							.12					T.					0.31
Rolla	Devils Lake			.11							T.	T.	.04			T.	.14					.16	.17					.06					0.68
Rugby (near)	Mouse		.15									T.					.18					.17	T				T.	T.					0.50
Ryder	Missouri		.02								T.	.02										.35						T.				T.	0.39
Selfridge	do	T.	.03			.08					.06	.05	T.		.06	.03						.07			T.		T.	T.					0.38
Steele	do		T.									.18			T.							.23											0.41
Tagus	Mouse	T.	.03			T				T.	T	.09				.03			T	T.		T	.26					T.					0.41
Towner	do		.30								T.	.10				.10						.60					T.	T.					1.10
Turtle Lake	Missouri		T.								T.	.06				.07						.65											0.78
Tuttle	do		.02	T.	.03		.01				.05	.10	.02		T.	.02	.01		.01	T		.33	T.				T.						0.60
Velva	Mouse		.06	T.							T.	.12	T.		T.	T	T.					.34	T.				T.						0.52
Washburn	Missouri		T.							T.	T	.05				T			T.			.44						T					0.49
Westhope	Mouse		.16								T.	.08				.15						.45	T.										0.84
Willow City	do		.18								T.					.14						.35											0.67
Wishek[2]	Missouri			.06			.04				.09	.09										.06			T.								0.34
Zap	Knife																																......
Western Division																																	
Alpha	Lit. Missouri	T.	.05	T		.03				.11	.01	.01	T.			.02			T.			.07					T.						0.30
Amidon	do						.04				.01	.02									T.	T											0.07
Beach	do		T.			T.	.01			.01	.03	T.	.02		T.		.03			T.		T	.08				T.	T.					0.18
Berthold Agency	Missouri										T.	.01				T.						.50											0.51
Bowman[2]	Grand						T.																										T.
Crosby	Mouse		.20							T	.05	.05				T.						.40	T									T.	0.70
Dickinson Airport[1]	Heart		T.	T.		T.	.01			T.	T.	.03	.02		.01	.01					T.					T.						.30	0.46
Dunn Center	Knife		T				T.				T.	T	T.		T.	T	T.					.38											0.38
Fairfield	Lit. Missouri										.03					.13						.23											0.43
Fryburg	Heart						.02			T.	.05	.01	T.			.02					T.	.32											0.42
Hettinger	Grand														.02	.01						.15	T.				.01						0.19
Howard (near)	Missouri		.01								T.	T.					.14					.43						T.					0.58
Kenmare	Mouse		.31								T.	.14	T.			.03	T.					.38	.10										0.96
Marmarth	Lit. Missouri		T	T.		T.	.04			T	.03	T.	T.		.01	.01	T.		T.			T.	T.		T.			.02				T.	0.11
Mary	do	T	.03								.01					.03						.21											0.28
Medora	do		T.			T.	.01			T.	.04	T.	.04		.01	T					T.	.16											0.26
Mott	Cannon Ball		.04			.03	.02	T			.01	.02	.03		.01	.05	.01					.20											0.42
New England[2]	do					.09						.06		T.		.02					.09												0.26
Parshall	Missouri											.06											.31									T.	0.37
Portal[2]	Mouse		.07									.14					.04					.08	.24										0.57
Powers Lake	Missouri											.18				.11	.06					.71											1.06
Richardton	Heart		T.			T.	.01				.02	.01			.01	T.	T					.13	T.	T									0.18
Sanish[2]	Missouri		.02				.01				.02											.32	.02										0.39
Stanley	do		.21									.11				.12						.36	T.										0.80
Tioga	do		.10				T.				T.					T.						.60											0.70
Trotters	Lit. Missouri		.02			T.	.02			.02	.01	T.	.02	.02		.06						.36					T.	.03					0.56
Watford City	Missouri		.02				.03				.02	.03				.08						.63											0.81
Wildrose	do		.10							.04	.02					.02						.30											0.48
Williston[1]‡	do	.02	.10			.03			T.		T.	T.	T.			.04					T	.53					T.	T.					0.72

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First- or second-order Weather Bureau station; data are for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. •Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for March 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum	38	22	13	20	24	30	37	45	35	34	27	26	30	30	36	8	15	34	51	30	31	30	34	41	40	51	34	44	59	63	57	34.5
	Minimum	14	3	− 7	− 7	17	13	20	22	20	16	11	7	0	8	2	− 7	−15	9	21	20	25	24	17	13	26	24	21	17	26	23	22	13.1
Beach	Maximum	50	36	26	34	36	35	53	58	49	34	22	29	33	34	42	14	38	57	54	42	32	32	35	46	50	47	42	55	68	58	68	42.2
	Minimum	28	10	7	19	25	22	21	28	27	15	5	9	10	18	13	−11	9	22	32	24	26	20	21	10	20	24	27	19	26	35	31	19.1
Bismarck [1]	Maximum	35	22	14	24	29	32	49	53	39	38	24	27	33	31	40	11	23	39	52	32	32	34	31	35	41	48	35	48	61	64	59	36.6
	Minimum	20	7	5	6	20	18	25	26	28	15	14	10	5	20	4	− 4	− 3	12	24	28	28	25	11	3	24	24	24	21	27	27	25	16.7
Bottineau§	Maximum	27	31	11	14	21	24	28	35	40	35	29	23	29	26	31	30	4	15	29	30	30	30	35	31	34	35	35	32	37	42	46	27.1
	Minimum	10	6	− 7	− 5	4	11	14	40	25	10	10	− 9	0	2	9	−15	−21	−12	6	12	22	20	5	− 1	3	22	22	7	15	25	22	7.5
Carson	Maximum	40	28	25	25	25	31	55	55	41	35	23	28	30	31	37	17	25	41	54	32	33	32	35	36	46	48	34	46	56	55	55	37.1
	Minimum	6	6	2	7	19	16	25	29	27	16	6	6	4	16	16	− 7	− 7	13	27	23	27	19	18	0	25	23	21	17	27	31	29	15.7
Crosby	Maximum	40	21	16	28	27	32	41	45	36	29	20	24	35	35	45	11	23	42	40	36	40	35	40	43	38	38	42	50	63	47	62	36.3
	Minimum	15	5	− 2	10	7	19	14	29	23	10	4	5	6	11	2	−10	− 8	13	25	28	25	15	4	6	17	23	26	25	30	29	29	14.0
Devils Lake [1]	Maximum	28	16	8	23	24	28	36	41	34	29	20	25	28	31	31	1	12	28	36	29	30	30	27	32	36	38	34	38	47	38	41	29.0
	Minimum	16	2	− 7	0	10	6	27	25	23	16	12	7	4	12	− 1	− 9	−14	10	20	19	24	16	5	2	12	19	14	11	24	22	21	11.2
Dickinson Airport [1]	Maximum	42	22	21	30	27	35	51	57	37	32	21	27	29	32	43	11	31	55	53	30	33	28	32	42	47	49	32	50	65	64	61	38.4
	Minimum	21	6	4	16	20	19	25	31	22	8	6	6	3	10	− 3	− 7	− 2	17	24	22	26	20	20	13	26	27	27	18	26	29	28	16.4
Dunn Center	Maximum	42	26	21	29	30	35	53	55	42	36	21	25	32	34	36	12	32	54	47	38	34	31	32	39	41	48	36	51	67	57	61	38.6
	Minimum	24	7	2	12	21	20	22	28	27	16	5	9	− 2	14	10	− 9	− 8	11	29	24	25	20	8	8	18	21	26	19	24	27	26	15.6
Fargo	Maximum	36	26	13	21	27	29	34	39	35	31	29	30	31	33	30	3	16	29	40	30	35	33	29	36	37	44	35	40	57	49	53	32.6
	Minimum	24	10	0	2	10	9	21	23	29	21	20	11	11	16	2	− 5	− 8	12	21	25	29	29	19	14	28	28	24	19	30	29	28	17.1
Fessenden	Maximum	29	23	12	23	27	30	40	44	39	32	27	28	29	32	34	32	18	31	40	29	31	30	28	37	39	42	35	43	55	51	54	33.7
	Minimum	21	5	− 3	1	19	12	22	28	28	20	14	10	6	13	21	− 7	− 9	11	25	20	26	22	6	5	18	15	26	17	26	27	24	15.1
Fullerton	Maximum	38	31	10	23	27	25	39	43	38	33	26	26	27	35	36	34	15	35	49	36	35	35	30	38	41	47	41	43	54	58	55	35.6
	Minimum	17	8	4	− 7	19	14	12	20	30	20	17	11	8	12	16	− 2	− 8	12	23	23	28	29	25	17	28	24	30	21	26	28	26	17.1
Garrison [1]	Maximum	30	13	13	27	28	33	48	47	37	35	21	26	34	33	35	8	22	39	40	33	32	34	35	38	41	46	31	47	64	54	58	34.9
	Minimum	18	6	5	5	20	17	25	27	25	16	11	10	5	16	0	− 7	− 9	9	27	24	26	14	0	5	15	19	26	16	13	28	26	14.1
Grafton	Maximum	34	23	9	20	22	25	35	36	38	37	33	28	33	31	32	30	13	26	35	34	32	35	33	37	38	35	36	34	41	40	42	31.5
	Minimum	22	6	− 6	− 9	9	− 4	22	17	29	17	16	12	5	3	24	− 8	−11	1	21	22	26	27	15	2	9	18	27	10	25	26	25	12.8
Grand Forks [1]	Maximum	34	21	10	19	21	25	37	35	35	32	26	25	30	30	30	1	13	27	36	29	33	33	27	34	40	34	35	34	48	35	41	29.4
	Minimum	21	5	− 5	− 5	1	− 3	22	18	24	14	16	8	1	7	− 2	−10	−16	5	18	22	25	18	7	− 1	13	18	18	8	28	23	23	10.4
Jamestown Airport [1]	Maximum	38	22	10	21	25	27	38	43	35	34	24	27	32	31	33	6	15	32	46	32	32	32	30	39	37	47	35	45	57	52	55	33.3
	Minimum	18	7	− 4	− 2	8	10	20	22	27	21	15	11	8	14	2	− 4	− 8	12	23	22	28	27	17	14	26	25	23	21	27	28	26	15.6
Kenmare	Maximum	34	23	11	28	28	34	41	45	41	34	22	25	32	32	33	17	20	37	41	32	31	35	35	35	36	40	36	45	59	56	56	34.6
	Minimum	17	5	− 6	6	16	18	21	30	26	18	8	10	− 3	7	17	−10	−12	10	26	25	24	19	0	1	15	17	25	17	31	25	26	13.8
Langdon	Maximum	36	22	17	18	25	23	34	40	38	28	20	30	35	28	36	28	10	27	32	35	30	33	36	37	37	32	35	32	38	45	40	30.9
	Minimum	18	2	−14	− 9	− 3	− 3	21	16	28	10	5	4	− 4	0	18	−14	−23	2	18	18	17	20	− 2	2	8	17	24	2	17	14	10	7.1
Marmarth	Maximum	45	32	24	35	32	37	54	59	51	34	23	29	31	32	36	20	29	62	57	38	35	33	34	42	50	53	36	53	67	66	66	41.8
	Minimum	30	12	10	20	15	25	28	21	29	17	8	12	15	17	17	− 7	3	20	28	21	28	22	20	14	16	21	29	16	20	26	25	18.8
Minot [1]	Maximum	29	20	12	28	25	34	45	46	38	33	23	24	34	36	35	7	22	36	38	32	31	32	34	38	39	41	35	48	61	52	60	34.5
	Minimum	19	7	− 5	7	19	18	28	30	26	19	10	7	− 2	12	1	− 7	− 9	11	25	25	26	9	3	9	19	22	24	10	29	27	27	14.7
Mott	Maximum	43	32	22	30	30	36	52	57	53	36	25	31	32	35	44	26	31	51	56	45	36	34	30	39	49	52	42	51	68	63	63	41.8
	Minimum	29	10	5	15	22	18	26	22	30	20	8	12	14	20	19	− 6	1	15	28	25	21	20	22	16	28	26	34	34	24	27	30	19.8
Pembina [1]	Maximum	30	15	6	17	20	24	35	38	35	29	24	27	31	31	28	− 4	10	24	34	30	35	32	25	31	39	34	32	31	39	34	40	27.6
	Minimum	14	2	− 8	−11	− 1	− 7	24	18	27	23	12	7	3	0	− 5	−11	−11	0	20	21	25	16	4	− 5	11	21	14	8	20	19	12	8.5
Sharon	Maximum	34	20	9	16	22	26	34	39	34	32	23	26	29	27	30	27	8	25	37	29	31	32	31	33	37	35	23	33	45	40	47	29.8
	Minimum	18	4	− 6	− 3	7	2	12	17	27	8	14	10	1	1	17	−11	−17	3	22	21	25	24	16	− 1	9	19	22	10	26	28	23	11.2
Steele	Maximum	31	26	12	20	27	32	40	48	41	35	31	20	30	32	35	29	17	32	47	37	31	32	32	40	45	48	42	44	59	58	58	35.9
	Minimum	21	6	0	− 5	18	14	24	24	28	19	15	7	− 1	16	17	− 8	−15	8	20	22	27	25	19	10	24	24	27	19	27	27	23	15.5
Valley City	Maximum	36	21	11	21	26	27	37	41	46	34	30	28	30	33	34	30	13	32	45	39	33	33	30	36	38	46	42	46	53	54	53	34.8
	Minimum	20	7	2	0	17	9	16	18	31	19	17	14	5	8	20	− 6	−11	10	26	22	28	29	23	9	22	22	31	18	27	27	26	16.4
Wahpeton	Maximum	36	36	16	22	29	29	34	41	41	33	31	30	31	34	35	32	14	31	42	42	37	36	32	37	38	46	45	39	57	57	55	36.1
	Minimum	23	15	7	− 3	15	12	24	26	28	22	22	12	11	18	23	− 6	− 8	10	19	25	29	29	24	20	27	26	32	21	31	32	28	19.2
Williston [1]	Maximum	30	20	17	30	29	34	49	50	37	31	21	27	34	35	33	9	32	53	44	34	33	30	31	37	37	44	34	53	67	44	64	36.2
	Minimum	18	7	3	16	20	25	20	32	27	9	8	10	9	17	0	− 6	− 1	19	28	28	17	19	4	10	17	26	29	25	29	31	29	16.9

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for March 1941—Continued from page 10.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	......	......	...	...	...	...	......	0.30	−0.56	0.11	5.4	7	7	12	12	nw.	H. A. Bury.
Amidon	Slope	......	18	31.1	+2.9	66	29	− 2	17	45	7.07	−0.70	0.04	0.8	3	10	9	12	nw.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	30.6	+3.0	68	29†	−11	16	42	0.18	−0.58	0.08	2.2	6	3	17	11	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	27.8	+1.6	66	21	− 8	17	40	0.51	−0.05	0.50	5.1	2	13	7	11	nw.	H. W. Case.
Bowbells	Burke	1,958	12	21.4	+2.2	57	31	−12	17	43	0.57	+0.06	0.35	9.5	3	2	15	14	sw.	Charles Kaufman.
Bowman	Bowman	2,872	26	27.4	−0.9	67	30	−10	16	56	T	−0.67	T.	T.	0	11	2	13	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	32	25.2	+1.4	63	29	−10	16	43	0.70	+0.03	0.40	7.0	4	9	7	15	nw.	J. H. Phelps.
Dickinson	Stark	2,543	48	26.7	+1.2	68	29	− 7	16	50	0.40	−0.34	0.17	5.8	7	8	10	13	nw.	Leroy Moomaw.
Dickinson Airport	Stark	......	1	27.4	......	65	29	− 7	16	46	0.46	......	0.30	2.4	7	5	13	13	s.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	27.1	+1.1	67	29	− 8	16	43	0.38	−0.45	0.38	4.0	1	10	6	15	nw.	O. T. Evenson.
Epping	Williams	2,224	30	25.2	−1.8	65	30	− 9	16	42	0.18	−0.41	0.18	2.0	1	15	9	7	se.	T. Beachler.
Fairfield	Billings	......	4	......	......	...	...	...	...	......	0.43	−0.34	0.27	2.5	3	2	18	11	nw.	Thomas Knudtson.
Fryburg	Billings	2,790	22	29.2	......	67	29†	− 9	16	42	0.42	−0.36	0.32	3.4	5	10	7	14	nw.	Verne King.
Hettinger	Adams	2,675	33	29.6	+0.7	68	29	− 8	16	44	0.19	−0.51	0.15	2.1	4	11	7	13	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	24.0	+1.6	62	29	− 9	16	44	0.58	−0.32	0.43	6.1	3	7	6	18	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	24.2	......	59	29	−12	17	35	0.96	+0.33	0.38	14.1	5	14	13	4	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	30.3	+1.5	67	29	− 7	16	47	0.11	−0.61	0.04	1.4	5	7	7	17	nw.	S. P. Grane.
Mary	McKenzie	......	12	......	......	...	...	...	...	......	0.28	−0.28	0.21	6.1	4	15	4	12	se.	Fred Hartman.
Medora	Billings	2,271	25	......	......	...	...	...	...	......	0.26	−0.48	0.16	2.0	5	12	9	10	nw.	Vernon Thompson.
Mott	Hettinger	2,424	33	30.8	+3.2	68	29	− 6	16	44	0.42	−0.51	0.20	5.6	10	3	10	18	nw.	P. G. Wick.
New England	Hettinger	2,400	46	28.6	+2.5	65	29†	− 7	15	56	0.26	−0.52	0.09	3.1	4	8	7	16	se.	F. S. Sleight.
Parshall	Mountrail	1,929	25	24.0	......	64	29	−10	17	39	0.37	−0.14	0.31	5.0	2	8	13	10	nw.	C. E. Shubert.
Portal	Burke	1,954	35	23.0	+4.6	63	29	−13	16	43	0.57	−0.03	0.24	8.0	5	9	3	19	w.	R. G. Wegener.
Powers Lake	Burke	2,205	35	25.8	+0.3	56	31	− 7	16	39	1.06	+0.37	0.71	13.5	4	9	14	8	e.	Geo. B. Gee.
Richardton	Stark	2,467	24	27.4	+0.2	65	29	− 8	16	39	0.18	−0.54	0.13	2.1	5	5	14	12	se.	Assumption Abbey.
Sanish	Mountrail	1,835	15	23.6	−1.2	65	29	− 7	16	46	0.39	−0.19	0.32	4.7	5	6	8	17	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	21.9	......	57	29†	−14	17	36	0.80	......	0.36	7.5	4	4	15	12	nw.	Leroy Edwards.
Tioga	Williams	2,279	12	......	......	...	...	...	...	......	0.70	+0.07	0.60	7.0	2	10	4	17	nw.	B. V. Olson.
Trotters	Golden Valley	......	15	......	......	...	...	...	...	......	0.56	−0.20	0.36	6.0	9	6	16	9	se.	Walter Grunewald
Watford City	McKenzie	2,084	27	28.6	+2.4	68	29	− 6	16	42	0.81	+0.13	0.63	8.5	6	13	6	12	nw.	J. C. Zeller.
Wildrose	Williams	2,258	13	......	......	...	...	...	...	......	0.48	−0.21	0.30	6.1	5	10	5	16	sw.	L Holter.
Williston	Williams	1,878	61	26.6	+3.7	67	29	− 6	16	38	0.72	+0.03	0.53	7.3	5	9	10	12	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	26.7	+1.2	68	29	−14	17	56	0.46	−0.29	0.71	5.4	4	9	9	13	nw.	....
Average for the State		......	.....	24.5	+0.7	68	29	−25	17	56	0.58	−0.18	0.76	6.8	5	11	8	12	nw.	....

[WBO, Minneapolis, 5-19-41—1100]

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. L BISMARCK, N. D., APRIL 1941 No. 4

GENERAL SUMMARY

The outstanding feature of the weather during April was the number of days with precipitation. In the eastern division measurable amounts occurred on from 10 to 22 days with an average of 15, and the average for the state was 13 or four more than any previous April. Every county in the state had above normal precipitation, with the greatest amounts in Sargent and Ransom counties. Temperatures averaged above normal in all sections and no sub-zero readings were reported. Farm work was somewhat backward due to the wet cloudy weather but by the close of the month plowing and seeding were making rapid progress under favorable conditions. Pastures were greening and livestock were in good condition.

TEMPERATURE

The mean temperature for the state was 44.1°, or 2.7° above the 1892-1941 average for April. The mean temperature for the eastern division was 45.6°; for the middle division, 43.9°; and for the western division, 42.9°. The highest mean temperature was 49.0° at Wahpeton, and the lowest, 39.6° at Hannah, making a range in mean temperature of 9.4°. The absolute range was 76°, from 82° at Larimore on the 27th, to 6° at Hannah on the 2d. The average daily excess in temperature for the state since Januaay 1, 1941, is 2.7°.

PRECIPITATION

The average precipitation for the state was 2.30 inches, or 0.86 inch more than the 1892-1941 average for April. In the eastern division the average amount was 3.05 inches; in the middle division, 2.13 inches; and in the western division, 1.71 inches. The greatest monthly amount reported was 5.67 inches at Milnor, the least was 0.35 inch at Bowbells. The greatest amount recorded in any 24 consecutive hours was 1.20 inches at Bowman on the 14th. The accumulated excess in precipitation for the state since January 1, 1941, is 0.49 inch. The average snowfall was 1.6 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	6	6	..	..	..	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	1	2	9	13	27	25	33	25	17	25	1	2	14	4	13	9	26	19	1	..	..	2	1	..	7	4	4	1	12	29	..
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	1	2	..	..	1	1	..	..
Hail	1	..	..	..	1	1	..	..	..	..	4	..	..	3	..	..	2	1	..	..	1	..	..	..	1	..	..	..	3	1	..
Thund'rst'ms	2	..	..	..	..	..	1	1	..	2	18	3	10	4	..	1	2	..	..	..	1	..	..	4	2	4	1	5	4	5	..

SILENT OBSERVERS

Mr. W. A Chistianson, cooperative observer at Granville North Dakota for the past 34 years, died March 1, 1941. Mr. Christianson operated a model farm adjacent to the Granville city limits. He was very much interested in the weather and his passing is deeply regretted by the Weather Bureau.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.98	30.45	23	29.57	11	12.2	34	nw.	20	90	64	63	35
Devils Lake	29.99	30.46	25	29.57	11	9.7	26	sw.	28	93	71	68	38
Williston	29.98	30.42	25	29.44	11	8.1	23	se.	10	89	63	58	41
Fargo	29.98	30.43	25	29.54	14	.....	.....	.....	....	87	70	72	....
Moorhead, Minn	......	......	....	......	....	9.2	25	se.	11	....	....	....	28

† And other dates.

COMPARATIVE DATA FOR APRIL

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	37.6	75	− 2	2.58	3.09	2.29	2.65	6.3	7	10	6	14
1893	34.3	77	− 8	2.45	1.56	1.09	1.70	7.8	6	7	9	14
1894	42.8	92	12	3.66	2.93	2.50	3.03	4.4	9	8	10	12
1895	49.6	87	10	2.10	2.38	2.20	2.23	0.0	5	13	8	9
1896	40.1	92	2	5.50	3.73	2.18	3.80	5.1	9	9	8	13
1897	40.8	93	7	0.80	1.20	1.24	1.08	1.1	5	12	8	10
1898	41.9	87	− 4	1.38	1.36	1.40	1.38	0.5	5	14	9	7
1899	38.0	86	−22	1.46	1.31	1.31	1.36	6.3	6	12	10	8
1900	49.3	93	11	0.75	0.75	1.05	0.85	T.	3	20	6	4
1901	44.5	92	10	1.40	0.72	0.82	0.98	0.3	4	12	9	9
1902	40.2	87	− 2	1.35	0.88	0.95	1.06	2.9	3	12	8	10
1903	42.5	83	8	1.67	1.10	0.92	1.23	2.7	5	16	6	8
1904	37.4	91	2	2.22	1.21	0.72	1.38	8.1	5	13	5	12
1905	40.2	83	3	1.04	0.38	0.11	0.51	3.7	3	15	8	7
1906	46.7	88	8	1.96	1.06	1.48	1.50	1.3	5	14	7	9
1907	31.9	80	− 6	0.77	0.36	0.44	0.52	4.2	4	10	9	11
1908	43.9	91	−19	1.12	1.53	1.91	1.52	5.9	5	16	6	8
1909	34.2	80	3	0.95	0.71	0.64	0.77	5.1	6	10	9	11
1910	48.0	96	4	1.52	1.03	1.56	1.37	2.9	4	16	8	6
1911	41.5	90	− 5	2.12	0.80	0.64	1.19	6.3	5	15	6	9
1912	44.4	88	2	2.61	2.32	2.22	2.35	1.7	7	14	8	8
1913	46.8	94	11	1.00	0.70	0.23	0.64	2.4	4	16	6	8
1914	40.9	84	2	2.49	1.31	0.58	1.46	2.8	6	9	10	11
1915	50.3	99	5	1.42	0.98	0.68	1.03	T	5	15	8	7
1916	39.2	79	− 6	1.70	1.07	1.54	1.44	2.9	5	10	10	10
1917	37.2	73	5	1.89	1.67	1.49	1.68	5.6	7	9	9	12
1918	41.4	81	0	2.38	1.87	2.28	2.18	3.0	7	12	8	10
1919	42.3	79	6	1.45	1.40	1.72	1.52	6.2	6	11	9	10
1920	32.1	63	−11	0.73	0.67	1.12	0.84	2.1	5	13	8	9
1921	41.1	91	1	1.84	2.07	1.40	1.77	3.8	7	14	7	9
1922	42.3	89	− 2	1.17	0.79	0.79	0.92	2.3	6	10	9	11
1923	38.7	89	−15	1.22	1.63	1.51	1.45	7.2	5	13	8	9
1924	39.3	84	6	3.94	2.31	1.35	2.53	7.5	9	8	9	13
1925	47.8	85	10	2.21	1.37	1.22	1.60	T.	6	11	10	9
1926	42.8	98	− 4	0.17	0.34	0.32	0.28	0.9	3	17	8	5
1927	41.4	95	7	2.05	1.46	1.67	1.73	2.3	7	10	8	12
1928	35.9	84	− 6	0.92	0.88	0.92	0.91	5.0	5	12	10	8
1929	41.5	85	− 9	1.68	1.36	0.88	1.31	3.4	6	12	9	9
1930	47.3	86	8	1.16	1.14	1.45	1.25	0.5	6	14	7	9
1931	44.1	87	3	0.75	0.37	0.18	0.43	0.7	2	18	8	4
1932	44.1	79	0	2.50	2.09	1.84	2.14	0.7	8	9	9	12
1933	40.0	84	2	1.44	1.20	1.35	1.33	7.3	5	11	9	10
1934	43.7	95	7	0.75	0.34	0.24	0.44	1.9	3	15	8	7
1935	38.4	83	0	2.62	1.75	1.42	1.93	3.6	8	9	9	12
1936	35.6	87	−15	0.53	0.26	0.37	0.39	0.5	4	14	10	6
1937	40.7	79	2	3.44	1.56	1.06	2.02	5.8	8	8	9	13
1938	42.8	90	1	1.68	0.96	0.64	1.09	0.1	5	11	10	9
1939	41.6	90	− 1	0.93	0.66	1.03	0.87	0.8	6	12	9	9
1940	37.8	78	− 9	1.84	2.36	2.45	2.22	4.1	8	7	10	13
1941	44.1	82	6	3.05	2.13	1.71	2.30	1.6	13	6	9	15
Period	41.4	99	−22	1.77	1.34	1.22	1.44	3.2	6	12	8	10

Climatological Data for April 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.								Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy			
Eastern Division																					
Casselton	Cass	961	45	47.5	+5.9	80	13†	19	3	39	3.23	+1.56	0.75	1.0	17	7	6	17	se.	James. H. Erickson.
Cavalier	Pembina	894	31	43.2	...	80	27	15	2†	46	2.48	+1.13	0.60	3.0	10	7	6	17	nw.	City Light & Power Co.
Cooperstown	Griggs	1,428	44	44.6	+4.3	78	27†	15	3	38	2.65	+1.26	0.63	1.5	13	11	7	12	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	...	...	...	...	...	...	...	2.49	+0.93	0.48	T.	11	4	10	16	se.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	43.0	+4.2	79	27	15	2	34	2.68	+1.16	0.66	1.9	14	2	5	23	n.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	45.6	+3.0	78	12	18	3	43	2.81	+1.04	0.62	0	10	1	20	9	se.	O. A. Thompson.
Edmore	Ramsey	1,524	17	41.6	+2.3	72	27	13	2†	36	2.70	+1.48	0.47	1.0	13	8	8	14	ne.	Mike Davis.
Ellendale	Dickey	1,457	46	47.2	+4.5	77	27	20	3	41	3.95	+2.16	1.14	0	17	6	3	21	s.	J. E. Demmer.
Fargo	Cass	895	14	47.0	+6.0	81	27	21	2†	36	3.45	+1.51	0.72	1.0	20	2	6	22	se.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	47.0	+3.0	76	27	19	3	36	4.22	+2.35	0.95	1.0	16	10	6	14	se.	Helge Dyste.
Fullerton	Dickey	1,439	43	47.2	+4.5	75	12†	20	3	40	3.69	+1.55	0.82	T.	17	4	9	17	s.	F. O. Alin.
Grafton	Walsh	827	49	46.4	+5.8	79	27	18	2†	39	2.79	+1.58	0.66	1.6	10	4	11	15	se.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	44.6	+3.3	79	27	18	3	41	2.24	+0.62	0.42	2.3	12	3	15	12	nw.	U. S. Weather Bureau.
Grand Forks Airport	Grand Forks	832	1	45.5	...	80	27	19	2	39	2.19	...	0.64	1.1	14	4	7	19	nw.	U. S. Airway Comm. Sta.
Hankinson	Richland	1,068	12	46.9	+3.4	80	27†	19	4	40	3.22	+1.07	0.56	2.0	19	1	11	18	se.	Joseph Rindt.
Hannah	Cavalier	1,568	49	39.6	+1.7	77	27	6	2	50	3.34	+2.30	1.10	T.	10	10	7	13	sw.	A. E. Prior.
Hillsboro	Traill	901	41	47.2	+5.0	81	27	20	2†	37	3.81	+1.97	0.68	1.2	20	10	5	15	se.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	47.0	+5.3	78	27	19	3	39	2.85	+1.27	0.58	0	19	5	5	20	n.	S. G. Calvelage.
Jamestown Airport	Stutsman	...	1	45.0	...	78	27	19	2†	41	2.45	...	0.42	0.1	15	2	5	23	e.	U. S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	45.4	...	76	27†	11	21	45	2.66	...	0.58	1.2	14	5	10	15	ne.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	45	42.1	+4.5	77	27	12	3	41	3.15	+2.00	0.88	T.	14	4	15	11	ne.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	45.5	+5.3	82	27	17	3	43	2.89	+1.29	0.67	1.0	13	6	3	21	s.	W. L. Goodison.
Lisbon	Ransom	1,091	37	46.6	+4.5	80	27	20	3	40	4.69	+2.88	0.95	0	22	4	5	21	se.	J. O. Halverson.
Mayville	Traill	975	45	47.0	+4.5	81	27	20	2†	39	2.05	+0.48	0.56	T.	15	1	22	7	ne.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	43.0	+2.4	79	27	14	3	39	2.46	+1.10	0.38	2.0	12	4	7	19	ne.	C. E. Blasky.
McLeod	Ransom	1,075	30	48.2	+4.6	80	27	18	5	32	3.15	+1.22	0.71	3.0	15	6	10	14	s.	J. G. Carlson.
Medina	Stutsman	1,816	1	...	...	...	...	...	...	...	2.10	...	0.50	T.	10	6	7	17	ne.	Rudolph Graf.
Milnor	Sargent	1,117	2	47.8	...	81	12†	18	3	41	5.67	...	1.15	0	14	10	12	8	nw.	E. W. Wilson.
Oakes	Dickey	1 318	12	46.0	+3.2	78	12†	20	3	40	4.03	+2.19	0.68	0	17	7	2	21	s.	F. H. Murray.
Park River	Walsh	998	37	44.4	+3.9	79	28	16	3	38	2.15	+0.87	0.72	0.2	11	9	6	15	nw.	E. J. Taintor.
Pembina Airport	Pembina	789	67	44.1	+5.6	81	27	16	2	42	2.15	+0.95	0.51	0.6	15	2	10	18	n.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	...	...	...	...	...	...	...	2.41	+1.01	0.55	0.6	13	5	10	15	ne.	T. M. Rykken.
Sharon	Steele	1,516	17	43.9	+4.3	78	27	17	2†	37	2.84	+1.34	0.71	1.4	13	5	8	17	e.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	47.2	+4.8	79	27	20	21	37	3.46	+1.92	0.92	2.0	18	9	7	14	ne.	I. C. Robertson.
Wahpeton	Richland	962	49	49.0	+4.8	79	27	21	21	37	2.81	+0.88	0.43	0	20	5	9	16	se.	W. J. Cavanaugh.
Average for Eastern Division		...	...	45.6	+4.3	82	27	6	2	50	3.05	+1.28	1.15	0.9	15	6	8	16	se.	...
Middle Division																					
Ashley	McIntosh	2,011	45	44.4	+2.0	76	27	17	3†	41	2.16	+0.50	0.54	T.	13	1	8	21	s.	U. S. Airway Comm. Sta.
Bisbee	Towner	1,601	5	43.2	+2.5	80	27	13	3	40	2.33	+1.19	0.45	3.0	12	8	2	20	e.	I. K. Lund.
Bismarck	Burleigh	1,670	67	45.6	+3.5	77	27	20	3	38	1.60	+0.08	0.54	0.2	16	3	9	18	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	42.1	+3.1	78	27	14	3	43	1.79	+1.02	0.37	2.7	16	7	7	16	ne.	N. D. School of Forestry
Carrington	Foster	1,579	43	43.2	+3.6	79	27	17	3	45	2.39	+1.14	0.54	0	11	5	4	21	se.	Soo Line Agent.
Carson	Grant	2,500	29	43.1	+0.6	73	27	19	3	43	1.87	+0.63	0.45	0	12	2	14	14	nw.	J. W. Evens.
Center	Oliver	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Fred L. Heinz.
Dogden Butte ‡‡	McLean	1,880	15	44.1	+2.8	77	27	15	21	41	2.53	+1.27	0.50	2.2	14	5	6	19	n.	R. L. Williams.
Drake	McHenry	1,634	12	42.4	+2.0	79	27	17	3	40	2.38	+1.30	0.50	1.0	17	2	6	22	ne.	Peter Anton.
Dunseith	Rolette	1,682	45	42.0	+2.5	78	26	10	3	41	2.15	+1.33	0.56	5.5	11	3	17	10	ne.	Geo. Gehres.
Eckman ‡‡	Bottineau	1,500	36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	B. C. Phipps.
Energy ‡‡	McLean	1,750	26	45.5	+1.7	71	24†	20	3†	40	2.73	+1.77	0.60	4.5	10	6	13	11	n.	H. S. Solenberger.
Fessenden	Wells	1,610	29	44.1	+3.7	79	27	16	3	37	2.30	+1.05	0.62	0	10	8	7	15	n.	John V. Zuber.
Fort Yates	Sioux	1,670	41	46.2	+1.4	72	28	21	3	39	1.85	+0.57	1.03	0	5	10	8	12	se.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	43.0	+2.2	77	27	16	3	34	1.51	+0.23	0.25	1.7	15	3	9	18	ne.	E. C. Bierbaum.
Gackle	Logan	1,951	11	46.2	...	76	27	18	3†	37	1.84	+0.36	0.51	T	13	6	12	12	ne.	A. H. Haut.
Garrison	McLean	1,901	64	43.2	+1.1	74	27	20	3	35	3.11	+2.02	0.47	7.0	18	2	9	19	ne.	E. L. Vorachek.
Granville	McHenry	1,504	34	45.7	+4.9	81	27	18	3†	44	1.58	+0.77	0.42	T	9	5	12	13	...	W. A. Christianson.
Hansboro	Towner	1,597	33	41.3	+2.7	79	27	12	2†	40	1.74	+0.48	0.40	2.5	9	5	12	13	n.	W. E. Disher.
Leeds	Benson	1,515	1	42.8	...	80	27	15	3	39	2.34	...	0 47	0.4	11	5	5	20	e.	Carl T. Carlson.
Linton	Emmons	1,711	24	47.8	+5.0	77	27	18	21	42	1.83	+0.58	0.43	T.	13	9	5	16	se.	Wm. Heyerman.
Maddock	Benson	1,604	26	44.0	+3.4	79	27	16	3	38	2.28	+1.15	0.31	1.5	16	5	10	15	se.	A. T. Felland.
Mandan	Morton	1,750	27	45.8	+3.2	76	27	20	3	34	1.57	+0.40	0.44	1.5	13	5	5	20	n.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	...	...	...	...	...	...	...	2.33	+1.09	0.35	1.8	15	9	5	16	e.	P. B. Anderson.
Max	McLean	2,093	12	42.0	+1.4	75	27	19	3†	36	2.35	+1.31	0.42	2.0	16	5	3	22	se.	A. W. Rice.
McClusky	Sheridan	1,943	23	44.2	+3.1	77	27	16	3	36	2.06	+0.86	0.52	T.	11	9	9	12	ne.	F. W. Perry.
Medina	...	...	...	...	...	...	...	...	...	...	2.10	...	0.50	0	10	6	7	17	ne.	
Minot	Ward	1,557	45	43.7	+2.9	79	27	18	3	36	1.92	+0.72	0.47	2.8	16	5	1	24	ne.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	42.9	+2.5	80	28	16	3	38	1.91	+1.01	0.41	3.0	14	6	13	11	ne.	Iver Johnson.
Napoleon	Logan	1,955	49	45.6	+4.2	78	27	17	3	44	1.99	+0 45	0.75	0.5	13	5	4	21	s.	C. J. Hoof.
New Salem	Morton	2,163	37	43.0	+0.7	73	27	15	3	44	2.29	+1.25	0.73	T.	14	9	5	16	se.	J. Christiansen.
Pettibone	Kidder	1,856	32	43.7	+2.9	76	27	16	3	37	2.44	+1.32	0.66	T.	9	7	4	19	e.	Sam Loeppke.
Rolla	Rolette	1,860	4	41.8	...	79	27	11	3	38	2.54	...	0.44	1.4	14	8	7	15	ne.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	...	...	...	...	...	...	...	1.97	+1.05	0.40	2.5	11	4	9	17	ne.	W. B Paterson.
Ryder	Ward	2,108	12	...	...	...	...	...	...	...	2.40	+1.40	0.51	0	12	8	6	16	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5	...	...	...	...	...	...	...	2.33	...	0.70	T.	13	3	8	19	se.	J. B. Smith.
Steele	Kidder	1,857	47	44.8	+2.1	78	27	18	3	37	2.47	+1.31	0.55	T.	15	8	4	18	ne.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	...	...	...	...	...	...	...	1.56	+0.47	0.32	3.4	14	8	9	13	ne.	G. N. Pilgard.
Timmer	Morton	...	4	...	...	...	...	...	...	...	2.01	...	0.67	0	10	...	...	...	...	Geo. M. Sinclair.
Towner	McHenry	1,482	39	45.4	+3.6	79	27	17	2†	34	2.63	+1.76	0.43	4.0	12	5	11	14	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	44.6	+3.3	78	27	18	3	37	2.45	+1.42	0.62	4.0	12	9	8	13	e.	A. S. Haas.
Tuttle	Kidder	1,936	33	...	...	...	...	...	...	...	2.36	+1.39	0.53	T.	14	6	8	16	ne.	Adam Leno.
Upham	McHenry	...	1	...	...	...	...	...	...	...	2.02	...	0.52	4.5	12	4	12	14	e.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	14	45.2	+3.8	80	27	18	3†	39	1.91	+0.75	0.48	2.5	13	4	10	16	se.	Oscar Anderson.
Washburn	McLean	1,731	40	46.6	+3.3	77	27	20	3	37	2.65	+1.68	0.62	3.0	11	5	10	15	e.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	42.6	+2.7	79	27†	15	2	38	1.83	+1.03	0.41	6.0	11	5	9	16	ne.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	42.7	+3.1	80	27	15	2†	40	1.85	+0.98	0.35	4.5	10	11	8	11	ne.	O. M. Sanderson.
Wilton	McLean	2,159	5	43.0	...	75	27	19	3†	41	1.64	...	0.35	0.1	13	6	8	16	...	Soo Line Agent.
Wishek	McIntosh	2,010	20	44.1	+2.6	74	27	17	21	42	1.73	+0.33	0.47	0.1	16	3	6	21	se.	H. M. Larson.
Average for Middle Division		...	...	43.9	+2.6	81	27	10	3	45	2.13	+0.79	1.03	1.8	13	6	8	16	ne.	...

Continued on page 16

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Eckman, Maxbass; Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for April 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	...	.13	.08	.02	.01	.19	.75	.15	.01	.01	...	...	.21	.71	.02	T.	.41	...	...	...	...	.07	...	...	.14	.02	...	...	...	.30	...	3.23
Cooperstown [2]	Sheyenne	...	.16	.12	.20	.06	.18	.35	.63	.10	...	.23	...	...	.40	...	T	T.	T.	...	...	...	.02	...	T.	...	...	...	...	.06	.14	...	2.65
Courtenay	James	...		.18	.20	.18	.25	.37	.24	.18	...	...	...	...	.48	...	.22	...	...	...	...	...	T.	...	...	...	T.	...	...	.10	.09	...	2.49
Devils Lake [1]‡	Devils Lake	.25	T.	.15	.11	.12	.66	.26	.40	.07	T.	.07	...	.12	.19	...	...	...	...	T.	T.	.11	T.	...	...	...	T.	T.	...	.11	.06	...	2.68
Edgeley	James	...	...	...	...	...	...	.62	.21	...	.28	.15	...	.50	.44	...	...	.20	...	...	...	...	.04	...	...	...	.11	...	...	...	.26	...	2.81
Edmore	Devils Lake	.29	...	.10	.05	.05	.45	.37	.47	.16	...	.16	...	...	.33	...	...	.03	...	...	...	...	.16	...	...	...	...	...	...	.08	...	...	2.70
Ellendale	James	...	.02	T.	...	.03	.04	.50	.29	.31	...	.22	.01	.17	1.14	...	.14	.29	...	T	T.	...	.05	...	.09	.08	.11	...	...	...	.46	...	3.95
Fargo [1]	Red	.11	.07	T.	.27	.05	.12	.36	.13	.03	T	.04	.01	.59	.72	...	.02	.32	...	T.	T.	.03	.03	...	.23	...	.19	...	...	.07	.06	...	3.45
Forman	Sheyenne	T.	.13	.08	.04	...	...	.95	.38	.27	T.	..	...	.30	.60	.02	.08	.30	.01	.45	...	...	...	...	.21	...	.34	...	...	T.	.06	...	4.22
Fullerton	James	T	...	.04	...	T.	.03	.54	.34	.22	.05	.27	.30	.08	.82	...	.22	.18	T.	...	.01	...	...	...	.28	.06	.10	...	...	...	.15	...	3.69
Grafton	Red	.16	...	.15	...	.39	.66	.32	.55	...	...	T.	...	...	.30	...	...	...	...	...	...	...	.16	...	...	...	...	T.	...	.04	.06	...	2.79
Grand Forks Airport [1]‡	do	.21	.13	.06	.34	.11	.64	.25	.14	T.	T.	T	...	.12	.15	...	...	.01	...	...	T.	.01	.01	...	T	...	...	...	...	.01	T.	...	2.19
Hankinson [2]	do	...	.07	...	.23	.02	...	.19	.41	.11	.01	.03	.02	.06	.24	...	.27	T	...	.49	.05	...	.03	...	...	.24	.18	...	...	.56	.01	...	3.22
Hannah	Pembina	...	.22	..	.05	T.	1.10	.10	.65	.20	...	.55	...	...	.30	...	...	T.	.05	...	...	...	.12	...	...	...	...	...	T.	T.	...	...	3.34
Hillsboro	Red	.01	.21	.09	.02	.42	.33	.59	.14	.04	.03	.03	T.	.32	.68	...	.02	.09	.02	...	...	...	.09	...	...	.15	T	...	...	.05	.48	...	3.81
Jamestown Airport [1]	James	.06	T.	.03	.05	.16	.13	.42	.28	.06	...	...	T.	.42	.07	...	.21	...	...	T.	T	.13	T.	...	...	...	.01	...	...	.26	.16	...	2.45
Langdon	Pembina	.08	.02	.03	.03	.05	.88	.30	.60	.15	...	.22	...	...	.34	...	...	...	.05	...	...	...	.27	...	...	...	...	...	...	.13	...	...	3.15
Larimore	Red	.29	.20	.10	.01	.07	.67	.30	.46	.04	...	.08	...	...	.37	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.08	.22	...	2.89
Lisbon	Sheyenne	...	.04	.03	.15	.02	.04	.17	.73	.33	.06	.02	.01	.53	.95	.82	...	.15	.16	.12	...	...	.04	T.	...	.20	.01	.07	...	...	.04	...	4.69
Mayville	Red	.20	.10	T.	T	.12	.56	.27	.28	.03	...	.12	.06	.03	...	...	...	.05	...	...	...	...	.05	...	.10	T.	...	...	...	.03	.05	...	2.05
McHenry	James	.15	...	.08	.20	.03	.28	.35	.38	.15	.02	...	...	...	.36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.12	.34	...	2.46
McLeod	Sheyenne	...	.16	...	.20	...	.06	.71	.30	.13	...	.04	...	.04	.47	...	...	.30	...	.04	...	...	.01	...	...	.14	T.	...	...	.45	.10	...	3.15
Oakes	James	...	.01	...	.07	...	...	.12	.68	.32	.06	.07	...	.58	.64	.32	...	.27	.11	.16	...	...	...	...	...	.09	.38	.12	...	...	.03	...	4.03
Park River	Red	.09	T.	.02	.03	.04	.72	.44	.57	.02	...	.02	...	...	.16	...	...	...	...	...	...	...	T.	...	...	...	...	...	...	T.	.04	...	2.15
Pembina	do	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	......
Petersburg	do	.18	...	.05	.03	.07	.35	.55	.50	.09	...	.07	...	...	.37	...	...	...	...	...	...	...	.02	...	...	...	...	...	...	.09	.04	...	2.41
Sharon	do	.11	.08	.12	.12	.15	.38	.30	.71	.06	...	.04	...	...	.53	...	...	...	...	T.	...	...	T.	...	...	...	...	...	...	.11	.13	...	2.84
Valley City	Sheyenne	.06	.19	.07	.19	.12	.37	.39	.25	.15	.04	.09	...	.11	.92	...	T.	.04	...	.02	...	...	.17	...	.11	...	T.	...	...	T	.17	...	3.46
Wahpeton	Red	...	.09	.15	.06	.18	.12	.43	.16	.04	.03	.02	.01	.32	.03	.01	T.	.31	T	.15	T.	...	.02	T.	...	.08	.22	...	...	...	.38	...	2.81
Middle Division																																	
Ashley [1]	Missouri	.03	T.	T.	T.	.06	.04	.14	.23	.13	T.	T.	.54	.40	.21	...	.10	.11	...	...	T.	.03	T	...	T.	...	T	...	T.	T.	.14	...	2.16
Bisbee	Devils Lake	...	...	.06	.15	...	.30	.20	.45	.31	...	.10	...	...	.40	.07	...	...	...	...	...	...	.17	...	...	...	...	...	.10	.02	...	...	2.33
Bismarck [1]‡	Missouri	...	T.	T	.01	.07	.36	.04	.09	.05	T	.01	...	.53	.01	...	.05	T.	.01	T	T	.11	T	...	...	...	.03	.04	T	.06	.13	...	1.60
Bottineau [2]	Mouse	...	...	...	.15	.09	.06	.09	.22	.28	.05	.15	.07	...	.02	T.	...	...	...	...	.06	.02	.08	...	...	...	...	...	.37	.07	.01	...	1.79
Carrington	James	...	...	...	.24	.06	.34	.13	.27	.52	.04	.05	...	...	.54	...	...	.02	...	...	...	...	...	...	...	...	...	...	...	...	.18	...	2.39
Carson	Heart	...	...	...	...	...	.16	.03	.01	.02	.45	...	...	.20	.35	...	.09	...	T	.25	...	.08	...	...	...	...	...	...	.05	.18	...	...	1.87
Center	Missouri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.....
Dogden Butte	Mouse	.02	...	.15	.20	.14	.05	.50	.23	.13	...	.03	...	...	.49	...	...	...	T.	...	.01	T	.20	...	...	...	...	...	.21	.17	T.	...	2.53
Drake [2]	do	.02	...	.02	.07	.01	.13	.39	.22	.38	.06	.11	...	...	.50	...	...	...	...	...	T.	.02	.25	.02	...	...	...	...	.06	.07	.05	...	2.38
Dunseith	do	...	...	T	.56	.08	.03	.16	.31	.32	...	.25	...	...	.05	...	...	T.	T.	...	...	.10	...	...	...	...	...	.25	.04	...	...	...	2.15
Eckman	do	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.....
Energy	Missouri	...	...	...	.08	.60	.10	T	.25	.10	...	.02	...	...	.50	...	...	...	T.	...	...	T	T.	...	...	...	.35	...	.30	...	.43	...	2.73
Fessenden	James	T.	T	T.	.22	T.	.62	.10	.48	.05	.12	...	...	...	.36	...	...	...	...	...	...	T.	.04	...	...	...	...	...	T	.08	.23	...	2.30
Fort Yates	Missouri	...	...	...	...	...	T	T.	T.	...	...	.25	...	...	1.03	...	.25	...	.22	...	...	...	...	...	...	...	...	...	...	.10	T.	...	1.85
Foxholm (near)	Mouse	...	...	.02	.25	...	.02	.18	.19	.15	.14	.14	...	...	.03	...	.01	...	.16	...	T.	T.	.07	...	...	...	...	.01	.02	.12	...	...	1.51
Gackle	James	T.	...	T.	...	.03	.10	.51	.17	.27	...	...	...	.02	.44	...	.03	.03	...	...	.02	...	.16	...	...	...	.03	...	...	.03	...	...	1.84
Garrison [1]	Missouri	...	...	.11	.13	.35	.41	.20	.15	.15	.08	...	...	.14	.47	...	.10	T.	.02	...	...	.08	.03	...	...	...	...	.15	.10	.24	.23	...	3.11
Granville	Mouse	...	...	T.	.18	...	.16	.20	.42	T	...	.19	...	...	.25	...	...	...	...	...	.01	...	.09	...	...	...	...	...	.08	...	...	...	1.58
Hansboro	Devils Lake	...	T	T.	.12	..	.32	.12	.40	.18	...	.12	...	...	.14	...	...	...	...	...	...	...	.19	...	...	...	...	...	.15	..	...	...	1.74
Linton	Missouri	...	...	...	T	.02	.20	.08	.12	.12	...	.08	...	T	.43	...	.22	.05	T.	...	...	...	.09	...	...	...	.09	...	...	.05	.28	...	1.83
Maddock	Sheyenne	.02	T.	.08	.19	.01	.25	.29	.22	.28	.03	.15	...	...	.31	...	...	...	...	...	T.	.01	.18	...	...	...	...	...	.01	.18	.07	...	2.28
Mandan [2]	Missouri	...	T.	T.	.21	.22	.24	.02	.16	.02	T.	...	...	.44	T.	.03	.01	...	T.	...	T.	.02	...	...	...	...	...	.07	T.	.07	.06	...	1.57
Max [2]	do	.02	...	.32	T.	.19	.04	.31	.18	.19	.06	.04	...	...	.42	...	...	.01	.02	...	...	...	.17	...	...	...	...	...	.30	.02	.06	...	2.35
McClusky	do	.01	...	.06	.09	..	...	.52	.17	.19	...	...	...	...	.52	...	.03	...	...	...	T.	...	.11	...	...	...	...	...	T.	.23	.13	...	2.06
Minot [1]	Mouse	T	...	.16	.05	.04	.15	.47	.29	.19	.03	.08	...	...	.09	...	.01	...	.10	...	T.	.13	.01	...	...	...	...	T	.11	T.	.01	...	1.92
Mohall	do	.06	...	.02	.39	.01	..	.21	.18	.17	.22	.41	...	...	.04	...	T.	T	.06	...	T.	.10	.02	...	...	...	...	.02	...	...	T.	...	1.91
Napoleon [2]	Missouri	...	...	...	.05	...	.27	.15	.05	.33	.05	...	...	...	.75	.01	...	.10	...	...	...	.05	.07	...	...	...	.08	...	...	...	.03	...	1.99
New Salem	Heart	...	...	...	...	.08	.03	.10	.14	.06	.02	.18	...	T.	.48	...	.03	...	.03	T	...	.02	...	...	...	...	...	...	.10	.73	.29	...	2.29
Pettibone	James	...	...	...	...	T.	.04	.23	.22	.25	...	.12	...	...	.66	...	.08	...	...	...	T.	...	...	...	...	...	...	...	...	.21	.63	...	2.44
Rolla	Devils Lake	.01	...	.03	.14	T	.29	.14	.44	.32	.07	.26	...	...	.16	...	...	.04	T.	...	...	...	.24	...	...	...	...	...	.28	.12	...	...	2.54
Rugby (near)	Mouse	...	...	.05	.18	.02	.13	.16	.21	.29	...	.13	...	...	.40	...	...	...	...	...	T.	...	.10	...	...	...	...	...	.30	T.	...	...	1.97
Ryder	Missouri	.08	T.	T.	.42	.24	T	.25	...	.51	.06	.15	...	...	.12	...	T.	...	.20	...	...	...	.10	...	...	...	...	...	.22	...	.05	...	2.40
Selfridge	do	T.	...	T.	...	...	.05	.03	.02	.02	.55	...	...	.70	.10	...	.21	T.	.15	...	T.	T.	...	...	...	...	.02	...	.03	.20	.25	...	2.33
Steele	do	...	...	T.	.01	.02	.40	.25	.07	.28	.03	.04	...	...	.55	...	.01	...	T.	.05	.08	...	.09	...	...	...	...	...	...	.15	.44	...	2.47
Tagus	Mouse	...	...	T	.12	.02	.01	.19	...	.30	.02	.22	T.	..	.06	...	T.	...	.32	...	.01	.02	.16	...	T	...	...	.02	...	.09	T.	...	1.56
Towner	do	...	...	.25	.42	...	.20	.20	.30	.30	.01	.18	...	...	.43	...	...	...	...	...	.10	...	.12	...	...	...	...	T.	.12	...	...	...	2.63
Turtle Lake	Missouri	...	...	T.	.12	.27	...	.33	.20	.08	.02	.12	...	.62	...	...	.28	...	...	...	...	...	.08	...	...	...	.08	...	.25	...	...	...	2.45
Tuttle	do	...	...	.02	...	.10	.53	.27	.13	.21	T.	.11	...	.23	.30	...	.01	...	T.	...	T.	T.	.02	...	...	...	.04	...	...	.08	.28	...	2.36
Velva	Mouse	T.	...	.12	.10	.05	.05	.42	.27	.15	.03	.07	...	...	.48	...	...	...	T.	...	T.	.02	.07	...	...	...	...	T.	.08	...	T.	...	1.91
Washburn	Missouri	...	...	T.	T.	.31	.07	.57	.15	.07	...	.03	...	...	.62	...	...	...	...	T.	T	...	T.	...	...	...	.11	...	.40	.26	.06	...	2.65
Westhope	Mouse	...	...	...	.41	...	...	.28	.10	.20	.06	.22	...	...	.05	...	...	.02	...	...	.26	.14	...	...	...	...	...	.09	T.	...	...	...	1.83
Willow City	do	...	...	.05	.35	...	.11	.17	.26	.28	...	.20	...	...	...	...	...	...	...	...	.05	T	.12	...	...	...	...	...	.26	...	...	...	1.85
Wishek [2]	Missouri	...	...	.01	.01	...	.11	.07	.09	.36	.05	.01	...	...	.47	.01	T.	.08	.14	...	...	.10	.14	T	...	...	...	...	...	.01	.07	...	1.73
Zap	Knife	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	......
Western Division																																	
Alpha	Lit. Missouri	.01	...	...	T.	...	.20	.19	.17	...	...	.08	...	...	.17	...	T.	.04	...	...	.03	.03	T	...	T.	...	.30	...	.29	.02	...	...	1.53
Amidon	do	...	...	...	T.	...	.31	.06	.22		...	.22	...	...	.63	...	.10	T.	T	...	...	.02	...	...	...	...	.01	...	.06	.01	.07	...	1.71
Beach	do	...	...	...	...	...	.23	.10	.41	.01	T.	.01	...	...	.04	...	...	.45	.04	...	T.	T.	.04	...	...	...	.18	T.	.01	.02	...	...	1.54
Berthold Agency	Missouri	...	...	T.	.14	...	.30	.50	.20	.10	...	.12	...	T	.12	...	...	T.	.15	...	...	...	...	...	...	...	...	...	...	...	...	...	1.63
Bowman [2]	Grand	...	...	...	...	...	T.	.25	.12	.04	...	..	...	...	1.20	.14	...	...	...	...	...	...	.06	...	...	...	...	...	...	.05	.03	...	1.89
Crosby	Mouse	...	...	...	T.	...	T.	.30	.25	.08	...	.17	.02	...	...	...	...	.16	.08	...	T	...	.04	...	...	...	...	...	.05	.01	...	...	1.16
Dickinson Airport [1]	Heart	...	...	T.	.03	T.	.38	.05	.04	T.	.11	.01	...	.37	.28	...	T.	.02	T.	T.	T.	.02	...	...	T.	...	T.	...	.18	T	T.	...	1.49
Dunn Center	Knife	...	...	...	T.	T.	T	.57	.06	.09	...	.19	...	...	.12	.04	...	...	.19	...	T	...	.06	...	...	...	...	...	...	.18	.05	...	1.55
Fairfield	Lit. Missouri	...	...	...	...	.03	.28	.05	.05	.04	...	.17	...	...	.29	...	...	.40	.10	...	T.	...	...	...	...	...	.03	...	...	.02	.03	...	1.49
Fryburg	Heart	...	...	.04	...	..	.35	.09	.12	...	...	.20	...	...	.50	...	...	...	.09	.02	.06	.12	T	...	...	...	.25	.06	.19	.01	T.	...	2.10
Hettinger	Grand	...	...	T.	...	...	.36	.09	.07	...	...	.27	...	.87	.41	...	.01	.01	.03	.01	.02	T.	.02	...	...	...	...	.03	.30	.06	.19	...	2.75
Howard (near)	Missouri	T.	T.	T	T.	T.	T.	.64	T.	...	...	T	...	...	...	...	...	T.	.20	...	...	.15	...	...	...	...	...	T.	...	...	...	...	0.99
Kenmare	Mouse	.05	...	...	.13	.06	...	.22	.22	.17	.05	.12	.09	T.	...	...	...	T.	.37	.03	T.	...	.11	...	...	...	...	...	T.	T.	T.	...	1.62
Marmarth	Lit. Missouri	...	...	...	...	...	.22	.09	.11	.01	...	.04	...	...	.34	...	...	.03	...	...	...	.08	...	...	...	...	.07	...	.09	.01	...	...	1.09
Mary	do	...	...	...	...	...	.44	.08	.07	.02	...	.22	...	...	.21	...	...	...	.42	...	.01	T.	...	...	...	...	.05	...	.13	...	...	...	1.65
Medora	do	...	...	...	.02	...	.20	.07	.20	.02	...	.24	...	...	.13	...	...	...	.08	...	T.	.07	...	...	...	...	.14	T	.33	.39	.13	...	2.02
Mott	Cannon Ball	...	...	T.	...	T.	.15	.09	.06	...	T.	.19	...	.15	.53	.02	.13	T.	T	...	.01	...	...	...	...	...	...	...	.42	...	.03	...	1.78
New England [2]	do	...	...	.03	...	.08	.18	.08	...	...	.19	...	...	.89	...	...	.04	...	.02	...	.04	T.	...	...	...	...	...	...	.05	.07	.08	...	1.75
Parshall	Missouri	T.	...	...	.24	.08	.03	.31	.39	.26	.04	.20	T	...	.15	.03	...	.02	.17	T.	...	T.	.08	...	...	...	...	...	.02	T.	...	...	2.02
Portal [2]	Mouse	..	...	...	.08	.02	...	.02	.41	.07	.05	.22	.02	.01	...	...	...	...	.30	...	...	...	.15	...	...	...	...	...	.05	...	...	...	1.40
Powers Lake	Missouri	.21	...	.17	...	...	.19	.71	...	...	.27	..	...	...	...	.19	...	.13	.51	...	...	...	...	...	...	...	...	...	...	...	...	...	2.38
Richardton	Heart	...	...	.02	.04	...	.22	.11	.01	T.	...	.29	...	...	.73	...	...	...	.13	...	.01	...	...	...	...	...	...	...	.15	.01	.02	...	1.74
Sanish [2]	Missouri	...	...	...	...	.33	.08	.28	.25	.25	.03	.28	...	...		...	...	...	.50	.02	...	...	.11	...	...	...	...	.04	...	.10	...	..	2.27
Stanley	do	...	...	.13	.27	.09	.07	.35	.26	.15	.06	.40	...	...	T	...	...	...	.54	...	...	.06	T.	...	...	...	...	.16	...	...	...	...	2.54
Tioga	do	...	...	...	.30	.10	.25	.20	.30	.05	..	.34	...	...	.10	T.	...	...	.40	...	...	...	.05	...	...	...	.12	...	...	.02	...	...	2.23
Trotters	Lit. Missouri	...	...	...	T	...	...	.37	.23	.02	...	...	...	...	.09	...	...	T.	.22	...	.06	T.	...	...	...	...	.03	...	T.	.02	...	...	1.04
Watford City	Missouri	...	...	...	.09	..	.44	.34	.21	.09	...	.18	...	...	...	...	...	...	.68	...	...	T.	...	...	...	...	...	T.	.19	...	...	...	2.22
Wildrose	do	...	...	T.	...	...	...	.57	.06	.09	...	.19	...	...	...	...	.08	T.	.32	...	.04	.07	...	...	...	...	...	.09	...	...	...	...	1.51
Williston [1]‡	do	...	T.	.02	.01	T.	.42	.37	.20	.04	T	.06	...	...	...	...	T.	.39	T.	...	T	.02	...	...	...	T.	...	T.	.20	...	...	...	1.73

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First- or second-order Weather Bureau station; data are for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for April 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley[1]	Maximum	57	37	31	44	42	46	46	41	50	58	73	73	51	48	58	50	58	50	45	48	56	47	53	72	59	72	76	75	68	69	....	55.1
	Minimum	32	20	17	27	29	38	38	33	36	40	47	42	43	37	29	35	34	31	27	24	17	28	21	31	35	34	42	50	49	48	....	33.8
Beach	Maximum	62	44	36	45	44	37	34	35	45	63	64	61	57	53	61	60	55	47	47	46	63	54	61	66	60	70	68	75	73	63	....	55.0
	Minimum	26	26	25	24	21	31	31	31	32	32	41	37	35	40	30	33	38	27	26	28	24	34	22	38	28	42	47	48	44	44	....	32.8
Bismarck[1]	Maximum	54	36	33	42	39	49	41	40	46	62	74	67	56	56	62	53	54	50	53	45	60	45	57	69	60	74	77	70	62	64	....	55.0
	Minimum	35	27	20	27	31	36	37	35	35	39	51	41	40	37	32	39	40	32	30	26	22	30	24	37	36	42	46	54	54	50	....	36.2
Bottineau§	Maximum	40	33	33	37	36	39	40	44	45	50	61	57	60	57	61	62	56	37	55	38	49	41	56	68	53	71	78	71	62	64	....	51.8
	Minimum	23	15	14	22	30	32	34	34	35	39	40	36	38	40	32	38	33	30	26	28	20	28	23	34	25	30	46	55	50	42	....	32.4
Carson	Maximum	55	40	31	42	42	37	40	38	46	55	55	66	55	50	55	55	55	45	50	45	63	50	51	71	55	72	73	69	60	64	....	52.8
	Minimum	31	25	19	21	29	33	34	31	30	32	44	36	39	36	33	34	36	28	26	27	20	34	21	35	35	37	48	50	48	50	....	33.4
Crosby	Maximum	39	50	33	30	37	32	33	39	43	61	65	44	57	57	64	64	48	31	52	38	55	47	60	60	61	74	74	75	55	63	....	51.4
	Minimum	25	21	20	20	25	28	32	32	32	31	33	40	31	38	32	34	40	28	23	24	23	28	25	29	29	34	40	49	44	42	....	31.1
Devils Lake[1]	Maximum	40	32	35	34	36	38	38	39	53	54	72	64	54	47	56	53	55	46	50	40	50	43	53	63	53	68	79	72	61	62	....	51.3
	Minimum	32	15	18	31	32	32	34	34	38	40	46	44	44	37	31	36	39	29	29	28	21	31	27	36	29	40	45	56	45	44	....	34.8
Dickinson Airport[1]	Maximum	48	31	28	38	39	38	37	35	46	63	68	61	59	52	60	56	56	36	49	43	62	46	58	68	61	69	68	66	67	52	....	52.0
	Minimum	26	26	20	21	26	31	32	32	32	32	42	38	35	37	31	39	32	28	27	24	23	26	21	36	29	41	46	51	47	48	....	32.6
Dunn Center	Maximum	47	36	29	37	38	35	36	36	44	63	65	63	60	54	62	58	55	41	51	42	62	43	60	68	62	71	72	64	67	55	....	52.5
	Minimum	30	28	20	20	23	29	31	31	31	30	33	38	32	38	29	31	33	33	28	27	19	28	20	33	27	35	43	49	47	45	....	31.4
Fargo	Maximum	59	36	44	40	47	47	49	56	63	58	68	78	57	51	57	53	52	48	48	40	50	49	51	68	54	67	81	77	68	71	....	56.2
	Minimum	31	21	21	33	33	37	43	42	41	43	50	52	48	41	37	36	41	36	32	30	23	34	30	32	30	39	45	50	51	50	....	37.7
Fessenden	Maximum	54	41	32	34	34	40	38	37	49	55	69	68	68	48	59	56	57	54	50	50	53	50	54	65	64	72	79	74	65	60	....	54.3
	Minimum	32	22	16	29	27	30	35	32	36	39	45	41	39	39	28	32	37	33	27	28	20	36	24	32	31	35	43	53	52	44	....	33.9
Fullerton	Maximum	59	48	42	38	41	45	50	49	62	60	72	75	65	49	55	54	55	53	47	45	54	49	53	70	60	72	71	75	72	71	....	57.0
	Minimum	29	29	20	31	30	38	40	37	48	43	48	47	48	41	37	36	40	36	30	32	23	40	26	30	35	39	42	51	48	52	....	37.5
Garrison[1]	Maximum	48	35	33	41	37	41	39	37	43	62	66	61	60	57	61	57	56	39	53	40	56	44	57	69	59	71	74	65	65	54	....	52.7
	Minimum	31	21	20	27	27	32	34	32	33	37	46	39	36	38	29	35	35	29	27	28	21	29	25	36	34	36	48	51	49	44	...	33.6
Grafton	Maximum	41	39	54	46	46	47	46	48	62	61	65	71	68	50	58	59	60	59	52	59	48	47	54	64	62	71	79	78	75	72	....	58.0
	Minimum	30	18	18	32	33	33	37	37	37	42	46	38	44	40	33	36	39	32	30	28	22	31	29	33	27	32	40	54	49	42	....	34.7
Grand Forks Airport[1]	Maximum	49	32	45	39	45	45	45	52	64	59	67	74	54	55	58	55	60	45	51	39	48	44	52	67	52	71	80	78	71	72	....	55.6
	Minimum	32	19	23	33	33	34	38	43	41	43	48	48	44	40	31	35	34	32	30	26	20	32	26	32	28	32	42	55	46	43	....	35.4
Jamestown Airport[1]	Maximum	56	34	33	35	38	43	46	48	59	54	75	72	53	47	56	53	58	45	50	41	55	45	53	73	57	69	78	76	61	67	....	54.3
	Minimum	34	19	19	29	32	36	38	37	43	44	48	45	45	40	31	38	38	33	30	24	20	29	27	32	34	36	42	53	52	47	....	35.8
Kenmare	Maximum	44	35	33	35	37	37	38	38	41	61	63	55	59	59	62	60	59	36	54	40	50	49	58	65	59	73	74	76	54	59	...	52.1
	Minimum	22	20	17	18	25	28	33	32	32	32	36	35	29	36	36	38	36	29	23	27	22	29	29	35	30	32	43	53	45	40	....	31.4
Langdon	Maximum	43	39	36	36	35	37	37	38	47	50	65	64	62	50	57	56	59	54	50	50	47	47	54	61	65	70	77	75	67	65	....	53.1
	Minimum	30	13	12	29	30	30	32	31	32	35	38	37	39	35	27	35	35	29	25	27	15	31	21	33	24	32	43	52	42	39	....	31.1
Marmarth	Maximum	55	53	40	47	56	43	35	39	53	62	68	70	59	50	60	58	62	42	51	55	69	53	60	67	66	70	69	67	71	67	....	57.2
	Minimum	31	27	25	20	22	32	30	32	33	35	40	41	40	40	30	40	42	28	27	28	21	31	20	36	47	44	49	50	50	49	....	34.7
Minot[1]	Maximum	50	34	33	37	39	42	37	38	44	62	67	60	58	55	65	66	58	45	54	39	54	48	59	67	58	74	79	71	59	59	....	53.7
	Minimum	31	19	18	30	30	33	33	33	35	40	42	40	35	34	29	36	31	30	26	23	19	30	26	40	36	45	44	57	44	43	....	33.7
Mott	Maximum	60	46	34	43	42	42	42	38	49	63	70	67	60	52	61	56	57	46	50	46	65	49	59	68	63	71	68	63	64	61	....	55.2
	Minimum	32	27	22	23	30	33	34	32	33	32	43	37	38	38	36	43	38	31	28	28	22	34	35	38	35	41	52	54	51	51	....	35.7
Pembina Airport[1]	Maximum	40	29	41	41	46	48	41	48	65	59	66	70	48	49	61	57	63	54	50	39	45	42	52	63	54	72	81	78	58	70	....	54.3
	Minimum	27	16	29	33	33	31	37	36	35	44	46	45	40	36	31	37	40	31	29	25	19	31	29	32	24	30	39	53	40	40	....	33.9
Sharon	Maximum	48	32	35	35	36	41	42	47	58	55	69	69	57	46	55	51	57	48	49	41	49	43	52	68	55	70	78	75	65	62	....	52.9
	Minimum	32	17	17	31	31	32	37	36	38	43	45	50	43	38	31	35	34	32	29	31	19	35	25	33	28	37	41	56	50	42	....	34.9
Steele	Maximum	59	40	31	42	37	47	43	40	46	59	71	68	63	51	60	55	56	45	50	48	37	50	55	69	59	72	78	72	64	59	....	54.2
	Minimum	37	25	18	29	29	33	37	33	35	37	53	48	45	38	28	36	40	32	26	30	20	35	19	34	34	39	45	54	50	47	....	35.5
Valley City	Maximum	55	45	38	37	39	44	48	50	61	60	73	76	73	51	55	55	55	55	49	47	52	52	52	69	65	70	79	77	73	65	....	57.3
	Minimum	29	25	21	32	33	34	39	44	42	44	47	47	48	40	35	37	37	36	30	33	20	38	28	32	31	37	44	55	52	46	....	37.2
Wahpeton	Maximum	59	57	41	41	49	48	49	58	63	57	70	78	77	56	50	52	57	51	48	46	48	49	50	66	66	67	79	77	76	71	....	58.5
	Minimum	32	27	27	31	32	38	41	44	44	44	48	55	50	41	37	42	45	43	33	31	21	40	27	29	36	42	47	51	52	55	....	39.5
Williston[1]	Maximum	42	36	32	37	38	39	35	39	42	60	65	59	60	54	63	60	52	38	52	40	59	43	60	62	58	71	70	74	64	60	....	52.1
	Minimum	29	26	24	27	26	33	33	33	34	36	48	42	32	39	34	43	38	29	28	29	25	34	27	39	30	42	51	51	45	47	....	35.1

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for April 1941—Continued from page 14.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	.....	......	....	....	.....	...	.....	1.53	+0.36	0.30	T.	12	4	11	15	se.	H. A. Bury.
Amidon	Slope	......	18	43.8	+2.4	72	27	16	4	41	1.71	+0.51	0.63	2.0	11	5	8	17	se.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	43.9	+1.7	75	28	21	5	39	1.54	+0.39	0.45	3.9	12	1	14	15	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	45.8	+2.8	75	27	20	21	40	1.63	+0.62	0.50	2.5	8	11	5	14	se.	H. W. Case.
Bowbells	Burke	1,958	12	40.0	+1.7	75	28	16	3	39	0.35	−0.82	0.05	0.2	11	3	6	21	w.	Charles Kaufman.
Bowman	Bowman	2,872	26	42.2	−0.3	70	27	15	19	34	1.89	+0.77	1.20	0	8	8	0	22	se.	Oscar L. Erickson.
Crosby	Divide	1,954	32	41.2	+1.3	75	28	20	4	40	1.16	+0.18	0.30	2.0	10	2	8	20	nw.	J. H. Phelps.
Dickinson	Stark	2,543	48	41.8	0.0	70	26	19	5	42	2.05	+0.97	0.52	1.9	18	2	11	17	se.	Leroy Moomaw.
Dickinson Airport	Stark	......	1	42.3	......	69	26	20	3	39	1.49	.....	0.38	0.2	11	1	8	21	ne.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	42.0	+0.5	72	27	19	21	43	1.55	+0.29	0.57	T	10	6	8	16	n.	O. T. Evenson.
Epping	Williams	2,224	30	43.6	+1.9	73	28	21	3	37	1.60	+0.57	0.67	0	7	10	15	5	se.	T. Beachler.
Fairfield	Billings	......	4	.....	......	...	....	.....	...	.....	1.49	+0.27	0.40	2.4	12	1	19	10	ne.	Thomas Knudtson.
Fryburg	Billings	2,790	22	42.0	......	72	26	22	3†	40	2.10	+0.93	0.50	1.2	14	3	10	17	nw.	Verne King.
Hettinger	Adams	2,675	33	44.8	+1.9	72	26	22	3†	42	2.75	+1.78	0.87	0	16	7	10	13	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	41.6	+2.3	75	28	11	5	35	0.99	−0.13	0.64	0.2	3	3	9	18	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	41.8	......	76	28	17	3	41	1.62	+0.67	0.37	5.5	12	7	3	20	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	46.0	+2.8	71	29	20	4	48	1.09	+0.07	0.34	2.8	11	2	8	20	e.	S. P. Grane.
Mary	McKenzie	......	12	.....	......	....	....	.....	...	.....	1.65	+0.59	0.44	3.2	10	8	6	16	se.	Fred Hartman.
Medora	Billings	2,271	25	.....	......	....	....	.....	...	.....	2.02	+0.99	0.39	0.4	13	3	17	10	nw.	Vernon Thompson.
Mott	Hettinger	2,424	33	45.4	+3.1	71	26	22	3†	43	1.78	+0.57	0.53	T.	11	3	11	16	nw.	P. G. Wick.
New England	Hettinger	2,400	46	44.2	+1.8	77	26	21	19†	40	1.75	+0.74	0.89	1.0	12	5	9	16	se.	F. S. Sleight.
Parshall	Mountrail	1,929	25	41.6	......	74	27	18	5†	40	2.02	+1.07	0.39	3.0	14	2	21	7	nw.	C. E. Shubert.
Portal	Burke	1,954	35	41.4	+0.8	77	27	16	3	40	1.40	+0.43	0.41	1.0	12	7	7	16	e.	R. G. Wegener.
Powers Lake	Burke	2,205	35	43.2	+3.2	77	27	19	2	30	2.38	+1.17	0.71	7.0	8	9	7	14	e.	Geo. B. Gee.
Richardton	Stark	2,467	24	43.0	+1.6	69	27	19	3	36	1.74	+0.60	0.73	T.	12	2	12	16	se.	Assumption Abbey.
Sanish	Mountrail	1,835	15	42.8	+1.1	72	26†	20	3†	35	2.27	+1.17	0.50	T.	12	6	9	15	se.	H. J. Bugge.
Stanley	Mountrail	2,258	3	41.7	......	74	27†	17	3	35	2.54	......	0.54	2.7	12	5	13	12	ne.	Leroy Edwards.
Tioga	Williams	2,279	12	.....	......	....	....	.....	...	.....	2.23	+1.27	0.40	4.5	12	4	9	17	se.	B. V. Olson.
Trotters	Golden Valley	......	15	.....	......	....	....	.....	...	.....	1.04	+0.01	0.37	T.	8	1	20	9	se.	Walter Grunewald
Watford City	McKenzie	2,084	27	44.8	+3.4	78	28	22	5†	41	2 22	+1.06	0.68	1.0	8	2	19	9	nw.	J. C. Zeller.
Wildrose	Williams	2,258	13	.....	......	....	...	.....	...	.....	1.51	+0.55	0.57	2.0	9	5	11	14	nw.	L Holter.
Williston	Williams	1,878	61	43.6	+1.6	74	28	24	3	34	1.73	+0.53	0.73	7.1	10	7	9	14	n.	U. S. Weather Bureau.
Average for Western Division		......	.....	42.9	+1.4	78	28	11	5	48	1.71	+0.49	1.20	2.0	11	5	10	15	se.	....
Average for the State		......	.....	44.1	+2.7	82	27	6	2	50	2.30	+0.86	1.20	1.6	13	6	9	15	se.	....

[WBO, Minneapolis, 6-17-41—1100]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

F. J. BAVENDICK

Vol. L — Bismarck, N. D., May 1941 — No. 5

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GENERAL SUMMARY

Although the temperature averaged above normal at every station in the state, killing frosts occurred from the 7th to the 9th and at some stations on the 23d. Not much loss occurred because most crops were not sufficiently advanced to be damaged. The precipitation was above normal in the western and central divisions and below normal in the eastern division. All the southern counties east of the Missouri river had below normal precipitation, but in the northern part of the state only the counties bordering the Red River were below normal. The rainfall occurred mostly as moderate showers and soaked into the ground to considerable depth. Growing conditions were favorable over the state except in a few south-central counties where a dry condition developed. Corn was making slow growth but small grains and pasture were very good.

TEMPERATURE

The mean temperature for the state was 58.3°, or 4.6° above the 1892-1941 average for May. The mean temperature for the eastern division was 59.0°; for the middle division, 58.2°; and for the western division, 57.8°. The highest mean temperature was 62.8° at Milnor, and the lowest, 54.8° at Bowbells and Portal, making a range in mean temperature of 8.0°. The absolute range was 77°, from 98° at the stations in the middle division on the 18th, to 21° at Wishek on the 23d. The average daily excess in temperature for the state since Januaay 1, 1941, is 3.1°.

PRECIPITATION

The average precipitation for the state was 2.94 inches, or 0.64 inch more than the 1892-1941 average for May. In the eastern division the average amount was 2.23 inches; in the middle division, 3.12 inches; and in the western division, 3.48 inches. The greatest monthly amount reported was 6.28 inches at Berthold Agency, the least was 0.98 inch at Fargo. The greatest amount recorded in any 24 consecutive hours was 2.91 inches at Willow City on the 3d. The accumulated excess in precipitation for the state since January 1, 1941, is 1.13 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	3	7	7	2	..	..	..	1	1	..
Dust storms	..	..	..	..	..	2	1	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..
Fogs	15	2	3	1	4	1	1	1	4	1	..	..	..	..	4	5	..	..	..	..	..	..	..	..	..	4	17	18	20	18	14
Lunar halos	..	..	1	1	..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	1	3	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hail	4	2	..	..	..	..	3	1	3	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	1	2	..	..	1	..	..
Thund'rst'ms	8	14	11	3	6	1	..	..	3	3	..	2	26	23	2	..	.	3	6	2	..	1	1	1	15	18	3	4	8	4	2

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.88	30.50	23	29.30	18	13.8	49	nw.	6	80	52	49	56
Devils Lake	29.88	30.44	23	29.34	6	10.1	30	nw.	7	84	62	60	49
Williston	29.85	30.47	22	29.27	18	8.5	36	w.	6	81	53	45	57
Fargo	29.88	30.47	23	29.40	7	.....	.....	......	....	81	54	57	....
Moorhead, Minn	....	....	....	....	....	9.9	27	s.	5	....	....	....	42

† And other dates.

COMPARATIVE DATA FOR MAY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	46.6	96	13	3.43	1.84	1.33	2.20	3.9	12	6	8	17
1893	52.2	97	19	1.29	1.14	2.40	1.61	0.2	6	11	8	12
1894	54.6	98	23	1.40	1.24	1.88	1.51	0.0	5	16	9	6
1895	54.4	101	15	2.60	2.88	2.57	2.48	0.0	8	10	11	10
1896	56.9	103	22	5.44	3.70	5.81	4.95	0.0	13	6	14	11
1897	55.4	97	16	0.85	0.61	0.60	0.67	T.	4	16	10	5
1898	52.7	92	14	1.95	1.84	2.15	1.98	0.0	5	15	9	7
1899	50.6	91	16	3.40	4.80	2.27	3.49	0.4	8	9	9	13
1900	59.2	106	15	0.78	0.70	0.59	0.69	0.0	3	18	8	5
1901	60.0	99	19	0.35	0.24	0.33	0.31	T.	2	21	4	6
1902	55.9	94	24	4.31	3.33	3.06	3.57	0.4	10	13	6	12
1903	54.3	96	11	2.52	3.35	3.50	3.12	T.	4	14	8	9
1904	54.2	93	20	2.05	1.64	1.10	1.60	T.	6	14	9	8
1905	50.1	88	10	4.24	2.78	1.72	2.91	4.0	8	12	8	11
1906	50.8	99	11	4.41	4.74	5.59	4.91	0.4	12	9	8	14
1907	44.0	84	6	1.52	1.02	1.39	1.31	3.1	6	12	10	9
1908	50.8	88	9	3.54	2.58	2.57	2.90	0.9	8	13	7	11
1909	51.0	98	5	4.78	3.92	4.68	4.46	0.1	10	12	9	10
1910	50.7	94	10	0.86	0.95	1.28	1.03	0.1	6	12	11	8
1911	55.0	99	6	4.06	2.25	2.39	2.90	T.	8	14	9	8
1912	54.2	90	16	4.17	4.59	4.42	4.39	0.7	11	10	10	11
1913	51.2	100	11	1.75	1.63	1.74	1.71	0.2	9	10	10	11
1914	55.2	95	16	1.83	2.56	1.98	2.12	1.0	8	16	8	7
1915	51.1	98	15	3.37	3.21	2.81	3.13	0.4	9	10	10	11
1916	51.0	95	7	2.95	1.70	1.64	2.10	0.3	8	11	11	9
1917	51.2	98	15	0.21	0.29	0.53	0.34	0.1	2	20	7	4
1918	51.7	99	6	2.58	2.40	1.83	2.27	0.5	9	10	11	10
1919	55.5	101	16	4.29	3.14	1.91	3.11	0.4	9	16	8	7
1920	53.9	89	20	2.40	1.34	1.54	1.76	0.1	7	13	10	8
1921	53.8	90	21	2.75	2.22	2.36	2.44	T.	9	13	10	8
1922	56.3	93	24	4.29	2.81	3.08	3.39	0.1	12	10	11	10
1923	54.1	100	13	2.56	1.57	1.17	1.77	0.2	6	15	10	6
1924	46.9	84	15	1.05	0.57	0.81	0.81	0.0	5	12	10	9
1925	53.6	111	10	1.94	1.17	1.22	1.44	T.	4	17	9	5
1926	58.5	105	10	2.07	2.09	2.45	2.20	0.0	7	13	11	7
1927	48.0	87	13	5.21	6.06	5.77	5.68	3.2	14	6	8	17
1928	58.2	107	16	1.02	1.23	1.00	1.08	0.0	5	18	7	6
1929	49.1	92	8	2.00	2.69	4.28	2.99	0.4	7	16	9	6
1930	50.8	98	18	3.76	2.40	1.69	2.62	0.7	9	12	8	11
1931	53.1	100	10	2.17	1.09	0.98	1.41	0.3	6	16	7	8
1932	55.9	98	25	2.66	2.02	1.76	2.15	2.2	6	13	9	9
1933	54.8	98	19	2.78	3.18	3.50	3.15	T.	9	9	10	12
1934	63.6	111	18	0.46	0.32	0.29	0.36	0.0	3	17	10	4
1935	49.5	89	20	2.11	2.93	2.79	2.61	1.5	12	6	11	14
1936	61.0	100	20	1.05	0.66	0.70	0.80	T.	4	19	9	3
1937	56.9	99	19	2.35	1.67	1.27	1.76	T.	7	12	11	8
1938	52.0	88	18	2.93	2.07	2.66	2.55	0.2	11	8	12	11
1939	60.1	104	18	1.33	1.60	1.71	1.55	0	8	13	11	7
1940	54.9	96	17	1.60	2.26	2.06	1.97	0.1	8	14	11	6
1941	58.3	98	21	2.23	3.12	3.48	2.94	T.	12	10	10	11
Period	53.7	111	5	2.50	2.20	2.21	2.30	0.5	8	13	9	9

Climatological Data for May 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	61.0	+6.3	89	18	29	9	42	1.84	−1.03	0.47	0	14	16	6	9	nw.	James. H. Erickson.
Cavalier	Pembina	894	31	57.2	......	90	18	30	9	44	1.90	−0.50	0.65	0	8	14	6	11	nw.	City Light & Power Co.
Colgate				......	......	...	...	...	...	......	1.01	......	0.26	0	7	......	......	......	......	W. H. Gibbs.
Cooperstown	Griggs	1,428	44	57.8	+4.0	90	25	24	7	40	5.98	+3.38	2.65	0	15	13	8	10	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	......	......	...	...	...	...	......	2.49	+0.75	0.79	T.	13	13	6	12	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	56.8	+4.2	89	25	30	8	35	2.15	+0.12	0.48	0.7	15	7	5	19	s.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	58.6	+4.2	92	26	29	8	44	1.40	−1.23	0.57	0	5	12	13	6	se.	O. A. Thompson.
Edmore	Ramsey	1,524	17	56.4	+3.2	88	18	28	9	38	2.24	+0.32	0.41	0	16	16	6	8	nw.	Mike Davis.
Ellendale	Dickey	1,457	46	60.4	+5.1	91	18†	30	8	39	1.47	−1.30	0.52	0	9	13	6	12	s.	J. E. Demmer.
Fargo	Cass	895	14	59.7	+4.3	90	18	29	9	42	0.98	−1.78	0.51	0	8	5	11	15	s.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	60.1	+4.4	85	13†	28	23	43	1.73	−1.42	0.45	0	8	17	7	7	s.	Helge Dyste.
Fullerton	Dickey	1,439	43	60.5	+5.7	91	25	30	8	42	1.89	−1.29	0.88	0.3	7	11	12	8	nw.	F. O. Alin.
Grafton	Walsh	827	49	59.8	+5.7	90	18	31	9	42	1.85	−0.32	0.56	0	10	6	12	13	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	58.0	+3.8	90	18	25	9	46	1.92	−0.67	0.61	0	9	11	8	12	se.	U. S. Weather Bureau.
Grand Forks Airport	Grand Forks	832	1	58.4	......	90	18	26	9	41	1.72	......	0.64	T.	10	6	8	17	nw.	U. S. Airway Comm. Sta.
Hankinson	Richland	1,068	12	61.6	+3.6	92	17	32	8†	49	2.48	−0.05	0.77	0	8	3	21	7	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	49	55.8	+4.2	88	18	28	8	42	3.85	+1.73	0.90	T.	16	9	9	13	se.	A. E. Prior.
Hillsboro	Traill	901	41	60.2	+5.4	90	18	29	9	40	2.10	−0.99	0.60	0	13	12	9	10	n.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	60.5	+6.4	95	25	29	8	43	1.74	−1.26	0.51	0	8	8	8	15	s.	S. G. Calvelage.
Jamestown Airport	Stutsman	......	1	58.1	......	93	25	30	8†	41	1.15	......	0.48	T.	5	3	9	19	nw.	U. S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	58.5	......	92	25	28	8	43	1.98	......	0.37	0	14	10	8	13	n.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	45	56.8	+5.0	88	18	26	9	40	3.62	+1.60	0.73	T	16	10	9	12	sw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	59.0	+5.6	89	18	29	9	38	2.42	−0.47	0.87	0	10	9	4	18	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	37	60.2	+5.4	94	25	30	9	50	1.11	−1.81	0.20	0	12	12	7	12	nw.	J. O. Halverson.
Mayville	Traill	975	45	59.2	+3.8	90	25	30	9	45	2.14	−0.77	0.84	0	9	2	24	5	n.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	56.0	+3.3	87	18	26	9	42	4.18	+1.79	1.03	1.0	15	7	11	13	nw.	C. E. Blasky.
McLeod	Ransom	1,075	30	62.7	+6.9	90	18	28	23	43	2.04	−1.23	0.62	0	11	18	3	10	se.	J. G. Carlson.
McVille	Nelson	1,467	....	......	......	...	..	......	...	......	1.74	......	0.80	0	......	......	......	......	......	M. Kabeary.
Milnor	Sargent	1,117	2	62.8	......	92	18†	30	9	37	2.04	......	0.62	0	7	16	12	3	nw.	E. W. Wilson.
Oakes	Dickey	1,318	12	59.4	+3.8	90	19	30	8†	42	2.33	+0.03	0.64	0	9	9	7	15	nw.	F. H. Murray.
Park River	Walsh	998	37	58.5	+4.9	91	18	30	8†	44	2.00	−0.06	0.41	0	12	15	6	10	nw.	E. J. Taintor.
Pembina Airport	Pembina	789	67	57.0	+3.8	90	18	28	9	42	3.30	+0.94	1.20	0	14	5	14	12	s.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	......	......	..	...	......	...	......	2.53	+0.27	0.66	T.	11	12	8	11	s.	T. M. Rykken.
Sharon	Steele	1,516	17	57.0	+2.9	86	18†	29	8†	40	3.53	+0.66	1.26	0.3	16	7	11	13	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	60.2	+5.6	90	25	30	8	39	1.57	−1.23	0.31	0	13	14	7	10	ne.	I. C. Robertson.
Wahpeton	Richland	962	49	61.6	+5.3	90	18	28	9	39	2.89	+0.23	1.80	0	13	10	9	12	se.	W. J. Cavanaugh.
Average for Eastern Division		......	....	59.0	+4.6	95	25	24	7	49	2.23	−0.27	2.65	T	11	10	9	12	nw.	......
Middle Division																				
Ashley	McIntosh	2,014	45	57.8	+3.6	92	25	23	9	45	1.77	−0.77	0.71	T.	7	6	10	15	s.	U. S. Airway Comm. Sta.
Beulah				......	......	...	...	......	...	......	5.76	......	1.78	T	14	8	11	12	nw.	R. T. Hamilton.
Bisbee	Towner	1,601	5	57.0	+4.3	91	18	29	8†	43	4.10	+2.00	1.36	0	17	10	5	16	nw.	I. K. Lund.
Bismarck	Burleigh	1,670	67	59.6	+5.1	98	18	27	9	44	1.03	−1.29	0.35	0	11	9	5	17	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	55.8	+3.5	93	18	28	8	40	4.44	+2.37	1.42	0	15	12	4	15	se.	N. D. School of Forestry
Carrington	Foster	1,579	43	56.5	+3.4	93	25	29	8	43	2.55	−0.02	0.68	0	12	4	14	13	se.	Soo Line Agent.
Carson	Grant	2,500	29	59.7	+5.2	97	18	26	8	47	2.77	+0.32	1.15	0	10	10	15	6	se.	J. W. Evens.
Center	Oliver	......	3	58.9	......	95	25	26	9	44	1.63	......	0.32	0	12	10	13	8	se.	Fred L. Heinz.
Dogden Butte ‡‡	McLean	1,880	15	58.6	+3.8	92	18	28	8	45	5.54	+3.07	1.29	T.	15	11	6	14	nw.	R. L. Williams.
Drake	McHenry	1,634	12	56.6	+1.9	94	25	29	8	41	3.51	+1.71	0.82	0	16	12	4	15	s.	Peter Anton.
Dunseith	Rolette	1,682	45	56.6	+3.8	92	18	26	7†	43	4.35	+2.51	1.18	T	14	5	17	9	n.	Geo. Gehres.
Eckman	Bottineau	1,500	36	57.4	+4.8	94	18	29	8	53	2.87	+0.95	0.79	T.	14	11	11	9	nw.	R. F. Nowak.
Energy ‡‡	McLean	1,750	26	60.8	+4.5	95	18	28	9	44	4.01	+1.85	1.40	0	7	14	9	8	n.	H. S. Solenberger.
Fessenden	Wells	1,610	29	57.7	+4.4	94	25	27	8	45	2.75	+0.44	0.65	0	15	12	6	13	n.	John V. Zuber.
Fort Yates	Sioux	1,670	41	61.9	+5.2	97	25	27	23	47	1.76	−0.54	0.61	0	6	17	7	7	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	57.5	+3.3	88	18	27	8	49	2.74	+0.75	0.53	0	14	8	9	14	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	11	59.5	......	93	25	29	8	45	1.44	−1.04	0.40	T	8	10	11	10	nw.	A. H. Haut.
Garrison	McLean	1,901	64	57.2	+3.6	95	18	28	8†	45	5.06	+2.73	1.13	0	13	8	9	14	nw.	E. L. Vorachek.
Golva	Golden Valley			......	......	...	...	......	...	......	3.88	......	0.82	0	11	9	14	8	nw.	U. S. Airway Comm. Sta.
Granville	McHenry	1,504	34	60.0	+7.1	97	18	28	8	42	5.22	+3.28	1.69	T.	17	12	14	5	nw.	C. A. Stubbins.
Hansboro	Towner	1,597	33	55.6	+4.1	90	18	28	9	43	4.76	+2.67	1.49	T.	17	4	15	12	ne.	W. E. Disher.
Leeds	Benson	1,515	1	56.9	......	92	25	25	9	40	2.68	......	0.48	T.	16	6	10	15	w.	Carl T. Carlson.
Linton	Emmons	1,711	24	62.4	+6.7	98	18	27	9†	47	2.43	+0.02	0.79	0	9	14	9	8	nw.	Wm. Heyerman.
Maddock	Benson	1,604	26	58.0	+4.2	94	18	28	8	39	2.14	+0.03	0.46	0	16	12	6	13	nw.	A. T. Fellaud.
Mandan	Morton	1,750	27	59.7	+4.6	98	18	28	9	41	1.95	−0.49	0.72	0	10	9	7	15	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	......	......	...	...	......	...	......	2.34	+0.08	0.81	T.	13	9	10	12	ne.	P. B. Anderson.
Max	McLean	2,093	12	55.4	+1.3	92	18†	27	8	43	4.69	+2.57	2.30	0	18	10	7	14	se.	A. W. Rice.
McClusky	Sheridan	1,943	23	58.9	+4.9	95	18	25	8	42	2.30	−0.18	0.74	T.	11	13	9	9	nw.	F. W. Perry.
Medina	Stutsman	1,816	1	......	......	...	...	......	...	......	1.86	......	0.57	0	14	9	7	15	s.	Rudolph Graf.
Minot	Ward	1,557	45	57.1	+4.0	95	18	30	8	43	3.76	+1.62	1.27	T.	15	10	3	18	nw.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	57.0	+3.9	90	18	29	8	42	3.01	+1.16	0.43	T.	18	10	11	10	nw.	Iver Johnson.
Napoleon	Logan	1,955	49	58.9	+5.7	93	18†	25	9	45	2.89	+0.46	0.60	0	13	14	1	16	nw.	C. J. Hoof.
New Salem	Morton	2,163	37	59.1	+5.7	95	25	28	8†	43	1.60	−0.52	0.40	0	9	12	14	5	s.	J. Christiansen.
Pettibone	Kidder	1,856	32	57.0	+3.8	93	25	27	8	42	1.38	−1.02	0.52	0	9	6	13	12	nw.	Sam Loeppke.
Rolla	Rolette	1,860	4	56.9	......	91	18	28	8	40	4.96	......	1.67	T.	18	10	9	12	ne.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	......	......	...	...	......	...	......	3.93	+2.13	0.93	0	16	10	7	14	ne.	W. B. Paterson.
Ryder	Ward	2,108	12	......	......	...	...	......	...	......	3.86	+1.56	1.10	0	11	13	1	17	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5	......	......	...	...	......	...	......	2.20	......	0.52	0	9	8	10	13	nw.	J. B. Smith.
Steele	Kidder	1,857	47	58.6	+4.6	95	25	27	8†	41	1.96	−0.71	0.50	T.	11	14	3	14	s.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	......	......	...	...	......	...	......	3.31	+1.33	0.68	T	13	13	6	12	ne.	G. N. Pilgard.
Timmer	Morton	......	4	......	......	...	...	......	...	......	1.87	......	0.46	0	8	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	39	58.4	+4.1	95	18	29	9†	40	5.92	+3.78	2.70	0	15	11	8	12	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	59.5	+5.6	94	18	28	8	36	1.90	−0.33	0.43	0	11	10	9	12	s.	A. S. Haas.
Tuttle	Kidder	1,936	33	......	......	...	...	......	...	......	2.02	−0.49	0.75	0	12	14	5	12	nw.	Adam Leno.
Upham	McHenry	......	1	......	......	...	...	......	...	......	4.92	......	1.70	T	13	10	6	15	se.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	14	59.6	+5.0	95	18	30	8	36	4.40	+2.12	1.93	T.	15	8	10	13	nw.	Oscar Anderson.
Washburn	McLean	1,731	40	60.6	+5.3	95	18	29	8	42	1.10	−1.19	0.25	0	7	11	8	12	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	56.9	+3.8	92	18	29	8	40	2.60	+0.77	0.65	0	12	8	9	14	se.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	57.1	+4.9	94	18	28	9†	42	5.48	+3.64	2.91	T.	14	12	10	9	nw.	O. M. Sanderson.
Wilton	McLean	2,159	5	56.7	......	96	18	27	8†	43	1.56	......	0.65	0	11	13	9	9	......	Soo Line Agent.
Wishek	McIntosh	2,010	20	58.0	+4.8	92	25	21	23	51	1.67	−0.86	0.65	0	11	9	8	14	nw.	H. M. Larson.
Average for Middle Division		......	.....	58.2	+4.4	98	18	21	23	53	3.12	+0.92	2.91	T.	13	10	9	12	nw.	......

Continued on page 20

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for May 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	.03				.41	T.	.04	.06		.08				.47	.02				.20	T.		.05				.24	.12	.01		.06	.05	1.84
Cooperstown[2]	Sheyenne	.04	.07			.15	.02	T.	.11	T.	.30			.04	.50	T	T.			.04						2.65	1.50	.04	.06	T.	.38	.08	5.98
Courtenay	James	.24	.24			.79	.07	.05	.05						.20					.03						.22		.10	.04		.40	.06	2.49
Devils Lake[1]‡	Devils Lake	.24	.27	T.	.48	T.	.13	.01	T.	.01				.05	.16	.12				.25	T.	T.				.07		.10	.03		.22	.01	2.15
Edgeley	James		.25			.31			.11																						.57	.16	1.40
Edmore	Devils Lake	.14	.04	.40		.41	.04	.18	.09					.08	.09	.13				.14		.01					.14	.10	.10			.15	2.24
Ellendale	James	.06	.11	.04		.51			.11											T.								T.	.02	.08	.52	.02	1.47
Fargo[1]	Red	T.	T.	T		.01	.01	.01	T		T.			T.	.14	T.				.01		T.	T.			.51	T.	.25	T.	T.	.04	T.	0.98
Forman	Sheyenne		.30	.06		.24	T.	T.							.24					T.			.02					.45			.38	.04	1.73
Fullerton	James		.88			.08			.12						T	T.				T		.09						T	.04	.26	.42		1.89
Grafton	Red		T.			.14		.19	T.					.08	.11	.07											.10	.42	.05		.56	.13	1.85
Grand Forks Airport[1]‡	do	T.	.02			.15	T	.10	T		T.			.08	.34	T.		T.		T.		T.				.24	T.	.12	.02	T	.62	.03	1.72
Hankinson[2]	do					.15	T.		.05						.39					.06			.02					.77			.31	.73	2.48
Hannah	Pembina	.15		.20	.10	.45	.05	.45	.05					.10	.90	.20			.15							T	.20	.10	.40	T.	.10	.25	3.85
Hillsboro	Red	.02		T.		.08	.01	.09	.02		T.			.35	.60	T.				.18			T.			T	.43	.10	.01		.06	.15	2.10
Jamestown Airport[1]	James		T.			.38	T.	.04	T						.48					T.		T.				T.	T.	T	T.	.10	.45		1.15
Langdon	Pembina	.02		.30		.10	.21	.40	.15					.09	.60	.07				.52							.73	.05	.05	.05	.03	.25	3.62
Larimore	Red					.10	..	.15	.08					.38	.87	.01											.17	.05			.33	.28	2.42
Lisbon	Sheyenne	.08	.05	.17			.06	.01	.09						.20	T.					.10		.06					T	.09	T.	.08	.12	1.11
Mayville	Red		T.			.26		.10	.06					.20	.25					T.							.84	.15	T.	T.	.12	.16	2.14
McHenry	James	.35	.10			.35	.03	.06	.10		.12			.11	1.03					.10							.10	.37	.14		.95	.27	4.18
McLeod	Sheyenne			.06		.17			.09						.24	.04				.08			.09					.62		.42	.18	.05	2.04
Oakes	James	.64		.62			.42		.07							.04					.03		.10							T.	.39	.02	2.33
Park River	Red	.40	.02			.10		.05						.10	.08	.08				T.							.03	.41	.06		.27	.40	2.00
Pembina	do	T.	T	.06		.36		.12	.01		.02	T		.01	.15	.06		.01		.04	T.					1.20	T.	.12	T	T.	1.01	.13	3.33
Petersburg	do	.11				.28		.08	.03					.10	.30	.06				T.						T.		.66	.05		.29	.57	2.53
Sharon	do	.07	.03	T		.09	.01	.06	.04		.06	T.		.38	1.26	.02				.02			T.			.25	.91	T.	.01	T.	.29	.03	3.53
Valley City	Sheyenne	.20	.25	.13		.12	.62	.04	.09						.31					T.							.01	.11	.01	T.	.18	.10	1.57
Wahpeton	Red	.06		T.		.04	.03	.01	.07		.01				.23	T.				T.	.03		.02					.54	.01	T.	1.80	.04	2.89
Middle Division																																	
Ashley[1]	Missouri	T.	T.			.64	T.	.07	T.	T.				T.	T	T.				.03		T.	.09				.04	T.	T.	.71	.19	T	1.77
Bisbee	Devils Lake	.29	.02	.11	.33	.25	T	.08	T					.14	.28	.24				.17		.02					1.36	.21	.27	.05	.18	.10	4.10
Bismarck[1]‡	Missouri	T.	T			.18	T.	.02	T.	.03				.02	.05	T.				.14		T.				.04	T.	.15	.20	.12	.08	T.	1.03
Bottineau[2]	Mouse	.14	.03	1.42	.06		.36	.04	.08					.03	.20	.31				T.		.06					1.01	.10	.59	.01	..	T.	4.44
Carrington	James	.07	.06		T.		.39	T.	.11	T	.02				.68	.02					T.						.12	.06	.38	T.	.12	.52	2.55
Carson	Heart	.03		.02		.46			.02											.25								.12	.58	1.15	.10	.04	2.77
Center	Missouri			.18		.22		.01	.03						.15					.25			.01				.20	.12	.03	.11	.32		1.63
Dogden Butte	Mouse		.56	1.12	.02	.53	.05	T.	.06		.26			T	.51	.10				.11							1.29	.21	.25		.33	.14	5.54
Drake[2]	do	.11	.12	.63	.06		.36	.07	.04		.14			.05	.82	.08					.18						.29	.12	.17		T	.27	3.51
Dunseith	do	.08	1.12	1.18		.43	T.	.05	.04					.02	.33	.16				.03							.14	.17	.58		.02		4.35
Eckman	do	.10	T.	.79		.19	..	.07	T.					.05	.22	.26				.10						.10	.05	.45	.35		.07	.07	2.87
Energy	Missouri		.95	1.40		.38	T.	T.							.18	.10				.40								T.		T.	.60		4.01
Fessenden	James	.01	.30			.61		.08	.13						.65	.05			.03	.21						.03	.23	.19	.03	T.	.15	.05	2.75
Fort Yates	Missouri					.61									.14					T.							.05	.36	.35	.25			1.76
Foxholm (near)	Mouse			.53		.29	T.	.03	.02		.29			.14	.08	.33				.18		T.					.02	.33	.20		.26	.04	2.74
Gackle	James		.12				.02		T						.34					.06							.27		.17	.40	.06		1.44
Garrison[1]	Missouri	1.07	.73	1.13		.51	.02	.07		.01					.52				.11	.23								.15		.21	.30		5.06
Granville	Mouse	.06	.55	1.69		.15	.01	.04	.02	.35				.22	.51	.18				.19							.05	.55	.35		.10	.20	5.22
Hansboro	Devils Lake	.25	.02	1.49		.70	T.	.05	.01					.06	.44	.15				.07		.03					.09	.23	.83	.03	.23	.08	4.76
Linton	Missouri	.15				.79	T.	T.							.29					.03						T.	.03	.30	.50	.22	.12		2.43
Maddock	Sheyenne	.10	.11	.04		.46	T.	.03	.07		.14			.05	.36	.05				.20						T.	.03	.14	.03		.24	.09	2.14
Mandan[2]	Missouri					.28	.02	T						.11	T.				.04	.06						.16	.21	.72		.22	.13	T	1.95
Max[2]	do	.14	.32	2.30	.03		.43	.06	T	.06	.12			.03	.25	.08	.01			.06	.14							.06	.20	T.	.20	.20	4.69
McClusky	do	.02	.03			.23	.06		T.							.54				.24							.03	.31	.06		.74	.04	2.30
Minot[1]	Mouse	.10	1.27	.17		.40	.01	.08		.28					.38	.06				.24						T.		.49	.02	.03	.19	.04	3.76
Mohall	do	.07		.42		.25	.01	.04	.01	.05				.12	.15	.42				.19	T.	.01				.03	.18	.35	.43		.15	.13	3.01
Napoleon[2]	Missouri	.47					.60	.02	.05						.25	.03					.15						.15	.10	.50	.02	.53	.02	2.89
New Salem	Heart			.03		.29	T.	.02							.12					.17								.25	.13	.19	.40	T.	1.60
Pettibone	James		.01			.52	.02		.12						.20													.14	.27	.05	.05		1.38
Rolla	Devils Lake	.20	.06	1.67	.35	.30	.06	.05	.05					.07	.52	.20				.08							.05	.18	.94	.01	.13	.04	4.96
Rugby (near)	Mouse	.23	.13	.78	.16	.93		T	.04		.09			.07	.22	.22				.10							.45	.20	.16	.08	.07		3.93
Ryder	Missouri	.30		1.10		.48	.04	.08	T.	.25	T.				.37	T.				.27	T.					.05	.37	T.			.55		3.86
Selfridge	do	T.				.43	T.	T.						.24	T.				.12	.06						.10		.15	.52	.48	.10		2.20
Steele	do					.50	.02	T.	.07						.30	.01											.11	.29	.36	.21	.12	.01	1.96
Tagus	Mouse	.02		.20		.07	.09		.04	.27				T.	.32	.45				.27		T.				.25			.58		.68	.07	3.31
Towner	do	.23	.42	2.70	T.	.37	T.	.05	.07		.42			.10	.37	.25				T.							.10	.23	.52		.08	.01	5.92
Turtle Lake	Missouri			.43		.09	.04		T.		.10				.36	.06				.14						.04		.08			.40	.06	1.90
Tuttle	do	T.		.01		.75	.06	.03	T.	.02					.05	T.				.19		T.				.35		.20	.10	.09	.17	T.	2.02
Velva	Mouse		.41	1.93		.22	.01	.03	.07		.10			.10	.46	.08				.27							T.	.36	.20		.10	.06	4.40
Washburn	Missouri			.07		.06	T.	T.							.25	T.				.23							.08	.18		T.	.23		1.10
Westhope	Mouse	.08		.65		.28		.15							.47	.24				.09	T						.06	.24	.23		.02	.09	2.60
Willow City	do	.26	.12	2.91		.40	T	.10			.07			.05	.50	.16				T							.18	.37	.19		.12	.05	5.48
Wishek[2]	Missouri	.53					.25	.02	.05	T.					.04	.01				.06							.01	T.	.02	T.	.65	.03	1.67
Western Division																																	
Alpha	Lit. Missouri		.31	.14		.09	T	T.	T	T					.51	.10				.27								.06	.10	.25	.41	.10	2.34
Amidon	do	T.	.01	.37		.17	T.	.06		.02					.35	.04				.26						T.		.19	.04	.61	.15	.18	2.45
Beach	do		.50	.08		.13	T.	.04		.05					.48	.41				.51								.12	.11	.50	.20	.64	3.77
Berthold Agency	Missouri	T	.30	.65			.10	.07	.04		.05			T.	.40	.14				.22									.35		4.40	.05	3.77
Bowman[2]	Grand		.13	.39		.19	.02			.02					.10	.08				.23	.07						.30		.16	1.20	.41	1.95	5.25
Crosby	Mouse		.08	.08			.07	.14	.04		.02			.05		.51	.01			.12							1.29	.14	.30		.27	.46	3.58
Dickinson Airport[1]	Heart	.69	.57	.28		T.	T.	T						.05	.35				T.	.21		T				T.		T.	T	1.28	.09	.56	4.08
Dunn Center	Knife	T.	.13	.47	T.		T.	.05	T.						.46	.18	T.			.17	.08						.09	.09	.06	T.	.85	.08	2.71
Fairfield	Lit. Missouri		.47			.05				.06					.77	.02			.13									.17		.39	.09	.31	2.46
Fryburg	Heart	.28	.32	.12			T.								.89	.21				.25								.23	T.	.45	.01	.16	2.92
Hettinger	Grand	.01		.31		.02		.04							.80					1.01						.20		.06	.77	.60		.28	4.10
Howard (near)	Missouri	T.	T.			T.	.20	T							.22	.14				.46							T.	T	.23	.60	.70	.62	3.17
Kenmare	Mouse	.09	.11	.10			.02	.12	.12		.21			118	.15	.14				.06	.17						.07	.14	.77		.12	.27	2.84
Marmarth	Lit. Missouri		.15	.05		.12									.63					.29								.05	T.	.02	.16	.08	1.55
Mary	do		.27			.15	.03	.06						.13	.27	.02				.11								.29		.14	.15	.02	1.64
Medora	do			.41		.12	T.	.01		T.					1.00	.24				.26								.08		.26	.03	.08	2.49
Mott	Cannon Ball			.98		.05		.03	T.					.19						.76			T					.05	.25	.68	.29	.03	3 31
New England[2]	do		.70			.06		.04						.11	.30				.20	.09						.60	.24	.06	.04	.11	.04	.24	2.83
Parshall	Missouri		.02	.48			T.	.05	.03		.08				.33	.30				.11	.13						.09	.03	.37	.01	.24	.91	3.18
Portal[2]	Mouse		.05	.24			.04	.11	.05		.12			.13		.41	T.			.07							.25	.33	.38		.15	.68	3.01
Powers Lake	Missouri	1.79	.31	.03	.19		.53	.19		.32				.11	.28	.31				.11						.07		1.12			.87		6.23
Richardton	Heart	.02	T.	.83		.12		.02							.12					.68									.07	2.15	.19	.02	4.22
Sanish[2]	Missouri			.80				.03	.06						.90	.21				.08	.07						.06	.14	.18			1.35	3.88
Stanley	do	.10	T.	.31			.15	T	T.	.08					.50	.42	T.			.19						.78	.03	.62	.06		.90	.17	4.31
Tioga	do	T.	T.	.67		.21									.27	.43	.06									T.		.79	.04		.98	.37	3.82
Trotters	Lit. Missouri	.02	.98			.28	T.	T.	T.	.05					.37	.02				.47								.03	.31		.19	.02	2.74
Watford City	Missouri	.05	.20	.42		T.	.22	.12	.03	.09					.48	.08				.13							.18	.39		.08	.84	.22	3.53
Wildrose	do	.03		.23		.02	.17	.06	.05	.19					.16	.25				.20						.08	.20	.46	.01		.72	.17	3.00
Williston[1]‡	do	T.	.23			.07	.19	.03	.01	T				.02	.34					.32							.05	.33		T.	1.03	.19	2.81

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First- or second-order Weather Bureau station; data are for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. •Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for May 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum	70	82	83	80	65	64	54	47	57	71	68	76	87	76	61	72	85	90	69	74	83	63	71	80	92	68	63	76	65	57	65	71.4
	Minimum	50	54	57	54	49	45	34	28	23	34	30	43	54	48	45	33	50	56	41	40	46	31	26	43	58	47	46	49	54	52	51	44.2
Beach	Maximum	81	81	78	81	68	62	58	50	68	73	77	87	81	73	57	75	85	79	66	69	75	62	78	89	87	75	63	69	67	63	68	72.4
	Minimum	51	49	47	54	51	42	42	26	31	36	42	50	54	49	46	40	52	55	46	38	46	40	37	50	54	46	47	48	47	53	52	45.8
Bismarck [1]	Maximum	78	83	83	82	66	64	53	47	61	70	73	81	89	65	61	72	90	98	66	75	82	65	75	86	96	67	55	70	70	61	65	72.5
	Minimum	52	52	62	58	47	46	33	31	27	38	35	45	55	50	42	33	56	60	49	42	47	38	31	53	61	49	46	39	54	55	52	46.7
Bottineau§	Maximum	73	78	75	81	65	57	41	43	55	65	71	76	80	55	55	64	85	93	68	70	68	58	69	84	86	63	48	59	71	59	63	67.0
	Minimum	43	52	55	60	53	41	33	28	29	38	36	48	55	42	39	36	50	57	54	38	38	37	29	50	57	44	41	41	47	54	54	44.5
Carson	Maximum	78	84	81	82	65	63	57	52	61	72	74	83	90	70	64	74	89	97	71	74	81	64	77	86	95	75	56	74	71	64	70	74.0
	Minimum	47	50	50	53	49	44	34	26	29	37	38	47	55	47	44	37	51	59	47	40	45	44	30	49	57	48	45	50	52	53	50	45.4
Crosby	Maximum	70	78	82	85	69	59	42	44	63	70	76	80	75	53	51	68	84	76	68	89	62	58	76	90	80	66	44	61	69	55	67	68.1
	Minimum	42	49	47	49	51	42	35	29	29	30	40	47	53	42	41	34	41	52	50	39	39	40	35	46	50	42	40	40	39	49	53	42.4
Devils Lake [1]	Maximum	73	74	82	84	70	58	43	89	55	64	70	75	75	56	54	64	85	89	67	71	75	56	69	83	89	60	51	61	62	57	60	66.8
	Minimum	53	57	60	60	52	41	30	30	30	44	41	49	55	40	38	36	50	58	50	46	48	42	38	50	57	44	42	47	56	53	53	46.8
Dickinson Airport [1]	Maximum	76	76	76	76	65	59	54	46	66	68	73	82	84	59	55	73	85	85	65	69	74	60	74	85	89	66	54	66	59	61	65	69.2
	Minimum	50	49	56	54	49	44	44	28	31	39	41	50	55	49	40	38	51	55	44	40	46	36	35	49	55	47	46	49	49	53	51	45.9
Dunn Center	Maximum	77	78	80	80	67	62	50	50	61	71	77	84	84	61	50	73	81	86	65	71	77	63	73	87	95	76	49	60	63	60	63	70.1
	Minimum	45	47	51	53	51	44	42	28	25	34	38	44	51	47	46	32	45	55	49	39	40	42	30	48	47	46	42	42	46	52	50	43.6
Fargo	Maximum	74	79	82	84	75	68	48	44	62	70	72	78	84	70	57	64	85	90	86	77	84	67	73	80	88	66	63	74	66	64	65	72.2
	Minimum	55	55	62	58	52	48	35	32	29	38	35	39	56	47	42	33	43	60	51	45	49	38	32	50	61	51	52	54	52	54	56	47.2
Fessenden	Maximum	75	77	79	83	67	60	50	41	57	64	73	77	82	74	55	67	84	92	72	80	76	65	72	72	94	70	54	62	62	59	62	69.6
	Minimum	52	51	59	57	52	46	35	27	34	40	39	46	55	44	39	38	53	55	51	35	44	46	34	47	55	44	42	45	52	52	52	45.8
Fullerton	Maximum	75	75	82	79	68	58	58	42	54	70	72	76	86	77	64	70	85	90	80	76	85	65	74	80	91	80	64	77	70	60	67	72.6
	Minimum	51	55	68	56	55	42	42	30	36	35	38	42	54	57	46	39	44	60	56	45	47	50	32	44	59	55	50	53	54	52	52	48.4
Garrison [1]	Maximum	73	77	76	80	66	58	46	42	61	68	73	80	84	60	57	70	87	95	62	71	75	61	73	86	92	68	48	65	70	57	64	69.2
	Minimum	52	52	57	57	52	46	36	29	29	38	39	46	56	46	43	35	55	56	41	41	44	38	33	47	52	47	42	45	49	53	48	45.3
Grafton	Maximum	77	79	86	87	84	64	61	53	62	62	72	78	79	78	55	65	86	90	89	74	77	74	73	85	88	87	55	64	65	61	63	73.3
	Minimum	54	54	52	62	54	50	37	32	31	33	40	44	53	45	39	31	46	57	55	42	45	46	33	43	57	47	44	48	50	53	54	46.2
Grand Forks Airport [1]	Maximum	78	79	89	88	77	66	46	52	62	68	72	78	70	64	54	64	84	90	85	75	82	60	72	82	88	65	58	68	61	62	65	71.1
	Minimum	52	56	61	59	54	46	32	33	26	39	34	42	55	42	38	32	45	59	47	41	48	33	31	44	59	50	49	50	52	53	54	45.8
Jamestown Airport [1]	Maximum	73	76	84	82	64	64	56	40	56	70	74	76	86	63	59	67	86	89	70	74	82	63	71	83	93	67	57	68	59	58	64	70.1
	Minimum	53	55	57	57	52	45	32	30	36	36	36	43	55	44	42	35	48	60	46	44	46	37	30	48	58	50	46	50	54	54	50	46.1
Kenmare	Maximum	71	78	82	82	69	53	43	42	60	70	74	80	78	56	58	70	84	87	70	70	68	62	72	84	86	65	47	58	70	56	59	67.9
	Minimum	40	48	55	55	55	45	35	28	30	35	44	53	52	41	41	37	46	59	50	42	41	42	38	52	52	44	40	40	43	54	53	44.8
Langdon	Maximum	74	77	78	83	82	65	51	50	57	67	74	74	78	75	54	65	83	88	80	68	72	64	70	80	85	83	51	58	64	60	58	69.9
	Minimum	49	52	57	55	54	45	32	28	26	36	36	48	51	40	35	30	46	57	50	40	41	40	30	45	55	43	39	42	50	50	51	43.6
Marmarth	Maximum	81	81	78	80	68	63	62	57	76	73	76	87	89	74	61	78	87	83	66	72	78	66	78	88	89	70	64	77	70	71	72	74.7
	Minimum	50	50	52	55	52	43	46	30	41	31	42	51	53	48	46	38	49	42	46	36	42	46	33	46	56	52	50	57	53	53	54	46.5
Minot [1]	Maximum	76	82	78	82	65	56	44	40	61	66	74	81	78	58	56	70	88	95	65	72	70	60	74	87	90	64	48	59	69	58	64	68.7
	Minimum	54	50	60	59	48	42	31	30	37	35	41	50	58	45	39	32	58	59	43	41	41	34	31	52	54	45	42	45	50	54	50	45.5
Mott	Maximum	78	80	76	78	70	67	60	49	65	71	76	83	86	73	61	73	87	94	70	71	79	63	75	87	91	73	64	78	71	65	69	73.6
	Minimum	48	50	58	54	44	52	44	30	30	35	40	50	54	50	47	35	53	58	48	37	44	46	31	50	56	48	47	50	52	49	53	46.5
Pembina Airport [1]	Maximum	75	80	88	89	80	62	49	53	63	65	73	80	80	50	50	60	85	90	74	72	75	56	74	82	89	60	53	62	63	57	58	69.3
	Minimum	53	54	61	60	54	47	32	32	28	38	38	43	49	39	39	29	46	58	48	38	47	35	32	48	50	45	42	48	52	53	52	44.8
Sharon	Maximum	74	72	81	83	71	60	50	39	59	68	69	75	76	63	54	65	84	86	75	73	81	64	72	79	86	60	54	65	62	56	64	68.4
	Minimum	52	50	56	60	52	45	34	29	29	38	39	52	54	44	38	37	46	54	52	44	46	41	32	42	55	49	42	47	51	51	53	45.6
Steele	Maximum	73	80	81	81	76	66	50	41	59	67	71	78	86	69	56	67	86	94	80	72	80	73	64	84	95	84	53	69	66	58	63	71.7
	Minimum	49	50	58	55	54	42	38	27	28	35	34	43	57	48	43	33	51	58	51	39	39	45	27	48	59	47	43	48	54	53	51	45.4
Valley City	Maximum	73	74	83	81	78	68	56	45	55	68	70	75	85	83	69	65	85	89	87	75	82	79	70	80	90	88	58	67	67	63	64	73.0
	Minimum	46	56	58	59	55	48	39	30	32	37	46	41	54	52	44	36	47	58	57	44	46	50	31	45	59	55	47	51	52	53	46	47.5
Wahpeton	Maximum	74	80	80	82	77	69	66	43	56	70	70	76	86	85	72	65	82	90	87	79	84	83	70	78	87	86	68	76	75	62	67	75.0
	Minimum	53	55	59	59	37	50	42	31	28	33	35	42	56	61	42	36	43	61	69	47	46	49	31	44	60	55	52	59	50	50	57	48.1
Williston [1]	Maximum	79	79	81	83	71	56	47	42	65	68	78	84	78	60	55	73	86	78	68	71	67	62	77	87	90	67	51	62	70	60	63	69.6
	Minimum	53	55	50	56	54	45	32	30	31	36	49	57	55	48	44	40	54	55	51	45	43	44	39	56	55	46	43	46	51	55	54	47.5

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

Climatological Data for May 1941—Continued from page 18.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	.....	......	...	...	..	...	.....	2.34	−0.09	0.51	0	11	21	4	6	se.	H. A. Bury.
Amidon	Slope	......	18	61.8	+8.3	89	25	27	8	42	2.45	−0.01	0.61	0	13	10	15	6	se.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	59.1	+6.1	89	24	26	8	41	3.77	+1.45	0.64	0	13	3	22	6	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	60.0	+5.4	93	25	28	9	43	3.77	+1.53	1.40	0	12	17	2	12	se.	H. W. Case.
Bowbells	Burke	1,958	12	54.8	+3.4	85	25	26	8	42	6.28	+4.11	2.00	0.2	18	4	16	11	w.	Charles Kaufman.
Bowman	Bowman	2,872	26	58.2	+4.6	89	26	29	8	38	5.25	+2.96	1.95	0	14	13	1	17	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	32	55.2	+2.9	90	25	29	8†	50	3.58	+1.64	1.29	0	15	6	8	17	ne.	J. H. Phelps.
Dickinson	Stark	2,543	48	57.0	+4.3	90	25	28	8	42	5.34	+3.01	2.67	0	14	7	11	13	ne.	Leroy Moomaw.
Dickinson Airport	Stark	......	1	57.6	......	89	25	28	8	39	4.08	....	1.28	0	9	3	10	18	s.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	56.8	+4.0	95	25	25	9	48	2.71	+0.32	0.85	T.	12	8	14	9	nw.	O. T. Evenson.
Epping	Williams	2,224	30	59.0	+4.0	92	25	28	8	41	3.66	+1.48	1.29	0	11	15	9	7	se.	T. Beachler.
Fairfield	Billings	......	4	.....	......	...	...	.....	...	.....	2.46	+0.36	0.77	0	10	7	17	7	nw.	Thomas Knudtson.
Fryburg	Billings	2,790	22	57.4	......	86	25	27	8	39	2.92	....	0.89	0	10	13	9	9	nw.	Verne King.
Hettinger	Adams	2,675	33	61.4	+6.9	95	18	28	8	46	4.10	+1.72	1.01	0	11	16	13	2	se.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	56.8	+5.6	84	13	27	9	40	3.17	+0.90	0.70	T	8	13	9	9	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	56.4	......	87	18	28	8	38	2.84	+0.88	0.77	T.	17	11	10	10	nw.	Theo. E. Eekberg.
Marmarth	Slope	2,714	31	60.6	+7.0	89	13†	30	8	45	1.55	−0.77	0.63	0	9	12	7	12	nw.	S. P. Grane.
Mary	McKenzie	......	12	.....	......	...	...	.....	...	.....	1.64	−0.44	0.29	0	12	19	6	6	se.	Fred Hartman.
Medora	Billings	2,271	25	.....	......	...	...	.....	...	.....	2.49	+0.25	1.00	0	10	13	12	6	se.	Vernon Thompson.
Mott	Hettinger	2,424	33	60.0	+5.4	94	18	30	8†	44	3.31	+0.91	0.98	0	10	3	18	10	nw.	P. G. Wiek.
New England	Hettinger	2,400	46	59.0	+5.8	94	25	28	7	52	2.83	+0.85	0.70	0	14	13	5	13	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	25	55.2	......	92	25	26	9	48	3.18	+1.01	0.91	T.	15	7	16	8	se.	C. E. Shubert.
Portal	Burke	1,954	35	54.8	+2.7	84	4	26	8	38	3.01	+0.94	0.68	0	14	5	13	13	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	35	55.8	+2.3	89	24	33	7†	49	6.23	+4.05	1.79	2.0	14	12	11	8	sw.	Geo. B. Gee.
Richardton	Stark	2,467	24	57.6	+3.7	90	18	27	8	35	4.22	+1.64	2.15	0	10	5	18	8	se.	Assumption Abbey.
Sanish	Mountrail	1,835	15	55.6	+0.4	89	25	29	9†	42	3.88	+1.98	0.90	0	12	13	5	13	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	55.8	......	87	25	27	8†	39	4.31	....	0.90	0	13	10	12	9	nw.	Leroy Edwards.
Tioga	Williams	2,279	12	.....	......	...	...	.....	...	.....	3.82	+1.88	0.98	0	9	10	9	12	se.	B. V. Olson.
Trotters	Golden Valley	......	15	.....	......	...	...	.....	...	.....	2.74	+0.42	0.98	T.	11	6	18	7	se.	Walter Grunewald
Watford City	McKenzie	2,084	27	59.6	+5.1	92	25	28	9	45	3.53	+1.56	0.84	0	15	9	14	8	s.	J. C. Zeller.
Wildrose	Williams	2,258	13	.....	......	...	...	.....	...	.....	3.00	+1.13	0.72	0	16	13	6	12	nw.	L Holter.
Williston	Williams	1,878	61	58.6	+4.6	90	25	30	8	38	2.81	+0.75	1.04	0	12	10	11	10	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	57.8	+4.3	94	18	25	9	52	3.48	+1.29	2.67	T.	12	10	11	10	nw.	....
Average for the State		......	.....	58.3	+4.6	98	18	21	23	53	2.94	+0.64	2.91	T.	12	10	10	11	nw.	....

[WBO, Minneapolis, 7-11-41—1100]

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. L BISMARCK, N. D., JUNE 1941 No. 6

GENERAL SUMMARY

June 1941, was the fifth wettest June since 1892, and the period from the 4th through the 12th was one of the wettest periods of record in North Dakota. On the 5th the disturbance that was over the Rocky Mountain region moved northeastward to South Dakota with increased intensity. This low-pressure system induced a flow of warm and very moist air from the Western Gulf of Mexico northward over North Dakota, the moist air from the South was forced to flow upslope over the cool surface air over the Dakotas, causing the unprecedented moist period. This disturbance moved very slowly causing the rains to continue until the 12th. The precipitation while lighter was well distributed to the close of the month. In the westen division where the greatest precipitation occurred, only three other Junes exceeded it and not since 1914; while greater amounts were recorded seven other years for the middle division; but in the east there have only been three years with a greater June precipitation, and the year's equal was not reached since 1925. Only three counties in the extreme north-central portion of the state had deficiencies as compared with normal. The temperature as a whole averaged well above the seasonal normal, with the first decade being cold but followed by much warmer. No station reported a reading 100° or above. Crops were excellent at the close of the month with all small grains showing excellent stand and progress. Hay crops, especially the native grasses have not been better in the past twenty years. Pastures and livestock continue in excellent condition. M. S. C.

TEMPERATURE

The mean temperature for the state was 64.2°, or 1.2° above the 1892-1941 average for June. The mean temperature for the eastern division was 65.5°; for the middle division, 64.1°; and for the western division, 62.9°. The highest mean temperature was 67.8° at Hankinson, and the lowest, 61.1° at Dickinson, making a range in mean temperature of 6.7°. The absolute range was 65°, from 97° at Hettinger on the 27th, to 32° at five stations on the 7th and 8th. The average daily excess in temperature for the state since Januaay 1, 1941, is 2.8°.

PRECIPITATION

The average precipitation for the state was 5.54 inches, or 2.11 inches more than the 1892-1941 average for June. In the eastern division the average amount was 5.86 inches; in the middle division, 4.91 inches; and in the western division, 5.85 inches. The greatest monthly amount reported was 10.39 inches at Dickinson Airport, the least was 2.49 inches at Hansboro. The greatest amount recorded in any 24 consecutive hours was 4.17 inches at Beulah on the 6th. The accumulated excess in precipitation for the state since January 1, 1941, is 3.24 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	1	..	..	..	..	..	..	..	..	..	..	..	4	4	2	..	..	1	5	4	2	2	..	..	..	2	1	2	2	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	8	5	14	5	9	7	4	6	10	10	5	5	2	9	6	..	2	..	..	..	..	1	2	..	..	..	5	..	1	2	..
Lunar halos	..	..	..	1	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..
Hail	..	..	..	3	1	..	..	..	..	..	..	..	1	7	..	1	1	1	7	7	..	..	..	..	1	..	..	1	3	1	..
Thund'rst'ms	1	..	1	9	14	8	2	..	1	12	7	1	3	..	..	8	9	22	21	17	9	..	..	..	4	17	7	21	23	14	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.90	30.29	22	29.47	18	12.0	40	ne.	6	86	57	57	61
Devils Lake	29.90	30.33	22	29.45	19	8.3	34	ne.	6	88	60	63	62
Williston	29.89	30.22	22	29.43	25	7.0	44	nw.	19	86	60	57	58
Fargo	29.88	30.27	22	29.39	6	.....	.....	.....	....	87	63	68	....
Moorhead, Minn	......	......	....	......	....	7.6	22	s.	25	....	....	....	47

† And other dates.

COMPARATIVE DATA FOR JUNE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	60.5	94	28	3.59	4.44	2.03	3.35	0	8	11	9	10
1893	67.4	103	33	3.25	4.28	2.60	3.38	0	9	13	10	7
1894	68.8	103	25	4.08	2.31	3.93	3.44	0	7	17	6	7
1895	59.7	97	29	5.37	4.54	4.11	4.67	0	12	8	13	9
1896	65.6	97	37	3.06	4.33	4.68	4.02	0	9	16	9	5
1897	61.7	109	20	4.40	4.40	2.45	3.75	0	9	11	10	9
1898	62.6	105	26	3.17	3.21	3.18	3.19	0	9	10	10	10
1899	62.2	105	30	3.20	4.25	3.98	3.81	0	10	12	11	7
1900	66.9	109	27	1.59	1.54	1.04	1.39	0	5	15	11	4
1901	61.6	95	22	7.20	5.31	5.90	6.14	0	15	10	11	9
1902	58.0	97	28	3.67	3.75	3.53	3.65	0	11	12	9	9
1903	62.4	96	27	1.02	1.52	1.78	1.44	0	4	17	8	5
1904	61.4	100	30	5.95	5.92	4.82	5.56	0	11	13	8	9
1905	59.7	97	32	4.49	4.64	3.87	4.33	0	12	10	7	13
1906	62.0	95	32	3.80	4.21	6.34	4.78	0	11	13	8	9
1907	61.9	95	25	3.47	2.53	2.80	2.93	0	10	12	10	8
1908	60.4	93	27	2.91	3.63	3.70	3.41	0	10	12	9	9
1909	62.9	98	28	3.94	2.49	3.92	3.45	0	10	12	11	7
1910	67.3	111	19	1.26	1.85	3.00	2.04	0	6	16	9	5
1911	66.9	108	25	3.13	3.42	2.61	3.05	0	9	13	10	7
1912	61.8	104	28	2.27	2.11	1.65	2.01	0	6	16	8	6
1913	65.8	101	27	2.85	1.98	2.52	2.45	0	8	16	9	5
1914	62.2	93	29	5.67	7.13	6.64	6.48	0	13	9	11	10
1915	56.7	94	20	5.59	5.11	3.73	4.81	0	12	9	12	9
1916	58.0	92	29	4.06	3.51	4.05	3.87	0	11	10	11	9
1917	59.7	103	19	2.38	1.88	1.96	2.07	0	8	13	11	6
1918	63.3	102	27	2.23	1.53	0.97	1.58	0	7	14	11	5
1919	67.2	108	22	3.15	1.99	1.50	2.21	0	5	15	10	5
1920	62.2	98	26	3.64	3.74	3.20	3.53	0	11	12	12	6
1921	68.2	108	30	3.28	2.83	4.74	3.62	0	9	14	10	6
1922	63.5	108	30	3.38	3.55	4.44	3.79	0	9	15	8	7
1923	66.1	100	30	4.79	2.83	4.21	3.94	0	8	13	12	5
1924	58.6	89	26	3.45	4.51	4.17	4.04	0	11	10	12	8
1925	61.5	98	30	7.72	5.43	4.84	6.00	0	14	11	10	9
1926	60.7	104	22	2.66	2.47	2.71	2.61	0	9	13	9	8
1927	61.2	99	22	3.81	2.34	2.30	2.82	0	9	11	13	6
1928	58.2	92	24	4.83	5.30	4.53	4.89	0	12	10	10	10
1929	61.4	98	21	1.10	1.10	2.12	1.44	0	7	16	9	5
1930	63.3	96	30	2.31	3.42	3.53	3.09	0	10	13	11	6
1931	68.4	110	27	2.93	2.05	2.07	2.35	0	8	14	10	6
1932	67.0	98	34	3.33	3.61	4.83	3.92	0	10	14	10	6
1933	70.7	110	33	1.99	1.66	1.67	1.77	0	7	18	10	2
1934	64.3	100	29	3.74	2.85	2.54	3.04	0	11	12	10	8
1935	60.3	99	25	3.65	2.70	2.77	3.04	T.	10	11	12	7
1936	66.4	110	28	1.41	1.40	1.20	1.34	0	6	16	10	4
1937	63.5	109	25	3.04	5.62	3.43	4.03	T.	7	15	9	6
1938	64.2	99	27	1.82	2.87	3.49	2.73	0	9	11	11	8
1939	60.1	99	29	5.44	4.67	3.67	4.59	0	12	10	11	9
1940	63.1	102	27	2.02	2.10	2.60	2.24	0	9	13	11	6
1941	64.2	97	32	5.86	4.91	5.85	5.54	0	12	12	9	9
Period	63.0	111	19	3.54	3.40	3.36	3.43	T.	9	13	10	7

Climatological Data for June 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	67.6	+3.7	92	19	37	8	34	5.70	+1.99	1.92	0	9	15	9	6	ne.	James. H. Erickson.
Cavalier	Pembina	894	31	66.2	....	95	25†	36	8	36	5.29	+2.09	1.13	0	14	17	3	10	nw.	City Light & Power Co.
Colgate				....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	W. H. Gibbs.
Cooperstown	Griggs	1,428	44	64.4	+1.2	91	25	35	8	32	4.83	+1.50	0.75	0	14	14	10	6	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	....	....	....	....	....	....	....	4.37	+1.72	1.06	0	14	9	12	9	n.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	64.4	+2.5	94	25	39	8	29	4.91	+1.35	1.43	0	16	7	6	17	s.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	64.4	+0.8	92	25	40	8	32	7.34	+3.68	2.05	0	14	6	17	7	se.	O. A. Thompson.
Edmore	Ramsey	1,524	17	63.2	+0.9	91	25	33	8	35	3.66	+0.40	0.73	0	11	18	4	8	e.	Mike Davis.
Ellendale	Dickey	1,457	46	66.4	+1.6	92	25	40	7	38	6.93	+3.65	1.60	0	12	15	3	12	se.	J. E. Demmer.
Fargo	Cass	895	14	66.6	+2.6	93	25	42	8†	33	5.94	+2.14	2.46	0	11	8	11	11	se.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	66.4	+1.4	93	20	42	9	31	6.78	+3.29	2.92	0	9	17	6	7	s.	Helge Dyste.
Fullerton	Dickey	1,439	43	66.0	+1.8	92	25	42	7	31	9.51	+5.77	2.04	0	13	13	8	9	n.	F. O. Alin.
Grafton	Walsh	827	49	66.6	+2.9	95	25	37	8	33	5.85	+2.45	1.04	0	11	12	9	9	se.	Dr. J. C. Lamont.
Grand Forks ††	Grand Forks	831	50	65.6	+2.2	92	25	34	8	32	7.72	+4.37	1.82	0	11	13	7	10	sw.	U. S. Weather Bureau.
Grand Forks Airport	Grand Forks	832	1	64.8	....	92	25	34	8	33	7.61	....	2.32	0	11	9	7	14	n.	U. S. Airway Comm. Sta.
Hankinson	Richland	1,068	12	67.8	+0.9	92	18†	41	8	32	6.00	+2.98	1.82	0	12	12	9	9	se.	Joseph Rindt.
Hannah	Cavalier	1,568	49	62.2	+1.7	90	25	34	8	34	6.00	+2.61	1.30	0	12	13	5	12	sw.	A. E. Prior.
Hillsboro	Traill	901	41	66.4	+1.7	93	25	39	8	30	8.13	+4.76	3.19	0	11	14	10	6	ne.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	66.0	+2.3	95	25	37	8	36	4.56	+0.95	1.84	0	10	10	9	11	se.	S. G. Calvelage.
Jamestown Airport	Stutsman	....	1	64.5	....	94	25	35	8	37	4.80	....	1.89	0	11	8	5	17	nw.	U. S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	64.0	....	92	25†	34	8	41	5.54	....	1.85	0	10	6	14	10	se.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	45	63.0	+2.4	90	27	32	8	34	4.72	+1.32	0.98	0	15	11	7	12	ne.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	65.0	+2.1	93	25	34	8	33	5.61	+1.75	1.28	0	9	11	6	13	ne.	W. L. Goodison.
Lisbon	Ransom	1,091	37	67.3	+2.9	95	18†	42	8	38	7.32	+3.48	2.41	0	11	17	2	11	nw.	J. O. Halverson.
Mayville	Traill	975	45	66.4	+1.9	94	25	38	8	32	7.05	+3.70	1.50	0	14	3	24	3	ne.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	62.3	+0.5	90	25†	32	8	38	6.44	+2.96	1.23	0	13	11	9	10	n.	C. E. Blasky.
McLeod	Ransom	1,075	30	66.6	+1.3	92	25	42	6†	31	4.06	+0.05	1.50	0	8	16	6	8	n.	J. G. Carlson.
McVille	Nelson	1,467	....	....	....	....	....	....	....	....	6.10	....	1.05	0	12	11	10	9	nw.	M. Kabeary.
Milnor	Sargent	1,117	2	....	....	93	25	36	8	35	8.24	....	1.43	0	12	16	7	7	n.	E. W. Wilson.
Oakes	Dickey	1,318	12	65.5	+0.2	93	25	41	8	31	6.06	+2.96	1.39	0	11	14	4	12	se.	F. H. Murray.
Park River	Walsh	998	37	64.6	+1.5	92	25	35	9	34	5.61	+2.22	1.75	0	9	14	4	12	se.	E. J. Taintor.
Pembina Airport	Pembina	789	67	65.1	+2.3	96	27	37	8	36	3.60	+0.27	0.81	0	12	6	10	14	ne.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	....	....	....	....	....	....	....	5.10	+1.86	1.03	0	12	12	9	9	s.	T. M. Rykken.
Sharon	Steele	1,516	17	64.6	+1.6	90	25†	36	8	30	6.18	+2.45	1.30	0	13	10	11	9	ne.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	65.5	+1.4	92	25	38	8	35	4.26	+0.80	1.30	0	10	15	8	7	ne.	f. C. Robertson.
Wahpeton	Richland	962	49	67.7	+1.9	96	20	39	8	36	3.96	+0.25	0.94	0	14	13	5	12	se.	W. J. Cavanaugh.
Average for Eastern Division		....	....	65.5	+1.8	96	20†	32	8	41	5.86	+2.32	3.19	0	12	12	8	10	se.	....
Middle Division																				
Ashley	McIntosh	2,014	45	62.3	−0.9	89	25	40	7	35	5.74	+2.50	2.29	0	13	6	11	13	se.	U. S. Airway Comm. Sta.
Beulah				....	....	....	....	....	....	....	7.51	....	4.17	0	12	6	17	7	se.	R. T. Hamilton.
Bisbee	Towner	1,601	5	66.8	+4.7	92	25	35	8	28	3.19	−0.30	0.68	0	13	17	2	11	s.	f. K. Lund.
Bismarck	Burleigh	1,670	67	66.0	+2.3	96	26	42	7	40	5.64	+2.29	1.97	0	9	9	9	12	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	63.7	+1.9	92	25	38	8	29	3.15	−0.17	0.82	0	12	17	2	11	ne.	N. D. School of Forestry
Carrington	Foster	1,579	43	63.8	+0.4	93	25	37	8	33	5.83	+2.31	2.49	0	12	18	5	7	....	Soo Line Agent.
Carson	Grant	2,500	29	63.8	+0.1	96	25	38	7	36	6.86	+3.36	3.31	0	11	12	11	7	se.	J. W. Evens.
Center	Oliver	....	3	63.2	....	95	25	32	7	38	5.99	....	2.30	0	11	8	16	6	nw.	Fred L. Heinz.
Dogden Butte ††	McLean	1,880	15	63.2	+0.7	90	25	38	8	31	3.98	+0.45	1.21	0	13	12	8	10	se.	R. L. Williams.
Drake	McHenry	1,634	12	64.2	+0.4	94	25	40	8	29	4.09	+1.20	0.85	0	14	7	9	14	se.	Peter Anton.
Dunseith	Rolette	1,682	45	62.8	+1.4	91	25†	34	8	34	3.05	−0.07	0.92	0	11	8	16	6	ne.	Geo. Gehres.
Eckman	Bottineau	1,500	36	64.0	+2.0	92	25	33	8	32	5.70	+2.70	1.42	0	13	11	13	6	se.	R. F. Nowak.
Energy ††	McLean	1,750	26	64.2	−0.1	95	25	39	7	37	4.80	+1.40	1.55	0	12	14	11	5	s.	H. S. Solenberger.
Fessenden	Wells	1,610	29	63.9	+1.3	94	25	39	8	33	4.91	+1.22	0.98	0	13	16	7	7	e.	John V. Zuber.
Fort Yates	Sioux	1,670	41	65.5	−1.1	96	25	45	7†	38	4.54	+1.08	1.90	0	6	17	7	6	se.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	62.8	+0.9	90	25	36	7	32	6.00	+2.90	1.05	0	13	7	10	13	se.	E. C. Bierbaum.
Gackle	Logan	1,951	11	64.6	....	94	25	39	8	34	7.74	+4.29	2.00	0	11	14	8	8	ne.	A. H. Haut.
Garrison	McLean	1,901	64	64.4	+1.5	94	25	39	7	36	3.98	+0.44	1.27	0	12	7	12	11	se.	E. L. Vorachek.
Granville	McHenry	1,504	34	65.6	+2.9	96	25	36	8	35	4.29	+1.07	1.12	0	14	11	13	6	se.	C. A. Stubbins.
Hansboro	Towner	1,597	33	62.4	+1.6	91	25	32	8	33	2.49	−0.89	0.61	0	12	13	11	6	s.	W. E. Disher.
Leeds	Benson	1,515	1	63.4	....	94	25	33	8	37	3.71	....	0.85	0	14	12	6	12	e.	Carl T. Carlson.
Linton	Emmons	1,711	24	66.3	+1.1	95	25	42	7†	34	5.88	+2.72	2.02	0	13	13	6	11	se.	Wm. Heyerman.
Maddock	Benson	1,604	26	63.8	+1.6	92	25	38	8	33	4.60	+1.23	1.04	0	14	15	9	6	se.	A. T. Felland.
Mandan	Morton	1,750	27	66.0	+1.6	96	25	41	7	40	5.72	+2.43	1.45	0	11	9	7	14	se.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	....	....	....	....	....	....	....	4.06	+0.49	0.82	0	11	14	6	10	se.	P. B. Anderson.
Max	McLean	2,093	12	63.1	−0.5	91	25	38	7	28	4.32	+0.90	1.20	0	16	10	10	10	ne.	A. W. Rice.
McClusky	Sheridan	1,943	23	64.6	+2.3	93	25	40	7	33	5.95	+2.58	1.68	0	11	12	12	6	ne.	F. W. Perry.
Medina	Stutsman	1,816	1	....	....	....	....	....	....	....	5.33	....	1.46	0	13	12	9	9	se.	Rudolph Graf.
Minot	Ward	1,557	45	63.6	−1.5	93	25	33	8	36	5.59	+2.39	1.46	0	16	9	8	13	se.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	62.8	+1.1	93	25	32	8	33	4.28	+1.39	0.77	0	13	16	7	7	se.	Iver Johnson.
Napoleon	Logan	1,955	49	63.6	+0.7	92	25	38	8	33	5.17	+1.88	2.00	0	10	11	2	17	se.	C. J. Hoof.
New Salem	Morton	2,163	37	64.3	+0.7	94	25	39	7	32	7.62	+4.15	3.52	0	10	13	10	7	se.	J. Christiansen.
Pettibone	Kidder	1,856	32	63.0	+0.4	93	25	36	8	34	4.33	+1.08	1.06	0	7	9	9	12	se.	Sam Loeppke.
Rolla	Rolette	1,860	4	63.6	....	92	25	35	8	34	3.40	....	1.11	0	11	13	6	11	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	....	....	....	....	....	....	....	3.02	+0.24	0.80	0	13	4	17	9	ne.	W. B. Paterson.
Ryder	Ward	2,108	12	....	....	....	....	....	....	....	5.57	+2.50	1.09	0	11	13	6	11	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5	....	....	....	....	....	....	....	5.72	....	1.60	0	11	10	8	12	se.	J. B. Smith.
Steele	Kidder	1,857	47	63.4	+0.4	91	25	37	8	33	7.49	+3.98	1.60	0	15	9	12	9	ne.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	....	....	....	....	....	....	....	5.71	+2.91	2.05	0	12	14	8	8	ne.	G. N. Pilgard.
Timmer	Morton	....	4	....	....	....	....	....	....	....	6.98	....	3.05	0	12	....	....	....	....	Geo. M. Sinclair.
Towner	McHenry	1,482	39	65.8	+2.4	94	25	35	8	33	3.58	+0.43	1.05	0	14	14	10	6	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	64.8	+2.5	93	25	39	7	36	3.67	+0.03	1.21	0	11	11	13	6	s.	A. S. Haas.
Tuttle	Kidder	1,936	33	....	....	....	....	....	....	....	4.81	+1.47	1.38	0	12	15	7	8	se.	Adam Leno.
Upham	McHenry	....	1	....	....	....	....	....	....	....	4.48	....	1.31	0	11	15	5	10	s.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	14	64.6	0.0	93	25	36	8	34	4.65	+1.69	1.26	0	13	10	10	10	n.	Oscar Anderson.
Washburn	McLean	1,731	40	66.0	+1.1	91	25	40	7	28	4.62	+1.23	1.69	0	10	11	12	7	e.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	63.3	+0.6	92	25	33	8	33	4.01	+0.98	0.72	0	11	17	6	7	se.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	63.8	+2.5	94	25	33	8	36	2.94	−0.21	0.97	0	8	17	9	4	se.	O. M. Sanderson.
Wilton	McLean	2,159	5	64.0	....	92	25	39	7	33	5.78	....	1.27	0	10	12	9	9	....	Soo Line Agent.
Wishek	McIntosh	2,010	20	63.2	−0.4	92	25	36	8	41	4.33	+0.88	1.80	0	12	9	5	16	ne.	H. M. Larson.
Average for Middle Division		....	....	64.1	+1.0	96	25†	32	7†	41	4.91	+1.51	4.17	0	12	12	9	9	se.	....

Continued on page 24

EXPLANATORY NOTES.——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. †† Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for June 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	....	....	....	....	1.10	1.05	.90	....	....	.17	1.92	.18	T.	....	....	....	.28	....	....	....	T.	....	....	....	....	....	....	....	.03	.07	....	5.70
Cooperstown[2]	Sheyenne	....	....	T.	.10	.20	.45	.35	....	T.	.25	.63	.38	.40	....	....	....	.30	T.	....	.09	T.	....	....	....	....	.30	T.	.55	.75	.08	....	4.83
Courtenay	James	....	....	....	.32	....	1.06	.32	.02	.02	.44	.82	.26	.23	....	....	....	T.	.02	....	....	....	....	....	....	....	.08	....	.38	.15	.25	....	4.37
Devils Lake[1]‡	Devils Lake	....	T.	.02	.41	.05	1.12	.35	....	.11	.73	.18	.12	T.	....	....	.43	....	....	.54	.10	....	....	....	....	....	.34	....	.19	.16	.06	....	4.91
Edgeley	James	....	....	.41	....	.60	2.05	.15	....	.07	.70	1.81	.46	.15	....	....	....	....	....	....	....	.05	....	....	....	....	.03	....	.21	.12	.53	....	7.34
Edmore	Devils Lake	....	....	....	....	.49	.65	.30	....	....	.73	.35	.32	....	....	....	....	T.	....	.05	.45	....	....	....	....	....	....	....	.12	.10	.10	....	3.66
Ellendale	James	....	....	.15	....	1.45	1.31	.15	....	....	.44	1.60	.55	.10	....	....	....	....	....	....	....	.33	....	....	....	....	....	....	.66	.17	.02	....	6.93
Fargo[1]	Red	T.	T.	....	....	.40	2.46	.37	....	T	.71	.64	.27	.17	....	....	....	.46	....	T	.01	T.	....	....	....	....	T.	....	T.	.03	.42	....	5.94
Forman	Sheyenne	....	....	....	....	....	2.92	.07	T.	T.	.31	1.26	.49	.03	....	....	....	....	....	....	....	.37	....	....	....	....	.06	....	....	1.27	T.	....	6.78
Fullerton	James	....	....	.01	....	1.87	1.93	.21	....	.01	.97	2.04	.63	T	....	....	....	....	T.	....	....	.36	....	....	....	....	.02	....	.65	.68	.16	....	9.54
Grafton	Red	....	....	....	....	.29	1.00	1.04	....	....	.36	.15	.26	....	....	....	....	.16	....	.04	.83	....	....	....	....	....	T.	....	....	.88	.84	....	5.85
Grand Forks Airport[1]‡	do	.01	T.	....	....	.27	2.32	.94	....	.02	.57	.77	.09	T.	....	....	....	T.	....	....	.79	....	....	....	....	....	.62	....	T.	1.21	T.	....	7.61
Hankinson[2]	do	....	....	....	....	....	.29	.37	.10	....	.02	1.82	.91	.23	....	....	....	....	....	....	....	.60	.02	....	....	....	.52	....	....	.50	.62	....	6.00
Hannah	Pembina	.10	T	.10	....	.40	.10	T.	....	T.	1.30	.20	.20	....	....	....	T.	.35	....	1.00	1.25	....	....	....	....	....	T.	....	....	.10	.90	....	6.00
Hillsboro	Red	T.	T.	....	....	.20	3.19	2.50	....	T.	.25	1.01	.15	.01	....	....	....	.11	....	....	.50	....	....	....	....	....	....	....	....	.18	.03	....	8.13
Jamestown Airport[1]	James	....	T.	T	....	.17	1.89	.05	....	.47	.46	.71	.26	.01	....	....	....	....	....	....	....	T.	....	....	....	....	.24	....	....	.12	.42	....	4.80
Langdon	Pembina	.04	....	.03	....	.31	.67	.27	....	.01	.98	.27	.22	....	....	....	....	....	....	.72	.49	.01	....	....	....	....	.12	....	....	.43	.15	....	4.72
Larimore	Red	....	....	....	....	.40	1.27	1.28	....	....	.50	.60	.28	....	....	....	....	....	....	T	1.00	....	....	....	....	....	.09	....	....	.19	....	....	5.61
Lisbon	Sheyenne	T.	....	....	....	....	2.41	1.63	.02	....	.12	.70	1.04	.23	....	....	....	....	....	....	....	.08	....	....	....	....	....	.76	....	.30	.03	....	7.32
Mayville	Red	....	....	....	....	.35	.95	1.50	.05	....	.68	1.00	.22	.25	....	....	....	.24	T.	....	.61	....	....	....	....	....	.16	....	.13	.36	.55	....	7.05
McHenry	James	....	....	....	....	.48	.78	1.23	....	....	.68	.26	.43	....	....	....	....	.25	....	.20	.32	....	....	....	....	....	.02	....	.85	.06	.88	....	6.44
McLeod	Sheyenne	....	....	....	....	T.	1.00	.24	....	....	.10	1.50	....	.47	....	....	....	....	....	....	....	....	....	....	....	....	.25	....	.48	.02	....	....	4.06
Oakes	James	....	....	.04	....	....	1.39	1.36	....	....	.30	.44	1.09	.30	....	....	....	....	....	....	....	.28	....	....	....	....	....	.03	....	.81	.02	....	6.06
Park River	Red	....	....	....	....	.30	1.75	.85	....	....	.60	.36	.37	....	....	....	....	....	....	T.	.60	....	....	....	....	....	T.	....	....	.35	.43	....	5.61
Pembina	do	....	T.	T.	.12	.35	.81	.41	....	.02	.21	.19	.04	T.	....	....	....	....	T.	.44	.79	T	....	....	....	....	....	....	.02	.20	T.	....	3.60
Petersburg	do	....	....	....	....	.46	.85	.75	....	....	.47	.45	.27	....	....	....	....	.09	T.	....	1.03	....	....	....	....	....	.03	....	.25	.37	.08	....	5.10
Sharon	do	....	....	....	....	.11	1.30	1.13	....	....	.94	.56	.14	.56	....	....	....	.19	....	....	.37	....	....	....	....	....	.14	....	.11	.48	.15	....	6.18
Valley City	Sheyenne	....	.01	....	....	.25	.99	.75	....	T.	.21	1.30	.44	.14	....	....	....	....	T.	....	T.	....	....	....	....	....	T.	....	T.	.15	.01	....	4.26
Wahpeton	Red	.01	....	....	....	.45	.94	.10	....	T.	.01	.68	.35	.05	....	....	....	....	....	....	....	.86	....	....	....	....	.20	.03	.11	.13	.04	....	3.96
Middle Division																																	
Ashley[1]	Missouri	T.	....	.01	T.	.03	2.29	.02	T	.59	.78	.78	.11	T.	....	....	....	....	....	....	....	.09	....	....	....	....	.19	....	.08	.64	.13	....	5.74
Bisbee	Devils Lake	....	.04	.06	....	.53	.13	....	....	T.	.67	.06	....	....	....	....	.29	....	.05	.38	.68	....	....	....	....	....	....	....	.15	.03	.12	....	3.19
Bismarck[1]‡	Missouri	T.	.54	....	1.05	.04	1.97	T.	....	.79	1.08	T.	T.	....	....	....	.01	....	T.	....	....	.03	....	....	....	....	.13	....	T.	T.	T.	....	5.64
Bottineau[2]	Mouse	....	.02	.02	....	.52	.08	T.	....	....	.82	.07	....	....	....	....	....	.02	.13	.66	.76	....	....	....	....	....	....	....	....	.02	.03	....	3.15
Carrington	James	T.	.02	....	....	.44	.54	2.49	.05	....	.16	.64	.46	.04	....	....	....	....	T.	....	....	....	....	....	....	....	.56	.06	....	.37	....	....	5.83
Carson	Heart	.13	....	....	.50	.11	3.34	.04	....	1.04	1.31	.08	....	....	....	....	....	....	....	....	....	.12	....	....	....	.03	....	....	....	....	.16	....	6.86
Center	Missouri	....	.10	....	....	.45	2.30	.37	....	.43	.85	.08	....	....	....	....	.08	....	.05	....	....	....	....	....	....	1.12	....	....	.16	....	....	....	5.99
Dogden Butte	Mouse	....	.01	....	....	.67	.89	.02	....	.04	1.21	.04	.05	T.	....	....	.03	....	.02	.17	.66	T.	....	....	....	....	....	....	T	.17	T.	....	3.98
Drake[2]	do	.01	.06	.01	....	.84	.07	.49	....	....	.85	.32	T.	.01	.01	....	....	.63	....	....	.57	....	....	....	....	....	....	....	....	.20	.02	....	4.09
Dunseith	do	....	....	.04	.42	.19	.06	....	....	T.	.92	.02	....	....	....	....	.02	....	.20	.70	.42	....	....	....	....	....	....	....	....	....	.06	....	3.05
Eckman	do	....	.19	T.	.99	.07	.38	....	....	.06	.75	.06	....	....	....	....	.05	....	.89	.59	.24	....	....	....	....	....	....	....	....	1.42	.01	....	5.70
Energy	Missouri	....	.10	....	.55	.10	1.55	.10	....	.55	.65	T.	.10	....	....	....	T	....	....	.10	....	....	....	....	....	....	.10	....	.68	....	.22	....	4.80
Fessenden	James	T.	....	....	....	.73	.88	.98	....	.08	.61	.29	.31	.01	....	....	.07	....	....	.30	....	....	....	....	....	....	.04	....	.19	.42	T	....	4.91
Fort Yates	Missouri	....	....	....	....	.10	1.90	....	....	1.70	.11	.20	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.53	T.	....	....	4.54
Foxholm (near)	Mouse	....	.15	....	.54	.04	.91	....	....	.30	.96	.01	....	....	....	....	.33	....	.51	.71	.44	T.	....	....	....	....	T.	....	1.05	T.	.05	....	6.00
Gackle	James	....	....	.54	....	.78	2.00	.92	....	....	.84	1.88	.29	....	....	....	....	....	....	....	....	.07	....	....	....	....	.35	....	.04	....	.03	....	7.74
Garrison[1]	Missouri	.05	.05	....	1.27	T.	.63	....	....	.76	.34	....	....	.05	....	....	....	....	.11	.13	....	....	....	....	....	.07	....	....	.35	.17	....	....	3.98
Granville	Mouse	....	.02	.02	.29	.05	.29	....	....	.01	.85	.17	T	T.	....	....	.04	....	.04	.24	.55	....	....	....	....	....	....	....	1.12	.60	....	....	4.29
Hansboro	Devils Lake	....	....	....	.33	.13	.05	.03	....	....	.53	.01	.01	....	....	....	....	....	.43	.14	.61	....	....	....	....	....	....	....	.11	....	.11	....	2.49
Linton	Missouri	....	.02	....	....	.06	2.02	.56	....	.10	1.67	.30	.05	.06	.06	....	....	....	T.	....	....	.05	....	....	....	....	.05	....	....	.88	T	....	5.88
Maddock	Sheyenne	....	T.	.03	.01	....	.63	.43	.55	....	.02	.16	.24	.17	....	....	....	.59	....	T	.50	....	....	....	....	....	....	....	1.04	.20	.03	....	4.60
Mandan[2]	Missouri	....	.06	....	1.45	.68	.87	....	.01	1.42	.49	.01	T.	....	....	....	T.	....	....	....	.01	....	....	....	....	T.	....	....	.70	.02	....	....	5.72
Max[2]	do	.07	.06	....	.70	.15	.30	....	....	.05	1.20	.05	.04	....	....	....	....	....	.06	.26	.65	.15	....	....	....	....	.05	....	....	.15	.41	....	4.32
McClusky	do	....	.02	....	....	1.34	1.68	.59	....	....	1.22	.05	.05	....	....	....	....	....	....	.15	T.	....	....	....	....	....	....	....	.63	.01	.21	....	5.95
Minot[1]	Mouse	....	.09	....	.14	.36	.51	....	....	.67	.65	.02	.02	.13	....	....	.18	.14	.21	.91	T	....	....	....	....	.04	....	....	1.46	.06	T.	....	5.59
Mohall	do	....	.18	....	.68	.05	.27	....	....	.30	.77	.15	T	....	....	....	....	....	.10	.74	.60	....	....	....	....	....	....	....	.17	.03	.24	....	4.28
Napoleon[2]	Missouri	....	.02	....	....	.43	T.	2.00	....	....	.75	.90	.60	.25	.07	....	....	....	....	....	....	.05	....	....	....	....	....	.10	....	....	....	....	5.17
New Salem	Heart	T.	.26	....	....	1.23	3.52	.02	....	.41	1.42	.02	....	....	....	....	....	....	....	....	....	.05	....	....	....	.66	.03	....	....	T.	....	....	7.62
Pettibone	James	....	....	....	....	.71	.95	.47	....	....	1.06	.38	.64	T	....	....	....	....	T.	....	....	....	....	....	....	....	.12	....	....	....	....	....	4.33
Rolla	Devils Lake	....	.02	.07	.37	.17	T.	....	....	T.	.67	.02	....	....	....	....	....	....	.35	.28	1.11	....	....	....	....	....	T.	....	....	.02	.32	....	3.40
Rugby (near)	Mouse	....	.14	.10	....	.80	.16	....	....	....	.66	.05	....	....	....	....	.02	.12	.20	.14	.02	....	....	....	....	....	....	....	....	.40	.21	....	3.02
Ryder	Missouri	....	.21	T.	.84	....	.63	....	T.	....	1.09	....	.06	.27	....	....	T	.12	.75	.65	....	....	....	....	....	T.	....	....	.42	.53	....	....	5.57
Selfridge	do	.21	.14	....	.10	.52	1.16	....	....	.42	1.60	.80	....	....	....	....	....	....	....	....	....	.02	....	....	....	....	....	....	.60	T.	.15	....	5.72
Steele	do	....	.01	.46	....	.87	1.43	1.23	....	.07	1.60	.55	.40	.10	.02	....	....	....	....	....	....	.01	....	....	....	....	.44	....	.04	....	.26	....	7.49
Tagus	Mouse	T.	.58	....	.15	....	2.05	....	....	....	.90	.10	T.	....	....	....	.18	T.	.30	1.14	.20	....	....	....	....	....	....	....	.02	.07	.02	....	5.71
Towner	do	....	.15	.03	T.	.65	.21	....	....	T.	1.05	.05	T	....	....	....	.03	.05	.03	.33	.56	T.	....	....	....	....	.12	....	....	.16	.16	....	3.58
Turtle Lake	Missouri	....	T.	....	.83	.20	.80	.03	....	.18	1.21	.02	.09	....	....	....	.01	....	T.	....	....	....	....	....	....	T.	....	....	.25	.05	T	....	3.67
Tuttle	do	T.	....	T.	....	1.38	1.30	.11	....	.10	1.20	.29	.05	.22	....	....	T.	T	....	....	....	.03	....	....	....	....	.07	....	.04	....	.01	....	4.81
Velva	Mouse	....	.06	....	....	.71	.38	....	....	.08	1.26	....	.04	.15	....	....	T	....	.07	.23	.92	T.	....	....	....	....	.06	....	.51	.18	....	....	4.65
Washburn	Missouri	....	....	....	....	.58	1.69	.02	.21	....	1.01	....	.13	....	....	....	.34	T	....	....	T.	....	....	....	....	....	....	....	.21	.40	.03	....	4.62
Westhope	Mouse	....	.07	....	....	.45	.66	....	....	.43	.72	.01	....	....	....	....	....	....	.19	.69	.55	....	....	....	....	....	....	....	....	.22	.02	....	4.01
Willow City	do	....	....	....	.43	T	.39	....	....	T.	.97	....	T.	....	....	....	.07	....	....	.62	.31	....	....	....	....	....	....	....	.04	.11	T.	....	2.94
Wishek[2]	Missouri	....	....	....	....	.02	.05	1.80	.01	....	.95	.40	.80	.10	.01	....	....	....	....	....	....	.03	T.	....	....	....	T.	....	....	.15	.01	....	4.33
Western Division																																	
Alpha	Lit. Missouri	.49	.03	....	....	.13	1.23	....	....	.46	1.53	.06	....	....	....	....	....	....	.11	.40	.47	....	....	....	....	....	....	.04	.20	....	.23	....	5.38
Amidon	do	.20	.08	....	.09	....	2.40	.04	.03	.40	1.30	.38	....	....	....	....	....	....	....	.06	....	.28	....	....	....	....	....	.94	.06	....	.36	....	6.62
Beach	do	.48	.59	....	.02	.07	1.17	.04	.02	.28	1.02	.05	....	....	....	....	....	....	.72	.69	.08	.01	....	....	....	....	....	.05	.01	.08	.07	....	5.45
Berthold Agency	Missouri	....	.35	....	.85	.50	1.55	....	....	.35	.55	.05	....	T.	....	....	....	....	.33	.55	....	.05	....	....	....	....	....	.05	....	1.05	....	....	6.23
Bowman[2]	Grand	....	.26	....	T.	.38	.92	1.23	....	.54	.70	.75	....	....	....	....	....	....	....	....	....	.17	....	....	....	....	....	....	....	.18	....	....	5.13
Crosby	Mouse	.10	.62	.04	.14	.70	.11	....	....	....	.54	.38	....	....	....	....	....	....	.08	.11	.15	....	....	....	....	....	....	....	1.00	....	T.	....	3.97
Dickinson Airport[1]	Heart	.70	.03	....	1.84	.56	3.33	....	.03	.60	1.93	.15	T	....	....	....	....	T.	.12	....	T.	.04	....	....	....	T	....	T.	.32	.35	.39	....	10.39
Dunn Center	Knife	.01	.40	T.	....	.83	1.69	1.16	....	.32	1.05	.79	....	....	....	....	....	....	.28	.34	.31	.05	....	....	....	....	....	....	.04	....	.74	....	8.01
Fairfield	Lit. Missouri	.52	.10	....	.06	.02	2.50	....	....	.33	1.20	.05	.02	....	....	....	....	....	.58	.93	.05	....	....	....	....	....	....	....	.06	....	....	....	6.42
Fryburg	Heart	.47	.09	....	.05	.02	2.98	....	.04	.45	1.70	.30	.01	....	....	....	....	....	.36	.37	....	.49	....	....	....	....	....	.04	.06	....	.10	....	7.53
Hettinger	Grand	.03	.11	....	.21	.20	2.63	.03	....	.75	1.12	.13	....	....	....	....	.55	....	....	....	....	.13	....	....	....	....	....	....	.11	....	.04	....	6.04
Howard (near)	Missouri	.31	.37	....	.13	.27	.43	.23	.17	.05	.26	.25	....	....	....	....	.07	....	.17	.10	....	....	....	....	....	....	....	T	.71	.31	.02	....	3.85
Kenmare	Mouse	.09	.16	.05	....	.61	.34	.02	....	....	.57	.78	....	....	....	....	....	....	.02	.75	.37	....	....	....	....	....	....	....	.03	....	....	....	3.79
Marmarth	Lit. Missouri	.51	.05	....	....	.37	1.00	....	.13	.35	1.78	.10	.01	....	....	....	....	....	T.	.15	....	.47	....	....	....	....	....	.14	.55	.34	.13	....	6.08
Mary	do	.41	.35	....	.08	.07	2.22	....	....	.36	1.11	.29	T.	.01	....	....	....	....	.43	.41	.34	.03	....	....	....	....	....	.19	T	....	.03	....	6.33
Medora	do	.12	.44	....	....	.03	2.40	.02	T.	.35	1.45	.17	....	....	....	....	....	....	.94	.60	T.	.25	....	....	....	....	....	.06	.10	T.	.05	....	6.98
Mott	Cannon Ball	.08	.10	T.	....	.56	....	1.05	....	....	1.98	.01	....	....	....	....	T.	....	....	....	....	.03	....	....	....	.33	....	....	.05	....	.09	....	4.28
New England[2]	do	.55	....	....	.65	2.17	1.04	....	.27	.96	.71	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6.35
Parshall	Missouri	....	.34	.07	....	.92	.55	.77	....	.01	.56	.38	....	....	.12	....	....	.12	.55	.92	.78	.01	....	....	....	....	....	....	....	.03	.05	....	6.18
Portal[2]	Mouse	.16	.49	.03	.13	.88	.14	....	....	....	.68	.90	....	....	....	....	....	....	....	.50	.18	....	....	....	....	....	....	....	.62	.05	.68	....	5.44
Powers Lake	Missouri	.45	....	....	1.13	.16	....	....	....	1.03	.46	....	....	....	....	....	.15	.18	.35	.37	....	....	....	....	....	....	....	1.46	....	.06	....	....	5.80
Richardton	Heart	.08	.39	....	.11	T.	3.42	.02	....	.75	1.18	.04	....	.09	....	....	....	....	.04	.10	.20	....	....	....	....	....	....	.01	.07	.04	.15	....	6.69
Sanish[2]	Missouri	.17	.45	....	....	.49	1.10	.35	....	.08	.77	1.05	....	....	....	....	....	.10	.57	.50	.38	.01	....	....	....	....	....	....	.05	....	....	....	6.07
Stanley	do	T.	.56	....	.16	.05	.89	....	....	.22	.86	.21	....	....	....	....	.12	.03	.16	.88	.40	....	....	....	....	....	....	.41	.11	.01	T	....	5.07
Tioga	do	.10	.41	....	.85	....	.57	....	....	.19	.60	.13	....	....	....	....	....	....	.07	.47	.27	....	....	....	....	....	....	.22	.40	.17	....	....	4.45
Trotters	Lit. Missouri	.34	.60	....	....	.07	1.16	....	T.	.33	.37	.02	....	....	....	....	.16	....	.32	.26	.32	.04	....	....	....	T.	....	.01	.08	.15	.03	....	4.26
Watford City	Missouri	.18	.49	....	.17	.12	1.74	....	....	.28	.98	.32	T.	....	....	....	.01	....	.44	.38	....	....	....	....	....	....	....	T	....	....	T	....	5.11
Wildrose	do	.06	.65	....	.50	.01	.21	....	....	.17	.68	.09	....	....	....	....	.01	.10	.04	.36	....	....	....	....	....	....	....	.74	2.10	T.	.09	....	5.81
Williston[1]‡	do	.24	T.	....	.33	.06	.78	....	....	.23	.29	....	....	....	....	....	.17	.17	.09	.57	....	....	....	....	....	T.	....	.71	T.	.01	.02	....	3.67

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First- or second-order Weather Bureau station; data are for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for June 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum	63	73	70	76	79	62	48	50	53	63	55	52	66	73	76	77	84	87	87	82	78	79	80	85	89	83	85	79	82	78	....	73.1
	Minimum	49	48	53	47	53	42	40	42	43	48	48	47	48	47	45	50	56	59	58	59	58	51	52	60	66	58	50	59	57	51	....	51.5
Beach	Maximum	57	67	75	75	63	55	62	55	57	54	68	70	69	72	80	85	90	82	78	78	80	80	87	92	83	84	87	81	72	70	....	73.6
	Minimum	49	49	45	53	52	49	38	44	44	48	45	47	39	42	48	56	55	55	56	50	53	54	59	61	64	49	61	59	51	50	....	50.8
Bismarck [1]	Maximum	63	69	74	81	71	62	59	61	54	61	65	58	68	76	78	84	90	90	88	83	85	85	89	93	96	87	93	87	85	77	....	77.1
	Minimum	52	51	49	51	57	46	42	44	48	52	53	52	49	48	50	56	60	59	59	56	62	53	62	67	73	62	53	64	58	55	....	54.8
Bottineau§	Maximum	64	62	71	68	62	50	61	64	61	55	69	63	74	77	78	79	87	86	80	75	80	81	84	88	92	88	87	86	80	64	....	73.9
	Minimum	44	52	48	51	57	48	39	38	45	50	46	51	52	52	54	55	59	58	57	54	55	55	59	62	69	62	58	60	60	55	....	53.5
Carson	Maximum	59	71	74	78	69	60	60	55	52	60	69	65	70	74	77	83	93	91	85	83	86	82	87	91	96	87	91	85	83	75	....	76.4
	Minimum	49	48	47	50	50	43	38	44	43	47	48	48	46	43	48	54	57	57	54	50	57	55	57	63	60	59	57	60	54	51	....	51.2
Crosby	Maximum	61	62	70	53	60	55	67	69	59	57	72	88	77	79	83	89	93	90	80	76	86	80	84	89	92	86	90	80	76	62	....	75.5
	Minimum	47	51	44	48	50	49	35	35	46	49	45	45	44	46	49	55	56	55	56	51	52	57	59	62	65	52	59	59	58	56	....	51.2
Devils Lake [1]	Maximum	63	64	68	73	68	59	57	62	60	57	57	56	70	76	78	80	88	88	85	79	81	82	85	87	94	84	89	86	81	69	....	74.2
	Minimum	49	50	52	49	57	43	41	39	44	50	50	49	49	50	55	57	59	63	62	58	62	56	60	62	71	63	60	64	62	50	...	54.5
Dickinson Airport [1]	Maximum	56	65	69	75	65	54	59	55	52	54	67	65	69	71	79	84	85	84	79	78	81	79	86	90	90	84	88	76	77	66	....	72.7
	Minimum	50	50	46	52	53	43	39	41	44	49	50	45	45	45	50	56	58	56	56	51	58	56	58	62	64	56	58	58	53	50	....	51.7
Dunn Center	Maximum	58	67	72	74	63	56	61	62	52	55	69	66	69	75	79	84	88	86	82	78	83	82	87	90	91	85	89	89	81	68	....	[a] 74.7
	Minimum	50	51	50	50	53	46	38	39	45	46	50	48	48	44	46	53	54	60	57	52	57	54	56	63	65	55	56	57	54	54	...	51.7
Fargo	Maximum	66	69	74	80	84	70	53	65	61	62	56	55	74	76	80	81	88	91	91	84	81	83	86	86	93	87	89	87	87	80	....	77.3
	Minimum	53	52	48	47	57	52	46	42	42	54	52	52	53	52	51	53	59	65	70	67	62	55	54	63	70	64	57	64	67	56	....	56.0
Fessenden	Maximum	62	65	69	75	69	62	55	62	56	56	56	55	71	79	78	81	89	90	86	81	81	84	84	89	94	90	88	85	86	71	....	75.0
	Minimum	49	50	49	46	56	46	41	39	44	49	51	48	45	46	48	52	60	57	63	58	59	53	54	61	69	63	55	59	59	54	....	52.8
Fullerton	Maximum	64	72	74	80	80	67	55	53	54	63	59	54	71	76	79	80	87	89	90	86	81	83	85	88	92	87	87	86	86	81	....	76.3
	Minimum	49	50	55	51	56	55	42	44	44	51	52	49	48	51	53	52	57	62	67	65	59	56	58	57	67	65	69	65	63	57	....	55.6
Garrison [1]	Maximum	62	67	72	75	69	56	62	61	53	62	70	66	71	77	78	81	88	90	82	80	84	83	87	91	94	88	88	87	82	73	....	76.0
	Minimum	48	52	50	44	56	44	39	42	48	48	51	51	49	49	52	53	58	60	58	54	60	54	58	64	68	58	52	57	58	52	....	52.9
Grafton	Maximum	65	64	72	75	74	69	59	64	69	67	58	59	74	84	81	81	90	92	90	87	85	83	85	87	95	92	92	88	84	78	...	78.1
	Minimum	50	51	47	46	57	52	42	37	43	51	53	51	51	51	49	52	61	67	65	61	60	56	57	59	68	69	59	62	65	58	....	55.0
Grand Forks Airport [1]	Maximum	62	69	71	74	73	63	54	62	68	58	56	59	75	76	80	80	86	87	89	81	84	87	88	84	92	84	89	85	82	71	..	75.6
	Minimum	52	51	45	45	58	46	39	34	43	49	52	52	52	50	50	49	64	68	68	62	60	54	55	56	68	64	56	61	64	52	...	54.0
Jamestown Airport [1]	Maximum	61	69	72	77	77	66	50	58	54	59	55	55	72	77	78	89	87	86	88	84	85	83	84	85	94	85	89	85	86	81	....	75.7
	Minimum	50	47	52	44	57	44	42	35	48	52	50	50	51	48	51	52	60	60	62	61	57	51	54	59	69	60	55	63	62	54	....	53.3
Kenmare	Maximum	66	63	61	72	59	57	54	64	65	54	55	73	69	74	75	79	78	88	85	80	73	82	83	87	89	91	86	85	85	82	....	73.8
	Minimum	44	51	45	47	53	47	37	39	47	48	49	45	50	50	53	56	62	55	59	55	57	58	61	66	70	55	60	58	59	57	....	53.1
Langdon	Maximum	63	68	70	72	69	61	57	62	67	62	55	58	70	78	79	77	85	87	84	78	82	81	82	85	89	89	90	85	81	76	....	74.7
	Minimum	47	48	47	45	55	45	38	32	38	46	48	47	45	45	48	51	56	59	59	54	55	52	56	58	69	61	56	61	62	53	....	51.2
Marmarth	Maximum	64	67	76	76	67	67	60	53	60	54	68	73	68	72	80	85	89	86	82	79	78	81	89	93	88	83	89	83	72	68	....	75.0
	Minimum	51	45	45	52	53	47	42	46	45	49	52	52	42	43	54	53	54	55	55	48	56	60	60	65	67	53	62	63	53	50	....	52.4
Minot [1]	Maximum	64	66	70	70	63	55	61	64	54	56	70	64	71	76	80	78	89	87	84	76	82	84	88	92	93	86	90	88	81	64	....	74.9
	Minimum	44	53	51	49	54	44	38	33	48	49	50	48	50	44	48	55	56	57	57	54	57	54	59	68	69	58	54	58	58	50	....	52.2
Mott	Maximum	62	70	72	80	61	62	60	57	52	55	69	66	68	75	78	84	90	91	87	82	83	84	89	95	95	85	91	82	80	72	....	75.9
	Minimum	50	52	45	50	53	46	40	48	44	49	50	48	41	45	50	56	54	54	55	51	58	44	57	63	69	60	57	61	55	51	...	51.9
Pembina Airport [1]	Maximum	66	66	70	76	70	64	62	68	73	67	60	65	75	81	83	83	91	92	87	84	87	82	86	87	94	88	94	90	82	78	....	78.4
	Minimum	47	49	46	47	57	50	42	41	37	50	51	51	50	47	47	51	62	62	63	66	58	52	55	60	71	68	58	61	67	56	....	54.1
Sharon	Maximum	60	69	71	73	75	65	50	62	60	56	54	55	73	76	79	78	87	88	88	83	85	84	83	85	90	84	90	84	81	75	....	74.8
	Minimum	50	51	48	48	55	47	40	36	50	50	50	49	50	52	52	50	59	63	62	61	60	58	57	61	67	64	60	64	62	56	....	54.4
Steele	Maximum	59	66	69	76	73	68	50	58	56	60	58	60	69	72	75	78	87	85	83	84	82	82	84	87	91	81	85	84	82	77	....	74.0
	Minimum	50	50	51	49	55	47	40	37	46	50	51	48	46	49	49	53	57	57	56	55	58	49	56	63	69	63	54	61	62	51	....	52.7
Valley City	Maximum	63	68	71	74	79	63	57	57	60	59	59	55	71	75	78	79	88	90	90	83	83	84	85	86	92	90	90	87	85	78	....	76.0
	Minimum	52	51	53	45	57	53	42	38	48	52	51	50	50	50	49	49	60	64	67	65	64	53	54	56	71	67	55	63	64	58	....	55.0
Wahpeton	Maximum	67	70	75	75	83	74	74	61	61	61	61	55	71	75	76	79	88	92	94	96	84	82	83	85	92	89	88	91	88	86	....	78.5
	Minimum	54	52	48	51	59	62	47	39	46	54	52	50	50	52	48	49	58	65	76	71	68	56	54	55	56	68	60	67	65	74	....	56.9
Williston [1]	Maximum	57	67	73	70	58	54	61	62	54	56	71	70	74	74	79	82	89	84	78	72	82	83	90	93	87	86	85	78	75	67	....	73.7
	Minimum	52	53	52	55	54	43	38	42	48	51	48	48	45	48	53	61	58	56	55	55	55	62	66	67	69	54	59	59	59	53	....	53.9

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for June 1941—Continued from page 22.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	......	......	....	....	....	...	.....	5.38	+1.98	1.53	0	13	20	4	6	nw.	H. A. Bury.
Amidon	Slope	......	18	62.7	−0.1	92	24	39	7	34	6.62	+3.26	2.40	0	14	19	5	6	se.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	62.2	−0.4	92	24	38	7	35	5.45	+1.75	1.17	0	18	3	19	8	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	64.8	+1.4	93	25	40	7†	33	6.23	+2.36	1.55	0	12	17	6	7	se.	H. W. Case.
Bowbells	Burke	1,958	12	61.8	+2.0	92	25	35	7†	34	6.18	+2.75	1.08	0	13	4	15	11	e.	Charles Kaufman.
Bowman	Bowman	2,872	26	61.9	−1.5	92	24	40	7	33	5.13	+2.18	1.23	0	9	15	3	12	se.	Oscar L. Erickson.
Crosby	Divide	1,954	32	63.4	+1.7	93	17	35	7†	43	3.97	+0.61	1.00	0	12	5	10	15	ne.	J. H. Phelps.
Dickinson	Stark	2,543	48	61.1	−1.0	89	24	38	7	34	10.08	+6.71	2.12	0	17	7	13	10	s.	Leroy Moomaw.
Dickinson Airport	Stark	......	1	62.2	......	90	24†	39	7	30	10.39	....	3.33	0	14	4	9	17	se.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	63.2	+0.7	91	25	38	7	34	8.01	+4.14	1.69	0	14	12	8	10	se.	O. T. Evenson.
Epping	Williams	2,224	30	63.4	+0.3	90	17†	35	7	33	3.47	−0.10	0.69	0	11	17	9	4	se.	T. Beachler.
Fairfield	Billings	......	4	......	......	..	....	....	...	.....	6.42	+3.42	2.50	0	13	10	14	6	se.	Thomas Knudtson.
Fryburg	Billings	2,790	22	61.3	......	87	24	38	7	31	7.53	+4.23	2.98	0	16	5	18	7	e.	Verne King.
Golva	Golden Valley			......	......	....	....	....	...	.....	4.63	....	0.98	0	16	3	21	6	se.	U. S. Airway Comm. Sta.
Hettinger	Adams	2,675	33	63.8	−0.2	97	27	40	7	37	6.04	+2.84	2.63	0	13	16	9	5	se.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	64.8	+3.8	90	25	45	13	31	3.85	+0.79	0.71	0	16	14	2	14	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	63.4	......	91	26	37	7	36	3.79	+0.73	0.78	0	12	17	4	9	se.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	63.7	+0.3	93	24	42	7†	35	6.08	+3.02	1.78	0	15	11	9	10	se.	S. P. Grane.
Mary	McKenzie	......	12	......	......	....	....	....	...	.....	6.33	+3.39	2.22	0	15	13	8	9	se.	Fred Hartman.
Medora	Billings	2,271	25	......	......	....	..	....	...	.....	6.98	+3.61	2.40	0	14	14	9	7	se.	Vernon Thompson.
Mott	Hettinger	2,424	33	63.9	−1.1	95	24†	40	7	40	4.28	+1.06	1.98	0	10	7	12	11	se.	P. G. Wick.
New England	Hettinger	2,400	46	63.4	−0.2	96	25	40	6	45	6.35	+3.39	2.17	0	7	6	16	8	se.	F. S. Sleight.
Parshall	Mountrail	1,929	25	62.3	......	91	25	37	8	33	6.18	+2.62	0.92	0	16	5	20	5	se.	C. E. Shubert.
Portal	Burke	1,954	35	61.4	+0.8	91	25	34	7	40	5.44	+2.15	0.90	0	13	8	13	9	se.	R. G. Wegener.
Powers Lake	Burke	2,205	35	62.6	+1.1	92	25	38	7	35	5.80	+2.20	1.46	0	11	11	13	6	e.	Geo. B. Gee.
Richardton	Stark	2,467	24	62.4	−0.7	91	26	38	7	28	6.69	+3.28	3.42	0	16	9	11	10	se.	Assumption Abbey.
Sanish	Mountrail	1,835	15	62.4	−0.9	91	25	39	7	30	6.07	+2.69	1.10	0	14	10	9	11	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	61.8	......	88	24†	35	7†	34	5.07	....	0.89	0	15	6	15	9	se.	Leroy Edwards.
Tioga	Williams	2,279	12	......	......	...	....	....	...	.....	4.45	+1.65	0.85	0	13	12	6	12	se.	B. V. Olson.
Trotters	Golden Valley	......	15	......	......	...	...	....	...	.....	4.26	+0.78	1.16	0	16	3	19	8	se.	Walter Grunewald
Van Hook	Mountrail	1,864	1	63.7	......	93	25	39	7†	36	7.32	....	2.25	0	13	15	7	8	se.	V. Weisey.
Watford City	McKenzie	2,084	27	64.1	+1.0	94	24	38	7	38	5.11	+1.91	1.74	0	11	7	18	5	se.	J. C. Zeller.
Wildrose	Williams	2,258	13	......	......	....	....	....	...	.....	5.81	+2.90	2.10	0	15	15	8	7	sw.	L Holter.
Williston	Williams	1,878	61	63.8	+1.1	93	24	38	7	32	3.67	+0.24	0.84	0	13	13	7	10	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	62.9	+0.3	97	27	34	7	45	5.85	+2.49	3.42	0	13	10	11	9	se.	....
Average for the State		......	.....	64.2	+1.2	97	27	32	7†	45	5.54	+2.11	4.17	0	12	12	9	9	se.	....

[WBO, Minneapolis, 8-15-41—1100]

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NI

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

F. J. BAVENDICK

Vol. L Bismarck, N. D., July 1941 No. 7

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GENERAL SUMMARY

Cool weather prevailed during the first half of the month but temperatures were considerably above normal during the last half. Many stations, particularly in the central division, reported temperatures above 100° on the 25th and 26th while scattered stations recorded 100° or higher on several dates between the 19th and 28th. July 1941 averaged cooler than July 1939 and July 1940, and it was 9.1° cooler than July 1936. The precipitation was fairly well distributed throughout the month. It was below normal in the eastern and central divisions but above normal in the western division. Due to heavy rains during June crops were in excellent condition at the beginning of the month and continued excellent during the first two decades, but some deterioration occurred near the close of the month due to the continued hot weather and below normal moisture. No severe storms were reported and hail damage was about average. Pastures and ranges were good to excellent and livestock continued in good condition.

TEMPERATURE

The mean temperature for the state was 70.8°, or 1.8° above the 1892-1941 average for July. The mean temperature for the eastern division was 71.6°; for the middle division, 70.6°; and for the western division, 70.2°. The highest mean temperature was 74.4° at Fort Yates, and the lowest, 67.2° at three stations in the West, making a range in mean temperature of 7.2°. The absolute range was 72°, from 106° at Lisbon on the 25th, to 34° at Dunseith and Hansboro on the 11th. The average daily excess in temperature for the state since January 1, 1941, is 2.3°.

PRECIPITATION

The average precipitation for the state was 1.76 inches, or 0.68 inch less than the 1892-1941 average for July. In the eastern division the average amount was 1.40 inches; in the middle division, 1.65 inches; and in the western division, 2.23 inches. The greatest monthly amount reported was 5.87 inches at Stanley; the least was 0.39 inch at Hettinger. The greatest amount recorded in any 24 consecutive hours was 2.70 inches at Stanley on the 25th. The accumulated excess in precipitation for the state since January 1, 1941, is 2.56 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	3	5	6	1	1	..	..	..	..	..	..	..	4	4	1	..	2	6	7	7	3	..	1	..	..	1	1	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	4	4	..	3	7	7	1	4	..	5	1	5	13	2	1	3	1	..	..	..	..	..	..	..	4	11	1	..	..	8
Lunar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hail	..	1	..	1	1	1	..	1	3	2	..	..	..	..	..	1	1	..	..	..	..	..	..	2	..	..	1	2	..	..	..
Thund'rst'ms	4	2	1	13	11	10	3	26	22	13	2	1	2	2	2	3	5	..	..	10	8	7	23	11	6	9	8	12	9	10	3

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.94	30.28	2	29.56	23	9.5	34	nw.	17	82	45	42	76
Devils Lake	29.93	30.28	2	29.64	23	7.2	24	nw.	17	88	51	52	74
Williston	29.92	30.26	11	29.58	22	6.2	23	nw.	20	86	47	43	74
Fargo	29.92	30.30	2	29.58	17	.....	.....	......	....	85	52	52	....
Moorhead, Minn	......	....	....	....	....	7.1	29	n.	6	....	....	....	59

† And other dates.

COMPARATIVE DATA FOR JULY

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	68.7	108	31	3.44	2.98	3.28	3.23	0	8	19	8	4
1893	69.5	112	35	2.54	1.94	1.64	2.04	0	7	17	10	4
1894	71.7	107	38	0.92	0.73	0.25	0.63	0	3	20	8	3
1895	66.1	102	29	3.12	2.44	3.13	2.90	0	8	14	11	6
1896	67.5	107	31	1.67	1.48	1.37	1.51	0	6	15	10	6
1897	68.9	109	38	6.46	4.43	2.40	4.43	0	9	13	11	7
1898	67.6	106	28	3.07	2.40	2.00	2.49	0	7	15	11	5
1899	68.3	109	32	2.37	2.30	2.35	2.34	0	6	18	9	4
1900	67.9	107	33	2.89	2.26	1.60	2.25	0	6	16	10	5
1901	70.8	110	40	5.10	4.08	3.66	4.28	0	6	18	7	6
1902	67.6	106	34	2.34	2.00	2.10	2.15	0	5	20	7	4
1903	66.7	109	26	2.59	1.77	2.32	2.23	0	7	17	8	6
1904	64.4	102	34	2.96	2.83	0.60	2.13	0	6	17	8	6
1905	65.6	100	32	4.27	3.90	3.17	3.78	0	8	17	9	5
1906	66.9	102	34	2.90	1.32	0.45	1.56	0	11	13	8	10
1907	65.8	103	31	2.69	3.90	2.60	3.06	0	9	16	11	4
1908	68.6	103	31	1.89	2.37	1.46	1.91	0	6	19	9	3
1909	67.1	99	34	3.45	2.94	1.80	2.73	0	8	15	9	7
1910	70.0	114	33	1.30	2.10	1.40	1.60	0	5	18	9	4
1911	65.1	107	23	2.25	1.76	1.10	1.70	0	6	18	10	3
1912	66.0	106	30	4.52	3.07	3.38	3.66	0	10	12	13	6
1913	65.6	103	35	2.64	2.38	1.65	2.22	0	8	17	8	6
1914	72.1	109	36	2.62	1.85	2.03	2.17	0	6	19	9	3
1915	62.3	97	30	2.42	2.66	4.30	3.13	0	11	12	11	8
1916	73.1	105	33	4.71	2.76	1.41	2.96	0	7	19	9	3
1917	70.9	114	27	1.96	1.80	0.87	1.54	0	7	17	11	3
1918	65.5	102	34	2.84	2.90	2.46	2.73	0	7	14	10	7
1919	71.2	105	37	3.15	1.11	1.32	1.86	0	5	18	10	3
1920	68.3	103	31	2.27	2.33	1.73	2.11	0	7	18	11	2
1921	71.4	110	35	4.47	2.87	1.88	3.07	0	7	17	10	4
1922	65.6	100	30	2.28	2.44	2.72	2.48	0	8	16	11	4
1923	71.2	103	35	2.90	3.34	2.91	3.05	0	8	16	11	4
1924	65.5	99	32	1.93	2.04	1.83	1.93	0	6	18	9	4
1925	66.7	106	29	1.43	1.33	1.30	1.35	0	6	18	9	4
1926	70.3	108	32	2.35	1.78	1.99	2.04	0	7	18	8	5
1927	65.4	97	28	2.33	3.11	3.09	2.84	0	9	15	10	6
1928	67.4	96	38	4.65	5.32	4.49	4.82	0	10	16	10	5
1929	70.6	109	34	1.93	1.09	0.78	1.27	0	5	21	8	2
1930	72.3	107	34	1.83	0.80	0.49	1.04	0	5	21	8	2
1931	70.6	111	37	2.89	3.20	3.01	3.03	0	8	17	8	6
1932	70.0	108	36	1.95	2.22	1.68	1.95	0	7	19	8	4
1933	71.9	109	36	2.04	2.13	1.83	2.00	0	7	19	9	3
1934	71.8	112	29	1.58	1.30	0.77	1.18	0	6	18	10	3
1935	73.8	110	45	3.90	5.44	3.90	4.41	0	10	17	11	3
1936	79.9	121	38	0.71	0.48	0.92	0.70	0	4	22	8	1
1937	71.7	111	40	3.70	2.70	2.40	2.93	0	9	15	10	6
1938	69.7	104	39	3.11	3.85	3.05	3.34	0	9	15	13	3
1939	72.6	108	37	1.57	1.82	2.04	1.81	0	7	19	9	3
1940	71.6	107	37	4.29	3.75	3.05	3.70	0	11	14	13	4
1941	70.8	106	34	1.40	1.65	2.23	1.76	0	8	15	12	4
Period	69.0	121	23	2.77	2.47	2.08	2.44	0	7	17	10	4

Climatological Data for July 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	72.8	+2.9	102	25	45	2†	36	1.27	−1.52	0.30	0	9	22	7	2	se.	James. H. Erickson.
Cavalier	Pembina	894	31	72.6	......	102	26	42	11	41	......	......	0.05	0	4	21	5	5	n.	City Light &Power Co.
Colgate	Steele	......	1	......	......	....	...	....	....	......	1.37	......	0.54	0	4	......	......	......	......	W. H. Gibbs.
Cooperstown	Griggs	1,428	44	70.2	+0.6	100	26	42	11	34	1.17	−1.29	0.45	0	11	24	7	0	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	......	......	....	...	....	....	......	1.15	−1.25	0.40	0	6	16	13	2	w.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	70.6	+3.2	99	26	40	11	36	1.29	−1.28	0.38	0	11	11	11	9	s.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	71.2	+1.3	102	22	41	11†	40	0.86	−1.91	0.38	0	5	9	20	2	se.	O. A. Thompson.
Edmore	Ramsey	1,524	17	68.7	+1.2	99	26	38	11	41	1.22	−1.53	0.51	0	3	23	8	0	n.	Mike Davis.
Ellendale	Diekev	1,457	46	72.1	+1.2	102	23	44	11	41	2.02	−0.72	0.72	0	10	18	8	5	s.	J. E. Demmer.
Fargo	Cass	895	14	72.8	+4.6	104	25	45	2†	40	0.84	−2.40	0.43	0	8	8	17	6	n.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	72.8	+2.7	103	22	45	2	41	0.89	−2.08	0.22	0	7	23	6	2	s.	Helge Dyste.
Fullerton	Dickey	1,439	43	72.4	+2.2	102	25	44	11†	39	1.09	−2.03	0.39	0	7	20	7	4	s.	F. O. Alin.
Grafton	Walsh	827	49	71.8	+3.0	102	26	43	11	41	1.70	−0.85	0.54	0	10	7	19	5	se.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	71.6	+3.1	103	26	43	11	41	0.94	−1.81	0.21	0	11	11	12	8	nw.	U. S. Weather Bureau.
Grand Forks Airport	Grand Forks	832	1	71.4	......	103	26	43	11†	41	0.77	......	0.22	0	10	11	10	10	s.	U. S. Airway Comm. Sta.
Hankinson	Riehland	1,068	12	73.6	+2.2	104	25	42	2	35	1.72	−0.82	0.88	0	6	11	19	1	se.	Joseph Rindt.
Hannah	Cavalier	1,568	49	68.4	+2.2	95	21†	37	11	36	1.45	−0.90	0.30	0	6	21	8	2	sw.	A. E. Prior.
Hillsboro	Traill	901	41	72.3	+1.6	100	22	45	2†	36	1.58	−1.10	0.41	0	11	14	13	4	sw.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	72.5	+2.9	104	26	43	2	36	2.10	−0.68	0 78	0	8	13	13	5	s.	S. G. Calvelage.
Jamestown Airport	Stutsman	1,494	1	70.8	......	100	25	42	2†	35	2.28	......	0.95	0	10	10	3	18	se.	U. S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	70.4	......	99	22†	37	1	44	1.90	......	0.46	0	12	13	15	3	s.	U. S. Wildlife R fuge.
Langdon	Cavalier	1,615	45	69.2	+2.9	100	26	36	11	42	1.48	−0.89	0.70	0	7	15	12	4	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	71.8	+3.7	103	26†	43	11	42	1.13	−2.09	0.27	0	11	15	6	10	ne.	W. L. Goodison.
Lisbon	Ransom	1,091	37	73.4	+3.0	106	25	44	2†	40	2.26	−0.93	0.70	0	11	15	5	11	se.	J. O. Halverson.
Mayville	Traill	975	45	72.2	+2.0	101	26	47	11†	35	1.51	−1.25	0.37	0	9	3	26	2	ne.	H. B. Addicott.
MeHenry (near)	Eddy	1,509	19	69.0	+0.9	100	26	41	2†	39	1.72	−1.04	1.10	0	8	12	14	5	n.	C. E. Blasky.
MeLeod	Ransom	1,075	30	71.9	+0.5	105	22	41	5	39	1.54	−1.43	0.55	0	7	21	9	1	se.	J. G. Carlson.
McVille	Nelson	1,467	......	......	......	...	.	...	...	......	0.66	......	0.30	0	3	17	10	4	n.	M. Kabeary.
Milnor	Sargent	1,117	2	74.3	......	103	25	48	1†	35	1.32	......	0.71	0	4	23	5	3	s.	E. W. Wilson.
Oakes	Dickey	1 318	12	72.4	+0.7	104	25	43	12	40	1.26	−1.25	0.31	0	10	22	7	2	nw.	F. H. Murray.
Park River	Walsh	998	37	70.7	+2.2	102	26	42	11	42	2.83	+0.33	1.37	0	7	15	12	4	se.	E. J. Taintor.
Pembina Airport	Pembina	803	67	70.8	+3.0	104	26	40	11	42	1.02	−1.33	0.35	0	5	9	14	8	s.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	......	......	....	..	..	....	.. ..	1.11	−1.83	0.36	0	9	6	17	8	s.	T. M. Rykken.
Sharon	Steele	1,516	17	71.4	+0.6	103	26	43	11	37	1.17	−0.92	0.45	0	9	14	11	6	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	72.2	+2.1	99	25	42	2	37	1.89	−0.92	0.61	0	12	19	9	3	sw.	I. C. Robertson.
Wahpeton	Riehland	962	49	73.8	+2.9	104	25	44	12	36	1.70	−1.52	0.73	0	8	21	5	5	se.	W. J. Cavanaugh.
Average for Eastern Division		......	....	71.6	+2.1	106	25	36	11	44	1.40	−1.37	1.37	0	8	15	11	5	se.	....
Middle Division																				
Ashley	MeIntosh	2,014	45	70.0	+0.8	102	22†	38	12	44	1.31	−1.52	0.35	0	10	6	15	10	n.	U. S. Airwav Comm. Sta.
Beulah				......	......		....	...	..	......	1.62	−0.66	0.40	0	8	5	26	0	se.	R. T. Hamilton.
Bisbee	Towner	1,601	5	70.4	+3.0	98	28	39	11	40	0.80	−1.79	0.34	0	3	22	5	4	s.	I. K. Lund.
Bismarek	Burleigh	1,670	67	73.3	+3.5	101	25	44	12	39	2.32	+0.08	0.92	0	7	9	16	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	69.2	+1.6	96	21	39	11	38	1.93	−0.44	0.84	0	9	20	5	6	nw.	N. D. School of Forestry
Carrington	Foster	1,579	43	70.4	+1.0	100	26	38	11	35	1.58	−1.00	0.43	0	12	13	12	6	......	Soo Line Agent.
Carson	Grant	2,500	29	72.3	+1.5	102	22†	44	1†	44	0.82	−1.21	0.68	0	4	15	15	1	nw.	J. W. Evens.
Center	Oliver	......	3	71.1	......	101	22	40	11	47	0 66	......	0.38	0	5	14	14	3	nw.	Fred L. Heinz.
Dogden Butte ‡‡	McLean	1,880	15	68.7	−1.3	92	28	37	11	32	1.96	−0.64	0.85	0	5	13	12	6	nw.	R. L. Williams.
Drake	MeHenry	1,634	12	70.2	−1.4	97	20	43	11	37	1.39	−1.62	0.48	0	8	14	15	2	se.	Peter Anton.
Dunseith	Rolette	1,682	45	68.8	+1.8	96	20	34	11	39	2.89	+0.34	2.17	0	6	11	19	1	n.	Geo. Gehres.
Eekman	Bottineau	1,500	36	68.5	+0.5	95	20	40	11	36	3.04	+0.81	1.72	0	12	17	10	4	se.	R. F. Nowak.
Energy ‡‡	MeLean	1,750	26	70.6	−1.3	99	25	42	11	41	1.34	−1.01	0.65	0	4	23	6	2	n.	H. S. Solenberger.
Fessenden	Wells	1,610	29	70.9	+1.5	100	27	39	11	38	2.58	+0.25	1.68	0	8	17	7	7	s.	John V. Zuber.
Fort Yates	Sioux	1,670	41	74.4	+1.7	104	22†	46	11	47	0.73	−1.46	0.44	0	2	25	4	2	se.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	69.3	−0.4	93	20†	42	1†	35	1.93	+0.03	0.96	0	12	10	15	6	nw.	E. C. Bierbaum.
Gaekle	Logan	1,951	11	72.0	......	101	25	42	11	38	2.02	−0.59	1.12	0	10	13	13	5	sw.	A. H. Haut.
Garrison	MeLean	1,911	64	70.4	+1.2	97	25	40	11	38	1.10	−1.36	0.35	0	7	6	21	4	se.	E. L. Vorachek.
Granville	McHenry	1,504	34	71.5	+2.8	98	20	41	11	40	2.69	+0.52	1.00	0	8	9	21	1	se.	C. A. Stubbins.
Hansboro	Towner	1,597	33	68.4	+2.1	97	20	37	11	41	1.35	−1.11	0.40	0	9	10	18	3	nw.	W. E. Disher.
Leeds	Benson	1,515	1	70.4	......	102	28	34	11	44	0.88	......	0.31	0	9	18	9	4	ne.	Carl T. Carlson.
Linton	Emmons	1,711	24	74.0	+1.3	104	25	44	11†	43	2.22	+0.09	0.90	0	6	19	9	3	nw.	Wm. Heyerman.
Maddoek	Benson	1,604	26	70.2	+1.3	100	28	37	11	40	1 29	−1.30	0 65	0	12	21	6	4	se.	A. T. Felland.
Mandan	Morton	1,750	27	73.4	+1.5	103	25	45	11	39	1.10	−1.28	0.78	0	6	10	9	12	ne.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	......	......	....		....	....	......	2.14	−0.10	0.78	0	8	17	10	4	se.	P. B. Anderson.
Max	McLean	2,093	12	69.4	−2.0	95	27	38	11	39	0.72	−1.99	0 32	0	6	10	14	7	......	A. W. Rice.
MeClusky	Sheridan	1,943	23	71.2	+0.8	98	20†	38	11	39	0.64	−1.89	0.29	0	4	14	13	4	se.	F. W. Perry.
Medina	Stutsman	1,816	1	.. ..	......	...	....	....	...	......	1.32	......	0.80	0	8	8	20	3	nw.	Rudolph Graf.
Minot	Ward	1,574	45	69.6	+0.8	94	20†	38	11	38	1.87	−0.03	0.56	0	11	11	5	15	nw.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	68.7	+1.2	95	21	38	1	38	3.30	+0.96	1.28	0	11	16	13	2	se.	Iver Johnson.
Napoleon	Logan	1,955	49	71 '2	+1.8	103	23†	40	2†	44	2.14	−0.36	1.30	0	8	18	5	8	se.	C. J. Hoof.
New Salem	Morton	2,163	37	71.1	+0.3	101	25	41	12	50	0.61	−1.57	0.17	0	5	19	11	1	se.	J. Christiansen.
Pettibone	Kidder	1,856	32	70.6	+1.1	101	22†	39	11	43	1.92	−0.92	0.96	0	7	11	14	6	s.	Sam Loeppke.
Rolla	Rolette	1,860	4	71.6	......	96	20†	44	1	37	0.88	......	0.41	0	7	10	16	5	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	......	......	....	....	....	....	......	1.61	−0.81	0.46	0	10	9	16	6	w.	W. B Paterson.
Ryder	Ward	2,108	12	......	......	....	....	....	....	......	1.50	−1.04	0.52	0	4	26	3	2	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5	......	......	.	..	....	....	... ..	1.16	......	0.51	0	6	10	17	4	se.	J. B. Smith.
Steele	Kidder	1,857	47	69.8	−0.4	101	25	41	2†	41	1.74	−1.25	0.70	0	7	17	10	4	sw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	......	......	....	....	....	....	......	1.73	−0.35	0.55	0	12	17	9	5	se.	G. N. Pilgard.
Timmer	Morton	......	4	......	......	....	....	....	....	......	1.61	......	0.72	0	4	.. ..	......	......	......	Geo. M. Sinclair.
Towner	MeHenry	1,482	39	70.2	+1.1	97	20	37	11	37	1.54	−0.87	0.51	0	8	21	8	2	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	70.0	+0.5	97	20†	38	11	40	0.82	−1.73	0.25	0	6	15	13	3	e.	A. S. Haas.
Tuttle	Kidder	1,936	33	......	......	....	....	....	....	......	2.72	+0.20	1.60	0	7	15	13	3	se.	Adam Leno.
Upham	MeHenry	1,435	1	......	......	...	...	....	....	......	3.34	......	1.09	0	10	13	12	6	nw.	U. S. Wildlife Refuge.
Velva	MeHenry	1,511	14	70.0	0.0	95	19	40	11	38	2.63	+0.36	1.99	0	8	9	19	3	ne.	Oscar Anderson.
Washburn	McLean	1,731	40	73.2	+2.0	97	25†	43	11	34	0.91	−1.57	0.33	0	5	16	12	3	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	69.3	+1.4	97	21	37	11	38	2.06	−0.11	0.62	0	10	21	9	1	se.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	68.8	+2.2	98	28	36	11	41	1.88	−0.26	0.57	0	7	21	10	0	nw.	O. M. Sanderson.
Wilton	McLean	2,159	5	70.8	......	98	25	44	11	41	0.46	......	0.22	0	3	18	10	3	... ..	Soo Line Agent.
Wishek	McIntosh	2,010	20	70.3	−0.1	101	22†	38	2†	48	1.83	−0.77	0.85	0	11	10	8	13	nw.	H. M. Larson.
Average for Middle Division		......	.....	70.6	+1.0	104	22†	34	11	50	1.65	−0.82	2.17	0	7	15	12	4	se.	....

Continued on page 28

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. ᵇ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for July 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																		
Casselton	Red	.15				.30		.12	.17		T.			.22	.10										.09	.11							.01		1.27
Cooperstown[2]	Sheyenne		T.			.11	.05		.45		.02			.22	.08	.02							.02		.02						.15	.03	1.17
Courtenay	James					.09			.28		T.			.17			T.	.13							.08							.40		1.15
Devils Lake[1]‡	Devils Lake	T.				.03	T.		.38	T.	.03			.03	.07	T.	T.	.01						.15			.08		.36		.13	.02	1.29
Edgeley	James					.25					.13			.38		.02																.08		0.86
Edmore	Devils Lake								.27	.44					T.	T										T							T.		.51		1.22
Ellendale	James			.01		.24					.26			.72	.03	.12		.55				.02										.06	.01		2.02
Fargo[1]	Red	T.				.02	.43		.12	T.	T.	T.		.03	.12	.02	T.								.09	.01						T.		0.84
Forman	Sheyenne	.03				.02	.19		.12		.21				.22			.10													T.	T.		T.	0.89
Fullerton	James		T			.18	.01				.09			.39				.28				.03									T		.11		1.09
Grafton	Red					.17	.37	.54	.05	.08						T.	.06	.22								.10					T.	.03	.08		1.70
Grand Forks Airport[1]‡	do	T.			T.	.04	.14		.03	.19	T.			.03	.09	T.	T.	.12			.01	T.		T.						.08		.04		0.77
Hankinson[2]	do					.18			.52	.06				.88				.05													.03				1.72
Hannah	Pembina					.10		.25		.30					T	T.	T.	.30				T.	T.			.30							.20		1.45
Hillsboro	Red	.06				.22	.41		.12	.14	T.				.03	T.	.02	.30				T.		.08	.13				T.		.07		1.58
Jamestown Airport[1]	James	T.			.12	.43	.02		.95	.01	T.			.10	T.	T	.40				T.	.01		.16	.08				T.		T.		2.28
Langdon	Pembina	.02				T.			.09	.70		T.			T.		T.	.42	.02								.02							.21		1.48
Larimore	Red	.03				.04	.27	.22	.11	.03				.05	.11			.21						.03								.03		1.13
Lisbon	Sheyenne	.70				T.	.14	.21	T.	.36	.01				.36		.03	.21								.10						.01	T	.13	2.26
Mayville	Red	.20				.17	.37	.08	.15						.10		T.		.06						T.	.24								.14		1.51
McHenry	James					1.10			.28		.06			.05	.09										.05								.02	.07	1.72
McLeod	Sheyenne	.19				.17	.02		.52						.55									.05						.04				1.54
Oakes	James	.18				T.	.07	.31		.02	.07	.07			.21			.25				T.										.01	.07		1.26
Park River	Red					.67			.11	.24					T		.07	.26												1.37		.11		2.83
Pembina	do	T.				.21			.35	.01				T	T		.11	.34				T.				T.	T.		T.				1.02
Petersburg	do					.36	.09	.15								.03			.03			.08			.05							.11	.21		1.11
Sharon	do	T.				.04	.45		.22		T			.02	.24		.01	T.						.03								.08	.08		1.17
Valley City	Sheyenne	.18				.24	.24		.61		.04	.02		.11	.13										.07	.05				.18		.02		1.89
Wahpeton	Red	.29				.04	.05		.12		.01			.02	.44	T.								T		T				.73			1.70
Middle Division																																		
Ashley[1]	Missouri	T.	T.		.05	.17	T.		T	.32	.35			.18	T.	T.		.03			T.			.02					.06	.10	.03		1.31
Bisbee	Devils Lake								.34						T.	.13							.33		T.										0.80
Bismarck[1]‡	Missouri				.33	.59			.03	.35	.51			.14		T.								.37	T.					T			2.32
Bottineau[2]	Mouse	T				.05			.64	.07						.26	.01	T.						.02			.84		.02				.02	1.93
Carrington	James	.02				.43	.18		.17		.04	.06			.22	.04		.09							.09				.23		T.	.01	1.58
Carson	Heart		.04								.68			.05																		.05			0.82
Center	Missouri		.01		.06						.38					.10															.11			0.66
Dogden Butte	Mouse					.85			.68		.34				.05	.04								T				T.						1.96
Drake[2]	do	.20				.17			.48			.27			.03	.05						.12												.07	1.39
Dunseith	do								.02	.46					.10	.12	.02					T.		T.		2.17						T	2.89
Eckman	do		.06			T.			1.72	.03	.20				.32	.10								.02		.37	.05		.02		.07	.08	3.04
Energy	Missouri				.65						.44					T.									.05					.20			1.34
Fessenden	James				1.68				.36		.15			.07	T		.07							.16							.07	.02		2.58
Fort Yates	Missouri					.29				T	.44			T.										T.					T	T.			0.73
Foxholm (near)	Mouse					.23			.96	.08	.06				.04	.03										.05	.11	.01	.05		.29	.02	1.93
Gackle	James				.12	1.12					.20	T.		.12	.03	.03		.09				.03			.17				.11				2.02
Garrison[1]	Missouri				.01				.29	.06	.28					.09									.02			.35						1.10
Granville	Mouse					T			.88	.03	.41			.05	.03	.07									T.				.22		1.00		2.69
Hansboro	Devils Lake					.40	.01		.32	.06					.03		.02					.11				.21			.19				1.35
Linton	Missouri					.13				.35	.58			.14													T.		.90		.12		2.22
Maddock	Sheyenne				.16	.02	.02		.65		.16			.04	.01	.02						.17		.01							.02	.01	1.29
Mandan[2]	Missouri				.78		T.		.01	.22	.05			.02										.02	T.				T.	T.			1.10
Max[2]	do					T.		.06	.05		.03	.32			T.	.16									T.			.10					0.72
McClusky	do				T.	.29				.23	.10			.02																				0.64
Minot[1]	Mouse				.36	.19			.56		.20			.06	.01	.35								.01			.08	.04	.01	T.	T		1.87
Mohall	do						T.		1.12	.01	.03				.11	.21								.06	T.	1.28	.14		.02		.25	.07	3.30
Napoleon[2]	Missouri	.15				1.30	.03				.20	.15			.16										.05					.10	T.		2.14
New Salem	Heart		T.		.15				T.	T	.17			T.		.07								.10	.12						T.			0.61
Pettibone	James	.16	T.		T.	.96			.53		.03			.17	.02									.05							T.		1.92
Rolla	Devils Lake						.08		.41						.07	.06	T					.07				.13			.06		T.		0.88
Rugby (near)	Mouse					.06			.46	.06	.18				.17	.15	.11					.12		.12							T.	.18	1.61
Ryder	Missouri				T.			.50			.52				T														.28	.20				1.50
Selfridge	do		.05		T.	.15			T.	.51	.15			T											T.					.12	.18			1.16
Steele	do	.04				.56	T.		T.	.04	.70			.07										T					.30	.03	T.		1.74
Tagus	Mouse				T.	.13	T		.55	.22	.24			T	T.	.01	.10							T		.16	.10	.03	.14	.01	.04		1.73
Towner	do					.35			.51	.05	.33			.02	.03	.13						.12		T	T.				T.				1.54
Turtle Lake	Missouri				.25			.25			.24	.02			.05	T.					T.			T	T.				T.		.01		0.82
Tuttle	do				.21	1.60	.04		.11		.30			.07	T.					T.				.39									2.72
Velva	Mouse					.07			1.99		.32			.01	.08	.07								.03			T.		.06		T.		2.63
Washburn	Missouri					.33	T.		.18		.26			.06							T.			.08										0.91
Westhope	Mouse				.02				.44		.06				.08	.40	.09								.08		.62	.02				.25		2.06
Willow City	do					.40			.57		.10				.16	.15	T.					.12				.38								1.88
Wishek[2]	Missouri	.18	T.			.85	.05	T.	T.		.13	.25		.15	.10	.01						T.			.02						.07	.02		1.83
Western Division																																		
Alpha	Lit. Missouri					T.					.02										T		T.		.82			.65	.12	.93	.18	T.	2.72
Amidon	do	.04				.01								.01	.03						T.			.12	.10		.60		.70	.16	.50		2.27
Beach	do	.05									T.					.01					T.				T		T	.32	.04		.28		0.70
Berthold Agency	Missouri								.90		.45			.02													.19			.90	T.		2.46
Bowman[2]	Grand	.19																						.09				.01	.02	.15	1.00		1.46
Crosby	Mouse	.14							.30	.38	.15													.08		.08	.53	.22	T.				.04	1.92
Dickinson Airport[1]	Heart				.13						.45			.03	T.						.01				.15		T.	T.		.51	.04	T.	1.32
Dunn Center	Knife			T.		T.			T		.25	.15		.04		T.	T					T.		T	T.	.03	T.	.23	.94	.60	.52		2.76
Fairfield	Lit. Missouri	.01									.30																.16	.52		.62	.26		1.87
Fryburg	Heart			.10	T.					T.	.48			.17	T.												.18	.56	.42	.72	1.30		3.93
Hettinger	Grand		.01		.03						.05										T										.30		0.39
Howard (near)	Missouri				.02		T.		.31	.02	.25	.06			.02	T.					.01			T			.98	T.		.38	T.		2.05
Kenmare	Mouse	.24							.81	.79	.05					.10		.18						.05		.41	.01	.19						2.83
Marmarth	Lit. Missouri										T			.08										.36	.12		.03	T.			.65	.18	1.42
Mary	do				.07				.06		.38		.01														.12		.43	.68	1.19		2.94
Medora	do				T.	T.					.38			.02		.01					T			T.	.17		T.		.35	.83	.73		2.49
Mott	Cannon Ball	.01	.01		.18	.32					.26		T	.02		.02					.01								.18	.04		1.05
New England[2]	do					.06					.12												.28	.37						.28	.24			1.35
Parshall	Missouri	T				.60			.04		.06	.50				T	.20					T.						.37	.50	T.	.18	T	2.45
Portal[2]	Mouse	.02							.04	.32	.20	.02					.05											.03	1.42	.05				.08	2.23
Powers Lake	Missouri				.14				1.95	.28		.26						.20										.23				.11			3.17
Richardton	Heart		T.		.32					.01	.46			T	.10						.01					T		T.		.53	.52		1.95
Sanish[2]	Missouri					.03		.08			.35	.24														.73		.12	.12	.07	.06		1.80
Stanley	do					.23	T		1.45	.20	.34					.57	.18									2.70	.13		.07				5.87
Tioga	do								1.52	.09	.20															.13	.11			.20			2.25
Trotters	Lit. Missouri				T.						.48					T.					T.					.38	T	.68		.77	.58		2.89
Watford City	Missouri				T	.20						.30									T.			.01	T	.24	.22	.08		.46			1.51
Wildrose	do				.06				1.27	.33	.18				.08	T.					T.			.05		.10	.97		.04	.10	.09		3.27
Williston[1]‡	do				.03	T.		.12	.21		.31										T.		T.	.01	.02	.27	.02	.01		.55	T	.01	1.56

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First- or second-order Weather Bureau station; data are for the 24-hour period, midnight to midnight, unless otherwise indicated. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for July 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum...	59	62	75	80	85	85	80	91	88	73	67	72	62	75	76	84	91	81	88	97	97	102	102	94	101	99	95	98	92	86	93	84.8
	Minimum...	44	41	51	51	60	59	56	59	60	49	41	38	50	50	52	50	56	53	50	64	62	58	65	66	61	66	67	64	59	58	52	55.2
Beach	Maximum..	70	72	78	88	89	88	89	93	89	72	73	75	76	83	88	93	94	90	101	85	95	97	90	89	98	84	95	95	85	84	92	86.8
	Minimum..	50	51	51	55	57	58	58	64	54	52	47	46	58	45	51	52	63	50	60	70	61	57	62	60	65	62	60	63	58	47	58	56.3
Bismarck [1]	Maximum...	67	69	78	86	85	88	85	95	88	70	70	76	69	82	77	90	93	84	92	99	96	98	98	91	101	99	97	100	95	87	94	87.1
	Minimum...	50	46	52	59	61	61	60	68	60	52	46	44	54	55	60	53	64	56	54	69	64	59	68	68	69	75	67	69	63	61	58	59.5
Bottineau§	Maximum...	70	73	75	82	82	84	83	84	79	74	73	74	72	75	78	88	82	84	92	95	96	93	88	90	82	84	86	92	90	78	87	82.7
	Minimum...	45	45	52	46	50	46	57	60	59	56	39	46	48	45	55	52	56	54	56	66	61	62	62	64	59	59	66	71	62	65	61	55.6
Carson	Maximum...	70	64	75	86	85	90	86	97	93	73	70	72	73	84	81	90	94	87	95	98	96	102	101	94	101	100	97	102	96	89	99	88.4
	Minimum...	44	49	53	55	57	55	55	62	53	50	45	44	50	45	55	56	59	49	55	68	59	58	72	65	64	69	60	65	58	56	56	56.2
Crosby	Maximum...	71	72	76	80	81	80	86	89	76	61	71	75	77	81	83	97	86	88	97	97	95	89	85	89	85	71	86	88	86	82	89	82.9
	Minimum...	42	43	51	58	59	57	54	62	53	54	41	45	47	52	55	57	58	49	55	65	60	56	53	55	59	60	62	62	63	60	55	54.9
Devils Lake [1]	Maximum...	67	73	76	82	80	83	80	83	82	64	71	76	67	76	77	87	83	82	88	94	96	96	96	88	89	99	96	99	90	72	86	83.2
	Minimum...	47	48	58	59	63	59	57	60	61	46	40	48	51	55	56	55	59	55	58	64	66	62	65	60	65	63	65	70	65	62	59	58.1
Dickinson Airport [1]	Maximum...	69	64	75	85	85	86	85	92	86	68	68	72	68	80	80	90	92	85	95	92	94	96	90	87	97	85	93	94	82	83	91	84.2
	Minimum...	46	51	53	56	59	58	61	63	55	51	46	43	52	45	52	53	59	52	57	62	62	54	65	58	61	61	62	63	58	60	58	56.0
Dunn Center	Maximum...	68	73	79	86	87	87	87	94	82	66	69	75	68	84	81	92	92	88	98	93	95	97	88	87	99	88	92	89	80	83	90	85.1
	Minimum...	44	50	58	53	59	57	55	62	55	50	42	41	52	43	49	49	59	50	50	60	58	54	63	55	60	60	61	63	59	60	57	54.5
Fargo	Maximum...	65	76	79	81	80	85	79	80	87	75	71	79	77	76	77	80	84	80	89	96	96	103	90	91	104	100	97	99	91	81	91	85.1
	Minimum...	50	45	56	55	64	61	59	60	67	52	52	45	53	60	55	53	60	59	55	64	71	63	70	69	70	76	74	73	68	62	58	60.6
Fessenden	Maximum...	66	74	80	82	80	83	83	85	85	79	70	77	74	75	79	81	81	82	90	93	96	97	97	89	93	98	100	98	92	90	93	85.2
	Minimum...	47	43	50	64	61	60	53	58	60	53	39	44	47	55	55	49	60	52	55	63	62	59	62	58	63	72	64	66	62	62	57	56.6
Fullerton	Maximum...	65	71	77	82	82	86	81	94	88	76	72	76	65	78	77	84	89	80	86	96	94	101	98	93	102	98	97	97	93	84	92	85.6
	Minimum...	51	47	56	53	63	62	59	59	65	59	44	44	52	54	61	53	64	57	57	62	69	63	65	68	63	67	68	67	65	65	56	59.3
Garrison [1]	Maximum...	68	73	76	84	84	86	85	92	82	64	70	74	65	82	77	92	89	84	93	95	95	95	92	88	97	91	95	93	87	86	91	84.7
	Minimum...	42	46	54	54	58	59	57	62	56	49	40	44	47	46	56	54	60	52	55	62	61	57	64	59	66	61	66	67	64	61	57	56.0
Grafton	Maximum...	70	75	80	81	83	82	78	78	83	82	74	77	78	78	78	82	85	82	88	95	95	95	96	96	88	102	100	99	91	89	89	85.5
	Minimum...	47	48	50	55	65	60	58	57	60	57	43	45	50	60	53	54	59	58	55	62	70	65	61	62	63	61	62	70	69	61	61	58.1
Grand Forks Airport[1]	Maximum...	68	77	81	86	84	84	85	81	86	68	76	84	78	80	74	86	81	80	90	95	95	92	96	88	91	103	101	100	91	74	92	85.4
	Minimum...	47	44	51	57	63	58	56	57	61	53	43	43	51	59	54	56	58	56	54	62	68	62	59	63	64	62	67	70	63	62	60	57.5
Jamestown Airport [1]	Maximum...	63	71	77	81	81	85	82	88	85	70	71	75	63	78	78	82	87	81	87	94	95	97	94	86	100	98	98	97	93	80	91	84.1
	Minimum...	49	42	50	54	63	60	60	59	63	47	42	42	49	52	55	51	60	57	55	62	68	62	65	62	65	66	65	68	65	66	56	57.4
Kenmare	Maximum...	62	69	71	76	84	85	87	85	90	79	62	70	75	71	75	80	95	84	86	92	90	94	93	88	87	83	73	83	92	88	87	81.7
	Minimum...	40	45	54	57	61	61	56	62	56	56	44	50	49	53	59	60	64	53	60	68	66	60	60	60	59	59	64	64	60	63	59	57.5
Langdon	Maximum...	69	74	77	79	83	85	79	79	80	77	73	75	75	79	78	87	81	82	87	92	94	92	96	89	85	100	93	99	90	84	85	83.8
	Minimum...	45	43	48	52	61	55	53	57	56	49	36	46	50	51	49	52	54	51	55	61	64	57	62	56	58	58	65	68	60	57	59	54.5
Marmarth	Maximum...	68	75	77	87	88	88	90	91	90	77	75	75	77	83	86	92	95	89	98	92	94	98	90	91	99	86	94	93	89	87	92	87.3
	Minimum...	53	53	57	60	57	58	58	61	53	58	51	51	53	45	54	53	60	55	51	67	58	55	60	61	63	66	64	63	62	57	55	57.2
Minot [1]	Maximum...	68	72	78	86	79	83	84	89	77	60	70	76	66	80	78	95	84	84	93	94	94	94	87	87	90	79	92	92	91	87	88	83.0
	Minimum...	42	42	55	58	61	60	58	63	57	49	38	47	46	45	55	54	59	51	57	69	64	56	59	62	61	60	66	65	56	65	59	56.1
Mott	Maximum...	71	65	77	89	86	87	89	97	93	75	70	74	73	85	82	91	94	88	99	95	97	101	97	93	101	98	100	99	90	88	96	88.4
	Minimum..	48	53	49	55	57	56	58	64	56	59	50	48	52	45	55	54	60	50	58	70	59	54	67	66	68	65	63	63	60	59	55	57.3
Pembina Airport [1]	Maximum...	69	79	83	84	80	83	83	80	82	62	75	80	81	83	76	81	76	79	89	96	95	93	97	94	84	104	97	102	88	84	90	84.8
	Minimum...	44	48	50	53	63	61	57	56	58	48	40	47	52	60	49	54	56	57	55	64	69	64	61	58	58	62	68	69	65	56	62	56.9
Sharon	Maximum...	64	72	79	79	81	86	78	78	85	76	72	78	70	77	78	83	85	83	88	96	96	99	95	87	93	103	100	100	91	75	88	84.4
	Minimum...	48	45	52	56	62	60	58	58	59	54	43	47	52	58	55	51	58	57	59	65	67	62	65	62	65	69	66	69	69	63	55	58.4
Steele	Maximum...	67	68	67	80	82	83	79	80	83	69	66	71	69	76	75	80	88	80	87	96	95	97	98	98	101	100	97	98	89	82	91	83.6
	Minimum...	49	41	49	52	56	58	59	62	52	53	41	43	50	53	58	51	55	56	53	67	61	56	64	63	65	65	61	67	64	59	57	56.1
Valley City	Maximum...	66	72	76	82	82	85	80	81	85	82	73	75	73	75	75	80	86	85	88	95	95	98	90	89	99	98	98	97	90	87	86	84.6
	Minimum...	50	42	49	53	64	60	59	58	67	60	47	44	49	59	59	50	59	57	53	65	70	61	67	65	69	72	70	70	68	68	58	59.7
Wahpeton	Maximum...	81	74	77	80	80	84	80	79	88	85	71	78	78	75	77	76	89	82	87	95	94	102	102	98	104	101	95	96	95	89	89	86.5
	Minimum...	51	45	57	58	62	60	55	69	66	63	48	44	49	58	60	51	61	58	55	62	70	66	70	69	75	73	73	71	70	64	57	61.0
Williston [1]	Maximum...	70	72	78	85	84	83	87	92	78	64	70	76	71	80	81	96	89	87	100	87	96	94	86	85	87	72	99	91	85	83	90	83.5
	Minimum..	46	50	55	62	61	61	59	64	56	51	43	52	53	53	59	60	65	53	61	69	63	62	59	63	62	63	67	64	62	62	59	58.7

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for July 1941—Continued from page 26.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	.....	......	...	...	.....	...	......	2.72	+0.66	0.93	0	6	22	9	0	se.	H. A. Bury.
Amidon	Slope	......	18	71.2	+0.8	99	25	41	12	43	2.27	+0.05	0.70	0	10	16	11	4	n.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	71.6	+1.7	101	19	45	14	41	0.70	−1.11	0.32	0	5	7	23	1	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	70.1	+0.2	98	24	43	11	40	2.46	+0.10	0.90	0	5	24	5	2	se.	H. W. Case.
Bowbells	Burke	1,958	12	67.2	+0.7	92	20†	38	1	36	2.57	+0.37	0.76	0	13	6	15	10	w.	Charles Kaufman.
Bowman	Bowman	2,872	26	72.0	+1.1	101	22	47	12†	41	1.46	−0.67	1.00	0	6	18	4	9	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	32	68.9	+1.0	97	16†	41	11	42	1.92	−0.19	0.53	0	9	7	8	16	nw.	J. H. Phelps.
Dickinson	Stark	2,543	48	68.6	−0.4	96	25	43	14	42	3.73	+1.56	1.12	0	12	6	20	5	se.	Leroy Moomaw.
Dickinson Airport	Stark	2,583	1	70.1	......	97	25	43	12	42	1.32	....	0.51	0	7	2	17	12	se.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	69.8	+0.8	99	25	41	12	48	2.76	+0.53	0.94	0	8	15	13	3	ne.	O. T. Evenson.
Epping	Williams	2,224	30	70.8	0.0	100	19	41	1	42	1.72	−0.26	0.90	0	6	24	7	0	se.	T. Beachler.
Fairfield	Billings	......	4	.....	......	...	...	.....	...	......	1.87	−0.32	0.62	0	6	12	17	2	nw.	Thomas Knudtson.
Fryburg	Billings	2,790	22	70.1	......	98	25	41	14	39	3.93	+1.74	1.30	0	8	13	16	2	nw.	Verne King.
Golva	Golden Valley			.....	......	...	...	.....	...	......	1.55	....	0.68	0	5	10	18	3	nw.	U. S. Airway Comm. Sta.
Halliday				.....	......	...	...	.....	...	......	2.05	....	0.55	0	10	9	19	3	se.	Thom. C. Lorenzen.
Hettinger	Adams	2,675	33	73.3	+1.6	101	22	43	12	42	0.39	−1.97	0.30	0	4	16	14	1	se.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	69.6	+2.2	103	19	40	1†	41	2.05	+0.22	0.98	0	9	17	11	3	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	70.0	......	95	16	40	1	35	2.83	+0.54	0.81	0	10	18	6	7	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	72.2	+1.0	99	25	45	14	47	1.42	−0.46	0.65	0	6	13	13	5	nw.	S. P. Grane.
Mary	McKenzie	......	12	.....	......	...	...	.....	...	......	2.94	+1.42	1.19	0	8	23	7	1	se.	Fred Hartman.
Medora	Billings	2,271	25	.....	......	...	...	.....	...	......	2.49	+0.62	0.83	0	7	19	11	1	nw.	Vernon Thompson.
Mott	Hettinger	2,424	33	72.8	+1.2	101	22†	45	14	47	1.05	−1.09	0.32	0	10	3	20	8	se.	P. G. Wick.
New England	Hettinger	2,400	46	73.4	+2.9	102	22	40	11	49	1.35	−0.72	0.37	0	6	16	10	5	se.	F. S. Sleight.
Parshall	Mountrail	1,929	25	67.2	......	95	19	37	11	43	2.45	+0.45	0.60	0	8	5	26	0	ne.	C. E. Shubert.
Portal	Burke	1,954	35	67.6	−0.4	99	19	38	1	43	2.23	+0.12	1.42	0	10	16	13	2	w.	R. G. Wegener.
Powers Lake	Burke	2,205	35	69.2	−1.9	94	19†	41	10	37	3.17	+0.58	1.95	0	7	16	13	2	se.	Geo. B. Gee.
Richardton	Stark	2,467	24	70.4	−0.7	97	25	45	12	40	1.95	−0.30	0.53	0	7	8	18	5	se.	Assumption Abbey.
Sanish	Mountrail	1,835	15	68.3	−2.4	97	19	40	1†	45	1.80	−0.25	0.73	0	9	19	7	5	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	67.2	......	92	21†	39	11	40	5.87	....	2.70	0	9	14	15	2	w.	Leroy Edwards.
Tioga	Williams	2,279	12	.....	......	...	...	.....	...	......	2.25	+0.43	1.52	0	6	24	7	0	nw.	B. V. Olson.
Trotters	Golden Valley	......	15	.....	......	...	...	.....	...	......	2.89	+1.33	0.77	0	5	11	20	0	nw.	Walter Grunewald
Van Hook	Mountrail	1,864	1	70.6	......	96	8	41	11†	41	1.60	....	0.46	0	9	17	11	3	nw.	V. Weisey.
Watford City	McKenzie	2,084	27	71.8	+0.7	100	19	41	11	41	1.51	−0.32	0.46	0	7	12	19	0	nw.	J. C. Zeller.
Wildrose	Williams	2,258	13	.....	......	...	...	.....	...	......	3.27	+1.40	1.27	0	11	17	9	5	nw.	L Holter.
Williston	Williams	1,878	61	71.1	+2.2	100	19	43	11	39	1.56	−0.33	0.55	0	11	17	12	2	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	70.2	+0.3	103	19	37	11	49	2.23	+0.15	2.70	0	8	14	13	4	se.	....
Average for the State		......	.....	70.8	+1.8	106	25	34	11	50	1.76	−0.68	2.70	0	8	15	12	4	se.	....

[WBO, Minneapolis, 9-10-41—1100]

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OCT 9 1941

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

Vol. L Bismarck, N. D., August 1941 No. 8

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GENERAL SUMMARY

The outstanding feature of the weather during August was the unusually hot weather during the first week. Many stations in the central part of the state recorded the highest temperature ever experienced during August. A change to considerably cooler weather occurred near the close of the month and two stations in the northern section recorded a temperature of 32° on the 27th. The precipitation was above normal in all sections with the greatest amounts in the southeastern counties. August was the fifth month in 1941 with precipitation above normal and the state average of 2.86 inches was the greatest August amount since 1928. It was somewhat dry in a few sections at the beginning of the month but rainfall during August was well distributed throughout the month. There was some grasshopper damage but all crops were generally very good at the close of the month. Pastures and livestock continued very good A few severe hail and windstorms were reported, mostly in the southwestern part of the state.

TEMPERATURE

The mean temperature for the state was 68.1°, or 1.6° above the 1892-1941 average for August. The mean temperature for the eastern division was 68.4°; for the middle division, 68.2°; and for the western division, 67.7°. The highest mean temperature was 73.1° at Fort Yates, and the lowest, 64.0° at Hannah, making a range in mean temperature of 9.1°°. The absolute range was 79°, from 111° at Fort Yates on the 5th, to 32° at Hansboro and McHenry on the 27th. The average daily excess in temperature for the state since January 1, 1941, is 2.5°.

PRECIPITATION

The average precipitation for the state was 2.86 inches, or 0.84 inch more than the 1892-1941 average for August. In the eastern division the average amount was 3.44 inches; in the middle division, 2.63 inches; and in the western division, 2.52 inches. The greatest monthly amount reported was 7.94 inches at McLeod; the least was 1.06 inches at Ashley. The greatest amount recorded in any 24 consecutive hours was 4.37 inches at Lisbon on the 10th. The accumulated excess in precipitation for the state since January 1, 1941, is 3.40 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	3	3	3	8	1	1	..	..	1	..	1	..	..	..	..	..	..	2	4	2	4	..	1	..	1	7	7	4	2	3	4
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	..	2	2	2	..	4	1	..	1	6	..	..	8	3	..	1	1	5	4	1	1	3	1	8	..	2	5	6	8	6
Lunar halos	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..
Hail	2	1	4	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	3	1	..
Thund'rst'ms	10	20	15	5	..	13	6	4	12	6	5	..	4	2	..	5	3	2	9	2	1	2	3	12	3	..	..	8	13	23	11

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.95	30.27	12	29.55	24	10.2	35	ne.	3	81	45	42	68
Devils Lake	29.97	30.30	27	29.66	24	8.0	29	n.	3	90	53	55	70
Williston	29.94	30.20	15	29.57	24	6.7	34	nw.	30	87	50	46	66
Fargo	29.95	30.26	27	29.50	24	....	....	....	....	90	53	55	....
Moorhead, Minn	....	....	....	....	....	7.3	27	ne.	3	....	....	....	57

† And other dates.

COMPARATIVE DATA FOR AUGUST

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	67.3	105	24	2.86	2.80	1.50	2.39	0	8	15	10	6
1893	66.7	109	29	2.10	1.25	0.58	1.31	0	3	20	7	4
1894	68.8	102	30	1.37	0.86	1.20	1.14	0	4	17	10	4
1895	64.5	104	24	1.87	1.36	1.48	1.57	0	5	17	11	3
1896	64.7	107	21	2.07	0.86	0.42	1.12	0	5	17	10	4
1897	64.1	106	29	1.28	1.13	1.13	1.18	0	5	15	10	6
1898	65.4	104	24	2.92	1.40	0.75	1.69	0	5	15	11	5
1899	65.2	97	32	2.90	2.90	2.69	2.83	0	6	15	11	5
1900	70.4	114	33	6.05	4.53	4.60	5.06	0	10	14	11	6
1901	66.9	100	32	2.55	1.90	0.86	1.77	0	6	18	8	5
1902	64.3	96	26	2.65	2.36	1.88	2.30	0	8	16	9	6
1903	63.7	103	35	4.72	4.65	4.67	4.68	0	10	13	7	11
1904	63.3	102	31	1.56	1.92	1.34	1.61	0	6	17	7	7
1905	67.5	107	34	3.51	2.44	1.34	2.43	0	7	17	8	6
1906	66.3	105	31	1.53	1.74	2.25	1.84	0	7	17	6	8
1907	64.5	104	26	2.17	1.23	1.79	1.73	0	6	18	9	4
1908	63.2	104	25	2.48	2.46	1.55	2.16	0	7	17	8	6
1909	69.8	109	27	2.98	1.94	1.78	2.23	0	6	18	9	4
1910	63.1	109	24	1.58	1.30	1.51	1.46	0	5	14	8	9
1911	62.2	98	23	3.61	3.87	2.15	3.21	0	8	12	11	8
1912	63.4	118	32	3.41	2.60	2.62	2.88	0	10	11	10	10
1913	68.9	106	30	3.15	2.32	2.42	2.63	0	6	16	10	5
1914	64.2	101	26	2.00	2.26	2.61	2.29	0	7	13	11	7
1915	64.4	100	19	1.16	1.49	0.89	1.18	0	4	19	8	4
1916	66.0	100	26	3.17	2.79	2.05	2.67	0	8	16	10	5
1917	65.2	105	25	0.96	0.74	0.76	0.82	0	4	17	10	4
1918	66.5	102	34	3.51	3.39	3.25	3.38	0	8	15	11	5
1919	67.9	101	30	2.58	1.57	0.63	1.59	0	5	18	10	3
1920	68.8	108	28	1.03	2.01	1.55	1.53	0	5	22	6	3
1921	67.2	108	31	3.08	1.86	0.99	1.98	0	6	18	10	3
1922	69.8	115	33	1.29	1.63	1.02	1.31	0	6	18	9	4
1923	63.0	97	28	2.38	1.70	1.45	1.84	0	8	14	12	5
1924	63.8	102	28	2.27	1.36	1.09	1.57	0	6	17	9	5
1925	67.9	110	29	1.39	1.06	0.66	1.04	0	5	20	8	3
1926	65.6	105	36	3.01	2.41	1.68	2.37	0	7	14	8	9
1927	63.4	96	28	3.17	3.63	2.58	3.13	0	8	18	8	5
1928	64.8	105	25	3.84	3.15	2.28	3.09	0	8	17	9	5
1929	68.5	106	26	0.87	0.83	0.60	0.77	0	4	20	9	2
1930	70.4	104	32	1.40	1.45	1.49	1.45	0	6	15	9	7
1931	67.0	105	30	2.43	2.33	1.51	2.09	0	6	16	9	6
1932	68.3	100	28	2.40	1.37	1.89	1.89	0	7	16	10	5
1933	68.5	104	31	0.81	0.64	0.79	0.75	0	5	17	9	5
1934	67.4	108	25	1.70	1.15	0.60	1.15	0	5	16	11	4
1935	66.2	109	26	3.83	1.90	1.32	2.35	0	8	16	9	6
1936	69.8	110	29	1.67	1.37	1.16	1.40	0	6	14	11	6
1937	72.9	109	40	2.56	1.11	0.88	1.52	0	5	18	10	3
1938	69.8	109	33	1.79	1.22	1.48	1.50	0	6	18	10	3
1939	68.6	105	32	1.94	2.37	1.98	2.10	0	7	18	9	4
1940	67.8	103	33	3.12	1.77	1.25	2.05	0	7	18	7	6
1941	68.8	111	32	3.44	2.63	2.52	2.86	0	10	11	14	6
Period	66.5	118	19	2.44	1.98	1.63	2.02	0	6	16	9	6

Climatological Data for August 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	69.8	+2.7	100	6	38	27	41	2.63	+0.04	1.39	0	10	24	6	1	se.	James. H. Erickson.
Cavalier	Pembina	894	31	67.4	......	92	1†	39	27	35	2.21	−0.15	0.48	0	11	15	6	10	se.	City Light & Power Co.
Colgate	Steele	1,177	1	......	......	......	......	......	......	......	3.09	......	1.34	0	9	......	......	......	......	W. H. Gibbs.
Cooperstown	Griggs	1,428	44	67.8	+0.4	95	1†	38	26	36	4.35	+1.72	1.10	0	16	19	12	0	ne.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	......	......	......	......	......	......	......	3.79	+1.82	1.41	0	11	8	17	6	e.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	66.8	+2.0	95	1	40	27	35	2.15	−0.33	0.67	0	13	7	14	10	se.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	69.7	+2.0	105	6	35	27	43	1.92	−0.55	0.87	0	9	11	18	2	se.	O. A. Thompson.
Edmore	Ramsey	1,524	17	64.3	−0.5	96	5	34	27	34	3.33	+1.03	0.75	0	11	14	16	1	ne.	Mike Davis.
Ellendale	Dickey	1,457	46	70.8	+2.1	103	6	41	27	38	2.72	0.00	1.07	0	10	17	10	4	nw.	J. E. Demmer.
Fargo	Cass	895	14	69.7	+3.3	98	6	36	27	37	2.79	−0.06	1.19	0	14	1	22	8	n.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	69.2	+1.0	100	6	36	27	33	2.77	−0.01	1.04	0	9	25	5	1	n.	Helge Dyste.
Fullerton	Dickey	1,439	43	70.2	+2.2	105	6	37	27	37	1.32	−1.21	0.51	0	8	15	13	3	s.	F. O. Alin.
Grafton	Walsh	827	49	67.8	+1.6	92	1†	36	27	37	3.49	+0.91	0.76	0	16	5	20	6	se.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	67.4	+1.4	93	1	36	27	41	4.66	+2.02	2.13	0	13	3	13	15	nw.	U. S. Weather Bureau.
Grand Forks Airport	Grand Forks	832	1	66.8	......	97	6	34	27	41	3.91	......	2.18	0	15	3	17	11	nw.	U. S. Airway Comm. Sta.
Hankinson	Richland	1,068	12	69.6	−1.1	95	2	39	27	35	5.44	+3.18	2.15	0	11	7	21	3	se.	Joseph Rindt.
Hannah	Cavalier	1,568	49	64.0	−0.1	92	5	34	26	36	2.85	+0.73	0.90	0	8	8	18	5	sw.	A. E. Prior.
Hillsboro	Traill	901	41	68.8	+0.6	99	6	38	27	37	4.78	+2.08	0.95	0	13	11	15	5	ne.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	69.9	+3.0	100	6	41	27	41	3.20	+0.51	1.43	0	13	7	10	14	ne.	S. G. Calvelage.
Jamestown Airport	Stutsman	1,494	1	68.4	......	99	6	40	26†	42	2.70	......	1.18	0	13	4	8	19	e.	U. S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	68.1	......	95	6	41	26†	43	4.50	......	1.49	0	16	12	13	6	ne.	U. S. Wildlife R fuge.
Langdon	Cavalier	1,615	45	65.0	+1.3	91	1†	33	26	39	2.32	−0.14	0.41	0	16	9	14	8	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	67.4	+1.5	95	6	37	27	37	2.92	+0.14	0.73	0	13	10	10	11	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	37	69.5	+1.7	105	6	38	27	39	7.13	+4.45	4.37	0	15	17	7	7	se.	J. O. Halverson.
Mayville	Traill	975	45	69.2	+1.3	98	6	37	27	33	3.56	+0.93	1.01	0	10	2	24	5	n.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	66.1	+0.4	95	1	36	27	40	3.32	+0.84	0.68	0	15	6	23	2	se.	C. E. Blasky.
McLeod	Ransom	1,075	30	69.4	+0.9	95	6	37	27	35	7.94	+5.52	3.37	0	10	18	12	1	se.	J. G. Carlson.
McVille	Nelson	1,467	......	......	......	......	......	......	......	......	1.76	......	0.79	0	8	9	12	10	ne.	M. Kabeary.
Milnor	Sargent	1,117	2	69.4	......	96	1	43	26	35	3.86	......	1.07	0	6	21	8	2	ne.	E. W. Wilson.
Oakes	Dickey	1,318	12	69.5	+0.4	105	6	38	27	43	2.37	−0.10	1.14	0	9	20	5	6	nw.	F. H. Murray.
Park River	Walsh	998	37	67.2	+0.6	92	5†	37	27	35	2.93	+0.51	0.70	0	15	6	13	12	se.	E. J. Taintor.
Pembina Airport	Pembina	803	67	66.2	+1.5	94	1†	39	27	37	2.19	0.00	0.66	0	12	8	13	10	nw.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	......	......	......	......	......	......	......	2.17	−0.28	0.40	0	11	9	14	8	nw.	T. M. Rykken.
Sharon	Steele	1,516	17	67.6	−0.3	97	6	40	27	38	2.28	+0.13	0.57	0	17	9	14	8	n.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	68.9	+1.2	98	7	38	27	37	2.84	+0.63	1.05	0	14	8	18	5	ne.	I. C. Robertson.
Wahpeton	Richland	962	49	70.4	+1.7	97	3	38	27	36	7.57	+4.89	3.70	0	12	15	10	6	se.	W. J. Cavanaugh.
Average for Eastern Division		......	......	68.4	+1.4	105	6	32	27	43	3.44	+1.00	4.37	0	12	11	13	7	se.	......
Middle Division																				
Ashley	McIntosh	2,014	45	68.9	+1.7	108	6	37	22†	47	1.06	−1.49	0.42	0	8	3	19	9	e.	U. S. Airway Comm. Sta.
Beulah	Mercer	1,797	1	......	......	......	......	......	......	......	3.92	......	0.85	0	8	14	15	2	se.	R. T. Hamilton.
Bisbee	Towner	1,601	5	66.3	+0.6	94	1†	34	27	43	2.73	+0.26	1.29	0	12	20	10	1	se.	I. K. Lund.
Bismarck	Burleigh	1,650	67	71.0	+3.7	109	5	42	27	44	2.91	+1.09	1.32	0	10	8	16	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	66.0	+1.1	96	5	42	27	32	3.07	+0.66	0.81	0	11	11	8	12	ne.	N. D. School of Forestry
Carrington	Foster	1,579	43	67.3	+0.2	96	5	40	25	40	4.09	+1.93	1.20	0	10	10	7	14	......	Soo Line Agent.
Carson	Grant	2,500	29	70.4	+1.8	109	5	45	21†	43	1.53	−0.27	0.45	0	8	7	22	2	se.	J. W. Evens.
Center	Oliver	......	3	68.0	......	110	5	40	27	48	1.52	......	0.39	0	9	10	14	7	nw.	Fred L. Heinz.
Dogden Butte ‡‡	McLean	1,880	15	67.4	+0.2	102	5	37	26	36	2.31	+0.38	0.41	0	11	11	11	9	nw.	R. L. Williams.
Drake	McHenry	1,634	12	67.1	−0.5	104	5	43	26	41	3.29	+1.67	1.06	0	12	5	19	7	se.	Peter Anton.
Dunseith	Rolette	1,682	45	65.4	+0.8	93	7	36	27	34	2.43	−0.03	0.79	0	11	6	24	1	ne.	Geo. Gehres.
Eckman	Bottineau	1,500	36	66.8	+1.8	100	5	43	20†	37	2.12	+0.15	0.60	0	10	8	16	7	nw.	R. F. Nowak.
Energy ‡‡	McLean	1,750	26	68.8	+0.5	109	5	40	27	46	2.70	+0.77	0.90	0	9	14	13	4	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	29	68.5	+1.8	105	5	43	26	44	4.16	+1.85	0.96	0	14	11	13	7	s.	John V. Zuber.
Fort Yates	Sioux	1,670	41	73.1	+3.4	111	5	46	19†	41	1.39	−0.78	0.96	0	3	20	6	5	n.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	68.0	+1.4	105	5	44	27	43	1.50	−0.61	0.80	0	8	5	15	11	se.	E. C. Bierbaum.
Gackle	Logan	1,951	11	69.4	......	100	5†	42	27	41	3.12	+0.85	0.87	0	9	11	13	7	ne.	A. H. Haut.
Garrison	McLean	1,925	64	66.4	−0.2	108	5	35	22†	48	2.80	+0.79	0.71	0	11	4	18	9	se.	E. L. Vorachek.
Granville	McHenry	1,504	34	69.2	+3.5	101	5	45	22†	44	2.67	+0.77	0.75	0	10	6	22	3	nw.	C. A. Stubbins.
Hansboro	Towner	1,597	33	64.4	+0.9	92	5	32	27	39	2.41	+0.11	1.11	0	12	5	20	6	nw.	W. E. Disher.
Leeds	Benson	1,515	1	69.0	......	100	1	36	27	43	3.71	......	0.86	0	12	11	15	5	e.	Carl T. Carlson.
Linton	Emmons	1,711	24	72.5	+2.4	109	5	43	26	47	1.76	−0.61	0.64	0	9	19	8	4	nw.	Wm. Heyerman.
Maddock	Benson	1,604	26	68.2	+1.7	98	1†	39	27	42	2.26	−0.21	0.58	0	12	15	9	7	nw.	A. T. Felland.
Mandan	Morton	1,750	27	71.0	+2.1	109	5	43	27	45	2.36	+0.64	0.90	0	8	10	12	9	se.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	......	......	......	......	......	......	......	2.82	+0.48	0.68	0	12	16	6	9	nw.	P. B. Anderson.
Max	McLean	2,093	12	66.4	−1.0	108	5	37	26	44	3.30	+1.59	0.69	0	12	11	9	11	se.	A. W. Rice.
McClusky	Sheridan	1,943	23	68.6	+1.4	108	5	37	26	41	2.41	+0.47	0.62	0	11	12	14	5	nw.	F. W. Perry.
Medina	Stutsman	1,816	1	......	......	......	......	......	......	......	2.30	......	1.07	0	12	8	17	6	ne.	Rudolph Graf.
Minot	Ward	1,574	45	67.0	+1.4	105	5	42	26	42	2.48	+0.41	0.85	0	11	5	10	16	nw.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	67.1	+2.3	102	5	43	26	42	2.17	+0.24	0.90	0	8	13	13	5	e.	Iver Johnson.
Napoleon	Logan	1,955	49	71.0	+3.9	109	5	42	27	45	2.78	+0.38	0.77	0	12	16	3	12	se.	C. J. Hoof.
New Salem	Morton	2,163	37	67.2	−0.7	108	5	38	27	42	4.04	+2.22	3.11	0	4	18	10	3	nw.	J. Christiansen.
Pettibone	Kidder	1,856	32	68.2	−0.3	104	5	38	27	46	3.63	+1.35	1.28	0	11	9	13	9	se.	Sam Loeppke.
Rolla	Rolette	1,860	4	65.6	......	92	1	37	27	36	4.17	......	2.37	0	15	6	9	16	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	......	......	......	......	......	......	......	3.28	+1.68	0.88	0	10	9	12	10	nw.	W. B Paterson.
Ryder	Ward	2,108	12	......	......	......	......	......	......	......	3.69	+2.02	1.12	0	8	14	7	10	se.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5	......	......	......	......	......	......	......	2.74	......	1.65	0	6	9	19	3	se.	J. B. Smith.
Steele	Kidder	1,857	47	68.6	+1.3	106	5	39	26	45	4.22	+1.83	1.81	0	8	13	12	6	ne.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	......	......	......	......	......	......	......	1.97	+0.27	0.45	0	11	17	4	10	se.	G. N. Pilgard.
Timmer	Morton	......	4	......	......	......	......	......	......	......	2.32	......	0.92	0	8	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	39	66.8	+0.6	105	5	40	26†	43	2.13	+0.10	0.75	0	9	9	15	7	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	69.0	+1.7	109	5	37	26	46	1.65	−0.47	0.31	0	13	13	11	7	nw.	A. S. Haas.
Tuttle	Kidder	1,936	33	......	......	......	......	......	......	......	2.79	+0.87	0.94	0	8	13	11	7	se.	Adam Leno.
Upham	McHenry	1,435	1	......	......	......	......	......	......	......	2.56	......	1.15	0	10	8	17	6	nw.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	14	67.6	+0.8	103	5	42	26	40	2.07	+0.08	0.73	0	14	7	16	8	se.	Oscar Anderson.
Washburn	McLean	1,731	40	71.1	+3.0	107	5	45	27	38	1.96	+0.29	0.50	0	9	15	10	6	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	67.0	+1.5	98	5	41	26	41	2.01	+0.01	0.88	0	9	15	13	3	nw.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	66.1	+1.9	97	5	35	27	41	2.06	−0.06	0.85	0	9	12	14	5	nw.	O. M. Sanderson.
Wilton	McLean	2,159	5	68.0	......	109	5	42	27	42	1.76	......	0.85	0	7	15	11	5	......	Soo Line Agent.
Wishek	McIntosh	2,010	20	68.9	+1.9	105	6	39	22†	43	1.94	−0.46	0.75	0	11	13	7	11	se.	H. M. Larson.
Average for Middle Division		......	......	68.2	+1.4	111	5	52	27	48	2.63	+0.65	3.11	0	10	11	13	7	nw.	......

Continued on page 28

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing: for example, ^{b} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for August 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red				.09			.16			1.39			.01	.08					.25						.47			.05	.08		.05	2.63
Cooperstown[2]	Sheyenne		.40		.90		.12	.04		.14	.15			.02	T.	T.		.45		.08	.02	.06			1.10	.25		.25		.17		.20	4.35
Courtenay	James		.29		1.41					.04	.35			.04						.09					.84	.40		.10	.04	.19	T.		3.79
Devils Lake [1]‡	Devils Lake	.05	.33	T.			T.			T.	.54			.06	.01			.02		T.	T.		T.		.66	.03		.04	.13	.09	.18	.01	2.15
Edgeley	James		.02					.11		.11								.01		.05					.25	.04				.87		.46	1.92
Edmore	Devils Lake	.75	.29	.75							.18			.10	.18										.27	.25		T.	.27		.06	.23	3.33
Ellendale	James	.54	.03					.05							.03			.04			.19				1.07				.08	.26		.43	2.72
Fargo[1]	Red			.58	T.		.04	.20		T.	1.19	.04		T.	.02			.16		.10	T.	T.	T.		.03	.03		T.	.06	.08	.08	.08	2.79
Forman	Sheyenne				.88					.10	.05	T.	T.					.03		.23		.03		T	T.				.38	.03	T.	1.04	2.77
Fullerton	James	T.	T.	T.	.10			T.		.16				T.				T.		.14	T.	.04			.07	T		T.	T.	.28	.02	.51	1.32
Grafton	Red		.76		.48		T.	T.			.03	.03		.03	.13			.13	.09	.15			.14	.05	.64	.17			.35	.04		.27	3.49
Grand Forks Airport[3]‡	do	.85	.07	T.			.02	T.			2.15	.03		.01	T.	T.		T.	T.	.13	T.	T.	.02	T.	.25	.06		.04	.10	.04	.04	.10	3.91
Hankinson[2]	do			.54	1.06					.52				.11						.11		.15	.05			.29			.25	T.	.21	2.15	5.44
Hannah	Pembina			.90			T.				T.	T.		T.	.10	T	T	T.	.10	.70	T.	T.	T.	.30	.05	T		T	T.		.10	.60	2.85
Hillsboro	Red		T	.55			.95	.48		.01	.29	.83		.02	T.	.02		T.		.18	T	T.	T.			.60			.20	.20	T.	.45	4.78
Jamestown Airport[3]	James		.27	T.	.09			.02		1.14	.04			.02	T.					.07					.12	.33		.03		.23	.12	.22	2.70
Langdon	Pembina		.30	.01	.41		.07				.11			.02				.16	.09	.33		.16	.01	.12	.22	.01					.03	.27	2.32
Larimore	Red	.19	.23		.14						.17	.37			.06			.01		T.	.23					.73			.45	.14	.02	.18	2 92
Lisbon	Sheyenne		.02	.01	.75	.04		T.	.02		4.37				.06						.10	.18	.06			.37	.01		.04	T.	.35	.75	7.13
Mayville	Red			.04			.96	1.01			.21	.41		T.		T.				.11						.16			.21	.19	T.	.26	3.56
McHenry	James		.05	.55						.01	.25			.03	.04					.21	.04				.60	.40		.20	.07	.17	.02	.68	3.32
McLeod	Sheyenne				2.17						3.37			T.	.11					.04		.21				.22			.35	.20	.60	.67	7.94
Oakes	James				.11					.43										.27		.04		.05	.04				.17	.12		1.14	2.37
Park River	Red		.70	.34			.02				.10	.10		.03	.10			T	.10	.19				.02	.51	.22			.33	.05		.12	2.93
Pembina	do	T.	.35	.13			.03				T.			.02	.04			.66	.10	.06					.49				.20		.09	.02	2.19
Petersburg	do		.12		.08						.40	.30		.08											.35	.39			.19	.09	.01	.16	2.17
Sharon	do		.17	.12	.03		.10	T		T.	.19	.09		.02		.04		T		.05	.01	T			.57	.35		.12	.09	.11	.02	.15	2.23
Valley City	Sheyenne		.10		1 05		.41			.02	.57			T.	.02					T.		.02	.01		.05	.16	T.		.04	.14	.01	.24	2.84
Wahpeton	Red		T.		.17			.15			3.70	T		.04	.29					.07		.25			T.	.20			.52	.33	.19	1.66	7.57
Middle Division																																	
Ashley[3]	Missouri		.09	T.	.02			.01						.05	T.			T.			T.	.02			T	.12	T.		T.	T.	.33	.42	1.06
Bisbee	Devils Lake		.14	1.29	.03		.01				.03			.03	.06					T.					.09	.13			.10		.11	.71	2.73
Bismarck [1]‡	Missouri		.14				.01	.02		1.32				.06				T.		T.	T.				.02	T.		.01	T.	.52	.77	.04	2.91
Bottineau[2]	Mouse				.81			.17			.06	.05			.27	.12				.05						.80	.01				.46	.27	3.07
Carrington	James	.06			.32			T			.74	.02			.16							T				1.20			.35	.11	.12	1.01	4.09
Carson	Heart		.22						.10	.17				.16							.24	.02								.45		.17	1.53
Center	Missouri		.18							.39				.13				.27							.02	.02		.05		.38	.08		1.52
Dogden Butte	Mouse		.05							.16	.39			.11				T.			.05				T.	.15		.36	.41	.08	.35	.20	2.31
Drake[2]	do		.23	T	1.06						.51	.01			.07	T.			T.		.05	.10				.30			.44	.07	.20	.25	3.29
Dunseith	do			.79				T.			.10	.22		.09	.19	T.		T.	T	.02			.02	.02		.28					.47	.23	2.43
Eckman	do			.02			.05			T.	.08			.05					.05		.13				.56	.51		T.			.60	.07	2.12
Energy	Missouri		.27							.90				.15				.50		.05					.15			.30	T.	.20	.18		2.70
Fessenden	James		.21	.18			T			.06	.38			.23		.30				.07	.05				.70	.96		.28		.28	.01	.45	4.16
Fort Yates	Missouri		.30											T.							T										.13	.96	1.39
Foxholm (near)	Mouse						.07			T.	.08			.04				.14	T		.05				.13	.50					.49		1.50
Gackle	James	.08			.20			.05	.85																.87			.09		.35	.03	.60	3.12
Garrison[3]	Missouri		.12							.51				.07			.35	.23			.01				.06	T.		.42	.21	.11	.71		2.80
Granville	Mouse									.08	.30			.13	.30			.23			.08				.38	.40		.02			.75		2.67
Hansboro	Devils Lake			1.11			T.				.04	.09		.31	.05			.08		T				.02	.04	.03			.02	T.	.54	.08	2.41
Linton	Missouri		.15	.02				.02		.50				.05								.05			T.					.30	.03	.64	1.76
Maddock	Sheyenne		.40	.58							.16			.04							.07				.02	.52		.09	.14	.09	.06	.09	2.26
Mandan[2]	Missouri	.12					T		.90	.57			.01	.05							T				T.			.03	.32		.36		2.36
Max[2]	do	.63								.56						.32	.02			.03	.18			.02	.18			.69	.04		.48	.15	3.30
McClusky	do				.22					.33	.11			.09						.09	.12	.04			.03	T.		.29		.47	.62		2.41
Minot[3]	Mouse						T.			.20	.27			.15			.43	T.		.02	.12			.01	.35	.04		.04			.85		2.48
Mohall	do						.13			T.	.04			.01			.18				.14				.02	.90					.75		2.17
Napoleon[2]	Missouri		.15		.08			.10			.63				.10	.02						.06				.40			.03	.40	.04	.77	2.78
New Salem	Heart						T.			3.11				.38							T.				T			T.	T.	.45	T.	.10	4.04
Pettibone	James		.30					.05		.69				.10						.12		.06			.20	.41		.15		.27		1.28	3.63
Rolla	Devils Lake			2.37			T.			T.	.08	.03		.09	.06	.11		.01	.26	.15			T.	.05	.12	.14			.04		.38	.28	4.17
Rugby (near)	Mouse		.34	.88			T.				.20			.05	.05			T.		.24	.08					.62			T.		.70	.12	3.28
Ryder	Missouri										.85	.08		.05				.76				05				.23			.55		1.12		3.69
Selfridge	do			.12			.10							.05							.12	T.					T.	T.	T.	.70	1.65	T.	2.74
Steele	do		.54					T		1.25				.10	.04							.04			.19		T.			.25	T	1.81	4.22
Tagus	Mouse						.13			.28	.15			.01				.41		.08	.09	.02			.04	.31		T			.45		1.97
Towner	do			.15			.03				.23			.05				.05	T	T	.15	T.				.75		T.			.33	.39	2.13
Turtle Lake	Missouri	.16								.30	.01			06				.03			.01	.12			.17	.05		.31	.01	.20	.22		1.65
Tuttle	do		.09				T.			.85	.09			.05	T	T				T.		.26			T	T		.11	T.	.40	T.	.94	2.79
Velva	Mouse		.03				.01			.18	.30			.11	.03			T.	.04	T.	.10				.05	.31		.12	.05		.73	.01	2.07
Washburn	Missouri		.43							.50				.12	.11			.06		T		.12			.08					.43	.08		1.96
Westhope	Mouse						.15				.05	T.		.12	.19	.08					.02	.02			.88					.50			2.01
Willow City	do			.17			T.				.06	.02		.05	.14				.07		T.		T.		.10	.60		T.			.85		2.06
Wishek[2]	Missouri		.14		.09			.02			.06				.05	.06						.06				.21	T.		.04	.46	T	.75	1.94
Western Division																																	
Alpha	Lit. Missouri							.63	2.22	T.				T				.12		.02	T.	T.		.11	T.	T.	.04	T.	T.	.50	.01		3.65
Amidon	do		.27	.11				.17	1.35					.04				.08		.18	.45				.05				.05	.55		.06	3.36
Beach	do		.28	.01			.03	.30		.39				.02				.25		T.	.17	.01			T.			.04	.10	.78	.05		2.43
Berthold Agency	Missouri									.08	.05	.08		.30				.98							.08				.28	.10	.70		2.65
Bowman[2]	Grand	.20	.23	.56				.19	1.31									.09				.20				.04		.05		.98		.16	4.01
Crosby	Mouse		.11								.05			.31	.01			.16		.05		.05				.92	.01				.55		1.94
Dickinson Airport[3]	Heart		.19	T.				.09	T	.02				.06			.27	.04			T.				.04	T		.11	.10	.41	.01		1.34
Dunn Center	Knife		T.	T.	T.			T.	.12	.17						.13		.87								.02	T.	T.	.20	.33	.46	.02	2.32
Fairfield	Lit. Missouri									.23				.26				.74		T				.15					1.04	.30	.41		3.13
Fryburg	Heart		.35			T.		.06	.06	.13				T.	T		.34		T.	T	T		T	T.	.04	T	T.	T.	T.	.77	T		1.75
Hettinger	Grand		.50					.05	.18									.06			.05				.01			.03	.01	.75		.29	1.93
Howard (near)	Missouri	T.													T		.50	.18			T.			T.	.22	.08		T			.60		1.58
Kenmare	Mouse		.08				T.				.04				.02			.21		.11		.12				.72	.02				.76	.03	2.11
Marmarth	Lit. Missouri	.30	.28	.08				.52	.89	.01											.10	.02					.01	.15	.08	.78	.02	.16	3.40
Mary	do													.27				.81							.11			.04	.59		1.45	.05	3.32
Medora	do		T.					.11	T.	.03				T.				.20										T.	.03	.77	T.		1.14
Mott	Cannon Ball		.49					.03		.49				.03				.02			.14	T			.03			.05	.04	.36	T.	.22	1.90
New England[2]	do	.14	.04				.01	.16	.96					.02														.03	.53		.09		1.98
Parshall	Missouri							.05		.04	1.04	.01			.03			.97				.02			.04	.06	.03		.08	T	.47	.25	3.09
Portal[2]	Mouse				.06						.03				.15			.22	.02	.25		.23				1.38	.05				.52	.03	2.94
Powers Lake	Missouri	.56					.04				.16			.17			.41		.22	.22	.42				.51						.74		3.45
Richardton	Heart		.29	T.						.71				T.	T			.17		T.	T.				.06			.06	.05	.59	.02		1.95
Sanish[2]	Missouri							.10			.60	T.	T.	T.	.14		.85			.06					.15				T.		.40		2.30
Stanley	do						.22			.47	.15			T			.41	.18	T.		09	.15	T.		.44	.05		T.			.70	T	2.86
Tioga	do	[——	——	——	——	——	——	——	——	——	——	——	—1.	90—	——	——	——	——	——	——	——	——	——	——]							.73		2.63
Trotters	Lit. Missouri	.02	.06	T.			.01	.01	.23		T.		T.	.01	T.			.43		T.	T.			.44	.06				.33	.01	1.22	.07	2 90
Watford City	Missouri									.12	.15						.86	.12						T.	.22						.62	T.	2.09
Wildrose	do	.34					.05			.09				.06			.48	.12		.06	.05	.12			.22	.09					.77		2.45
Williston [1]‡	do						.06			.51	.06			.07			.60	T.		T.	T.			.18	.08	.05		T	T.		.89	T	2.50

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; data are for the 24-hour period, midnight to midnight. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. [3] Data for 24 hours ending 12:30 a.m. C.S.T. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for August 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum	95	89	94	95	105	108	85	92	81	100	84	81	88	81	82	78	82	76	84	84	82	84	91	88	68	68	68	83	82	77	78	84.9
	Minimum	59	61	65	64	68	68	54	49	58	61	56	45	54	57	53	48	53	46	47	45	46	37	44	53	52	40	37	55	54	96	56	52.9
Beach	Maximum	89	85	92	97	106	90	85	87	90	85	83	84	79	81	83	82	75	77	82	84	79	86	91	76	65	70	74	74	73	71	77	82.3
	Minimum	61	60	66	61	62	68	62	61	62	61	59	53	63	56	51	55	57	47	50	49	49	58	52	57	47	47	44	51	53	55	49	55.7
Bismarck [1]	Maximum	96	89	96	97	109	95	87	93	72	94	85	83	84	84	83	82	81	78	85	85	84	84	92	82	67	69	66	80	77	72	81	84.3
	Minimum	62	65	68	68	74	71	65	57	65	65	64	55	62	63	61	57	57	49	50	49	51	46	48	57	50	45	42	56	58	56	57	57.8
Bottineau§	Maximum	91	90	75	88	96	71	83	87	78	83	80	80	69	81	78	79	71	75	78	73	78	80	81	70	65	65	69	75	72	74	74	77.7
	Minimum	61	60	64	63	69	71	57	55	60	57	62	52	60	56	52	50	50	45	51	50	46	48	55	52	49	46	42	51	49	52	52	54.4
Carson	Maximum	99	90	96	100	109	98	90	93	80	100	86	86	85	85	85	79	80	80	85	86	82	85	94	79	74	66	65	80	78	71	82	85.4
	Minimum	68	60	62	65	67	68	68	60	63	59	60	52	54	58	51	56	52	46	48	46	45	45	56	55	45	50	45	50	54	54	51	55.3
Crosby	Maximum	88	85	80	94	101	82	90	95	80	90	81	86	74	80	83	87	67	74	79	75	77	83	90	57	64	67	70	73	70	68	78	79.6
	Minimum	59	55	57	60	64	65	52	52	58	58	60	54	58	53	48	49	52	45	51	45	47	46	45	46	46	45	45	46	46	47	47	51.6
Devils Lake [1]	Maximum	95	84	89	90	93	88	83	90	80	75	81	79	79	82	78	78	78	77	80	74	78	80	81	61	63	62	70	76	76	75	73	79.0
	Minimum	63	65	62	62	69	66	59	55	57	62	55	51	58	59	54	48	57	47	47	52	51	48	54	51	46	46	40	52	53	52	56	54.7
Dickinson Airport [1]	Maximum	90	85	91	97	105	85	85	86	82	84	83	84	82	83	81	79	75	76	83	83	81	84	90	72	64	66	67	76	72	62	78	81.0
	Minimum	64	61	64	62	60	67	62	61	65	59	59	55	57	52	48	53	57	49	52	49	49	48	52	50	47	44	43	51	54	53	50	54.7
Dunn Center	Maximum	91	89	93	95	103	81	84	86	80	82	82	83	82	83	81	85	74	78	82	82	80	84	92	71	63	68	59	76	73	63	80	80.8
	Minimum	61	61	62	64	62	66	58	61	62	53	59	53	57	52	50	51	56	51	49	47	49	44	45	56	47	42	39	47	51	52	50	53.5
Fargo	Maximum	96	93	96	91	93	98	78	90	84	85	82	77	79	79	78	76	77	77	81	79	81	80	87	87	68	66	69	78	79	77	74	81.8
	Minimum	66	70	65	69	70	71	64	55	62	65	61	52	57	64	59	52	54	56	50	51	57	47	50	58	49	43	36	56	61	55	57	57.6
Fessenden	Maximum	100	92	95	92	105	98	85	90	88	86	81	79	79	81	79	77	77	78	81	77	77	83	91	88	64	65	68	80	75	76	77	82.7
	Minimum	59	65	50	62	68	73	61	55	56	63	61	49	56	54	54	49	57	48	50	48	49	46	47	53	48	43	45	51	56	51	55	54.3
Fullerton	Maximum	95	91	95	93	98	105	83	90	80	97	88	81	81	80	80	78	73	77	84	81	81	85	89	88	70	67	72	80	80	77	78	83.8
	Minimum	59	64	66	66	67	70	67	56	60	65	70	48	49	56	60	51	50	50	49	51	57	48	53	57	54	40	37	56	59	58	59	56.5
Garrison [1]	Maximum	95	92	97	97	108	83	86	93	80	81	83	82	79	83	82	83	75	75	81	81	80	83	90	70	65	66	60	75	75	71	79	81.6
	Minimum	51	65	60	64	62	64	54	54	63	62	54	46	59	57	47	44	54	46	46	48	38	35	47	53	43	36	35	45	47	53	52	51.1
Grafton	Maximum	92	85	89	90	92	91	85	92	90	84	83	81	80	85	84	79	77	78	70	77	79	75	72	71	66	65	69	68	79	79	76	80.1
	Minimum	60	62	61	64	68	72	60	55	56	61	63	53	56	60	59	50	59	55	52	51	54	44	51	52	50	44	36	51	54	51	58	55.5
Grand Forks Airport [1]	Maximum	95	84	90	91	92	97	84	92	84	74	82	77	75	82	77	75	76	75	75	79	80	77	74	75	66	64	69	71	76	79	73	79.4
	Minimum	58	66	61	66	68	72	59	51	52	63	54	50	55	61	55	49	54	54	47	50	49	43	53	54	46	39	34	53	55	51	56	54.1
Jamestown Airport [1]	Maximum	94	88	93	91	97	99	79	90	76	91	82	79	77	80	79	77	80	77	81	80	81	82	88	86	68	66	69	83	78	73	78	82.0
	Minimum	59	65	65	66	70	72	57	53	58	62	58	50	52	59	57	50	52	50	46	50	53	46	46	55	46	40	40	55	56	55	57	54.7
Kenmare	Maximum	91	86	82	93	101	84	85	93	78	87	85	83	73	86	84	84	70	78	82	73	80	85	86	69	65	67	69	76	75	69	75	80.5
	Minimum	62	59	61	60	62	67	58	54	57	59	58	57	64	59	50	51	57	49	53	51	51	51	48	54	46	47	46	50	48	51	52	54.5
Langdon	Maximum	91	85	85	87	91	89	82	90	82	79	81	81	78	84	80	76	77	79	74	76	80	79	71	69	66	64	68	78	69	74	73	78.6
	Minimum	60	63	60	60	61	68	65	51	53	57	58	44	55	57	51	44	59	44	42	46	47	43	46	47	47	33	36	48	46	51	55	51.5
Marmarth	Maximum	88	87	90	98	103	92	85	85	94	86	81	82	84	80	80	75	75	76	85	83	80	84	92	82	70	64	72	76	74	67	76	82.1
	Minimum	58	60	66	62	60	67	63	61	66	61	63	54	64	60	51	63	48	52	50	58	45	43	48	55	42	52	48	50	54	57	49	55.8
Minot [1]	Maximum	91	89	90	93	105	79	86	92	72	82	83	84	76	86	81	84	72	78	78	73	80	83	90	64	63	66	69	78	75	69	76	80.2
	Minimum	59	59	62	59	68	64	54	58	58	64	59	55	60	57	50	52	60	49	51	47	46	45	48	52	43	42	44	50	51	52	52	53.9
Mott	Maximum	98	90	96	103	107	94	87	90	89	95	85	87	87	85	84	78	80	79	87	89	83	85	93	74	69	67	67	73	73	69	79	84.7
	Minimum	66	61	67	63	62	63	65	60	65	58	63	53	63	55	52	56	58	50	58	59	47	45	47	56	52	51	57	50	53	61	61	57.3
Pembina Airport [1]	Maximum	94	89	88	89	94	88	83	91	78	89	80	81	80	87	78	78	77	77	78	77	77	74	70	57	64	66	73	64	78	74	72	78.5
	Minimum	62	65	62	64	68	66	56	54	54	60	60	49	55	57	55	44	55	51	49	52	49	46	49	51	49	44	39	51	52	46	54	53.8
Sharon	Maximum	94	85	93	92	93	97	81	90	80	85	80	79	76	81	79	76	77	77	77	78	80	92	81	81	66	64	70	78	76	74	74	80.5
	Minimum	60	62	60	61	67	69	62	54	58	63	62	50	55	59	56	49	53	49	48	53	50	44	53	50	49	41	40	50	57	52	57	54.6
Steele	Maximum	95	85	93	98	106	94	82	93	70	95	83	80	79	81	79	78	79	75	82	79	80	82	92	89	65	65	61	81	74	70	75	81.9
	Minimum	60	64	65	64	70	73	61	62	58	63	62	48	58	53	56	51	55	46	46	48	52	46	47	56	50	39	40	53	57	53	63	55.4
Valley City	Maximum	91	86	83	90	90	97	98	86	84	86	84	80	76	75	77	75	73	75	77	78	80	79	85	85	68	65	70	80	79	75	74	81.0
	Minimum	61	63	67	67	69	71	67	56	60	63	62	52	53	61	60	54	54	52	49	50	57	45	48	58	53	42	38	56	60	56	58	56.8
Wahpeton	Maximum	93	95	97	95	91	95	93	87	88	88	87	87	77	76	77	75	74	76	82	80	79	78	86	85	82	67	69	74	79	78	75	82.7
	Minimum	64	75	69	66	68	71	71	58	58	65	68	52	53	63	60	52	52	53	50	51	59	47	50	60	54	41	38	53	59	61	60	58.1
Williston [1]	Maximum	89	87	87	97	104	83	86	92	78	88	83	84	81	79	83	84	70	77	80	72	77	82	90	69	60	67	62	74	74	67	78	80.1
	Minimum	62	58	65	66	70	66	60	60	66	64	60	61	60	54	51	58	57	50	57	51	52	47	57	55	48	49	48	49	48	53	52	56.6

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for August 1941—Continued from page 30.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	......	......	...	...	...	...	......	3.65	+1.94	2.22	0	8	25	5	1	se.	H. A. Bury.
Amidon	Slope	......	18	69.0	+0.6	103	5	45	27	41	3.36	+1.99	1.35	0	12	8	17	6	nw.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	69.0	+1.8	106	5	44	27	39	2.43	+0.74	0.78	0	13	4	27	0	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	69.0	+1.1	105	5	42	22	42	2.65	+0.73	0.98	0	9	21	3	7	se.	H. W. Case.
Bowbells	Burke	1,958	12	64.8	+0.6	98	5	42	19	39	2.74	+0.73	1.15	0	11	4	20	7	e.	Charles Kaufman.
Bowman	Bowman	2,872	26	68.5	+0.4	102	4†	45	25	40	4.01	+2.21	1.31	0	11	17	1	13	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	32	65.6	+0.6	101	5	45	18†	45	1.94	−0.05	0.92	0	10	1	15	15	nw.	J. H. Phelps.
Dickinson	Stark	2,543	48	65.8	−0.7	104	5	40	26	46	1.58	−0.41	0.60	0	9	3	23	5	se.	Leroy Moomaw.
Dickinson Airport	Stark	2,583	1	67.8	......	105	5	43	27	45	1.34	......	0.41	0	11	3	19	9	nw.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	67.2	+0.8	103	5	39	27	47	2.32	+0.61	0.87	0	9	8	18	5	nw.	O. T. Evenson.
Epping	Williams	2,224	30	68.2	+0.7	103	5	45	24	39	2.76	+1.06	1.48	0	4	16	12	3	se.	T. Beachler.
Fairfield	Billings	......	4	......	......	...	...	...	...	......	3.13	+2.10	1.04	0	7	15	13	3	se.	Thomas Knudtson.
Fryburg	Billings	2,790	22	67.7	......	101	5	41	27	45	1.75.	−0.21	0.77	0	7	8	19	4	se.	Verne King.
Golva	Golden Valley	......	1	......	......	...	...	...	...	......	4.48	......	1.76	0	10	6	19	6	w.	U. S. Airway Comm. Sta.
Halliday	Dunn	2,073	1	......	......	...	...	...	...	......	1.92	......	0.87	0	7	7	18	6	e.	Thom. C. Lorenzen.
Hettinger	Adams	2,675	33	70.1	+1.2	105	4	44	22	42	1.93	+0.30	0.75	0	10	19	8	4	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	66.0	+1.0	104	5	43	19†	45	1.58	−0.06	0.60	0	5	15	10	6	se.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	67.5	......	101	5	46	25†	39	2.11	+0.17	0.76	0	10	15	5	11	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	69.0	+0.8	103	5	42	25	44	3.40	+1.66	0.89	0	14	8	17	6	se.	S. P. Grane.
Mary	McKenzie	......	12	......	......	...	...	...	...	......	3.32	+1.92	1.45	0	7	18	9	4	se.	Fred Hartman.
Medora	Billings	2,271	25	......	......	...	...	...	...	......	1.14	−0.51	0.77	0	5	22	8	1	se.	Vernon Thompson.
Mott	Hettinger	2,424	33	71.0	+3.0	107	5	45	22	46	1.90	−0.03	0.49	0	11	1	22	8	nw.	P. G. Wick.
New England	Hettinger	2,400	46	69.8	+2.0	109	5	44	25	43	1.98	+0.28	0.96	0	9	9	14	8	se.	F. S. Sleight.
Parshall	Mountrail	1,929	25	66.0	......	105	5	41	23†	47	3.09	+1.13	1.04	0	13	1	30	0	se.	C. E. Shubert.
Portal	Burke	1,954	35	64.3	−0.5	102	5	38	29	42	2.94	+1.05	1.38	0	11	9	19	3	e.	R. G. Wegener.
Powers Lake	Burke	2,205	35	66.6	+0.8	99	5	41	25	37	3.45	+1.68	0.74	0	10	14	14	3	se.	Geo. B. Gee.
Richardton	Stark	2,467	24	67.6	−0.9	104	5	46	27	38	1.95	0.00	0.71	0	8	10	15	6	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	15	67.4	−0.2	104	5	44	22	42	2.30	+0.76	0.85	0	7	15	12	4	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	65.6	......	101	5	40	27	42	2.86	......	0.70	0	10	10	17	4	e.	Leroy Edwards.
Tioga	Williams	2,279	12	......	......	...	...	...	...	......	2.63	+1.32	......	......	......	......	......	......	......	B. V. Olson.
Trotters	Golden Valley	......	15	......	......	...	...	...	...	......	2.90	+1.39	1.22	0	13	4	23	4	se.	Walter Grunewald
Van Hook	Mountrail	1,864	1	69.8	......	103	5	42	27	41	2.45	......	0.95	0	13	16	11	4	se.	V. Weisey.
Watford City	McKenzie	2,084	27	69.0	+0.7	105	5	44	27	38	2.09	+0.38	0.86	0	6	10	18	3	se.	J. C. Zeller.
Wildrose	Williams	2,258	13	......	......	...	...	...	...	......	2.45	+0.81	0.77	0	12	15	8	8	nw.	L Holter.
Williston	Williams	1,878	61	68.4	+2.3	104	5	47	22	35	2.50	+1.03	0.89	0	9	16	11	4	se.	U. S. Weather Bureau.
Average for Western Division		......	.....	67.7	+0.7	109	5	38	29	47	2.52	+0.89	2.22	0	9	11	15	5	se.	....
Average for the State		......	.....	68.1	+1.6	111	5	32	27	48	2.86	+0.84	4.37	0	10	11	14	6	se.	....

[WBO, Minneapolis, 10-4-41—1100]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

F. J. BAVENDICK

VOL. L BISMARCK, N. D., SEPTEMBER 1941 No. 9

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GENERAL SUMMARY

September 1941 was the coolest September since 1934 and was the first month of the year with the average temperature below normal. A few stations reported frost on the 9th and 10th and all stations had killing frosts between the 27th and 29th. In the eastern division it was the wettest September since state-wide records began in 1892. In the central and western divisions, the precipitation was greater only in 1900. By the close of the month many stations had more than the normal annual total and Dickinson had the greatest amount ever recorded in any previous 12-month period. Excellent small grain crops were harvested but much of the grain could not be threshed due to the wet weather and by the close of the month some was sprouting in the fields. Dirt roads were poor due to heavy rainfall. Pastures, ranges, and livestock were mostly in good condition.

TEMPERATURE

The mean temperature for the state was 55.3°, or 1.6° below the 1892–1941 average for September. The mean temperature for the eastern division was 57.2°; for the middle division, 55.1°; and for the western division, 53.7°. The highest mean temperature was 61.5° at Fort Yates, and the lowest, 50.4° at Bowbells, making a range in mean temperature of 11.1°. The absolute range was 77°, from 94° at five stations on the 19th, to 17° at Portal on the 27th. The average daily excess in temperature for the state since January 1, 1941, is 2.0°.

PRECIPITATION

The average precipitation for the state was 4.61 inches, or 3.05 inch more than the 1892–1941 average for September. In the eastern division the average amount was 5.22 inches; in the middle division, 4.71 inches; and in the western division, 3.91 inches. The greatest monthly amount reported was 9.34 inches at Cavalier; the least was 0.75 inch at Crosby. The greatest amount recorded in any 24 consecutive hours was 4.55 inches at Devils Lake on the 3d and 4th. The accumulated excess in precipitation for the state since January 1, 1941, is 6.45 inches. The average snowfall was 0.2 inch.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	6	1	..	..	..	..	..	..	..	..	..	..	4	6	5	2	15	22	22	2	..	1	1	..	1	2	..	4	4	2	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	..	..	8	4	1	..	5	6	6	3	..	2	1	..	6	4	..	9	..	14	13	2	10	9	1	..	1	..	..	1	..
Lunar halos	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..
Solar halos	..	..	..	..	..	..	..	..	1	..	3	..	..	..	..	1	..	..	..	..	..	2	..	..	..	1	..	..	2	..	..
Hail	..	..	3	1	1	..	..	..	..	..	..	..	2	..	10	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..
Thund'rst'ms	3	13	22	27	1	2	4	4	1	1	2	5	9	3	22	9	..	6	13	20	6	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	29.88	30.43	22	29.45	12	11.6	45	w.	30	86	59	57	53
Devils Lake	29.88	30.39	22	29.46	4	9.7	26	nw.	5	88	64	71	53
Williston	29.88	30.41	22	29.36	12	7.6	29	e.	3	86	57	54	53
Fargo	29.87	30.38	22	29.38	4	.....	.....	......	....	89	65	70	....
Moorhead, Minn	......	......	....	......	....	9.5	32	e.	13	....	....	....	46

† And other dates.

COMPARATIVE DATA FOR SEPTEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	59.2	101	24	1.08	1.05	0.40	0.84	0	4	16	7	7
1893	57.1	102	8	0.75	0.75	0.94	0.81	0.1	4	18	7	5
1894	58.2	104	18	1.06	1.67	1.42	1.38	0	5	15	7	8
1895	56.6	100	12	1.29	0.61	0.42	0.77	0	4	12	12	6
1896	53.0	98	11	2.25	2.00	0.57	1.61	0	6	12	8	10
1897	64.1	109	18	0.24	0.25	0.35	0.28	0	2	20	7	3
1898	56.8	98	10	1.85	1.00	0.90	1.25	0	4	14	9	7
1899	55.0	101	11	0.60	0.57	0.57	0.58	T.	3	17	9	4
1900	54.6	98	17	5.15	5.26	4.44	4.95	T.	8	12	7	11
1901	53.6	100	12	2.41	1.80	1.82	2.01	T.	7	10	8	12
1902	53.6	95	15	1.24	0.54	0.44	0.74	0	4	16	8	6
1903	51.6	90	18	3.36	2.85	2.77	2.99	0.7	7	12	6	12
1904	54.7	96	18	2.12	1.18	1.00	1.43	0	5	14	7	9
1905	59.8	104	23	1.62	1.65	1.74	1.67	0	5	16	8	6
1906	62.8	109	20	1.54	0.73	1.07	1.11	0	4	19	6	5
1907	52.1	96	9	2.39	1.11	0.68	1.39	T.	6	14	8	8
1908	60.7	104	16	0.87	0.89	1.97	1.24	0.2	4	17	7	6
1909	59.0	93	24	1.03	0.77	1.04	0.95	0	4	16	8	6
1910	55.3	99	18	2.38	1.88	1.10	1.79	0.1	4	14	7	9
1911	54.9	95	21	2.32	2.41	2.38	2.37	T.	8	12	8	10
1912	51.5	101	18	3.54	2.50	1.82	2.62	0	10	11	6	13
1913	57.2	108	8	2.39	1.47	1.37	1.74	0.4	6	16	8	6
1914	59.3	98	25	1.24	1.00	0.84	1.03	0	5	16	8	6
1915	54.6	104	23	2.42	2.00	1.94	2.32	0	9	10	8	12
1916	55.1	99	15	2.12	1.07	1.10	1.43	T	6	14	9	7
1917	56.4	97	16	1.53	0.93	0.65	1.04	0	5	12	9	9
1918	51.9	93	11	0.46	0.40	0.33	0.40	T.	3	15	9	6
1919	58.6	100	20	0.92	1.05	0.86	0.94	0.3	5	12	10	8
1920	59.0	99	19	3.94	1.19	1.49	2.21	T	8	15	9	6
1921	57.0	101	25	3.91	3.37	2.34	3.21	T.	12	12	10	8
1922	59.8	104	23	2.42	2.00	1.89	2.10	0	6	16	8	6
1923	60.1	99	15	2.04	2.25	3.25	2.51	0	6	14	8	8
1924	55.0	98	20	3.68	1.91	0.68	2.09	T.	7	15	7	8
1925	58.1	103	20	4.18	2.23	1.61	2.67	T.	8	12	8	10
1926	52.3	95	9	2.80	2.44	1.66	2.30	0.5	9	11	9	10
1927	56.8	101	10	1.06	0.47	1.48	1.00	T.	3	16	9	5
1928	53.9	95	12	1.50	0.75	0.74	1.00	T.	5	17	7	6
1929	52.7	105	12	1.65	1.82	1.47	1.65	0	5	11	9	10
1930	56.2	98	10	1.02	0.88	1.17	1.02	0	4	16	9	5
1931	61.4	107	27	1.97	2.38	2.06	2.14	T.	6	18	7	5
1932	56.8	102	22	1.10	0.56	0.23	0.63	0	3	18	8	4
1933	60.9	101	22	1.03	0.71	0.70	0.81	0	4	16	8	6
1934	52.4	95	9	1.28	0.86	0.74	0.96	2.0	7	11	9	10
1935	57.2	105	16	0.73	0.44	0.12	0.43	0	3	15	9	6
1936	60.3	102	12	1.47	1.29	0.68	1.15	T.	5	15	10	5
1937	58.6	104	20	1.21	1.60	1.61	1.47	0.1	6	13	9	8
1938	61.9	99	21	0.95	0.34	0.61	0.63	0	4	17	7	6
1939	58.9	98	11	1.12	0.47	0.45	0.68	0.2	5	15	8	7
1940	62.8	103	20	0.87	0.98	1.32	1.06	0	4	17	9	4
1941	55.3	94	17	5.22	4.71	3.91	4.61	0.2	11	9	10	11
Period	56.9	109	8	1.91	1.47	1.30	1.56	0.1	6	14	8	8

Climatological Data for September 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	59.0	+1.1	90	20	30	29	38	4.55	+2.43	1.10	0	11	17	7	6	nw.	James. H. Erickson.
Cavalier	Pembina	894	31	55.6	......	89	19	29	28	41	9.34	+7.08	3.48	0	16	13	4	13	s.	City Light &Power Co.
Colgate	Steele	1,180	8	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	Wm. L. Haugen.
Cooperstown	Griggs	1,428	44	56.7	−1.0	90	19	26	27	44	4.72	+2.90	1.80	1.0	12	18	5	7	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	......	......	...	...	...	...	......	3.90	+2.92	1.32	T	10	7	15	8	se.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	54.6	−1.3	90	19	28	28	33	8.34	+6.71	4.55	0	14	7	4	19	nw.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	57.4	−0.9	92	19	28	28	49	4.14	+2.35	0.76	0	10	5	19	6	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	17	54.0	−2.4	86	19	24	28	36	7.59	+5.79	2.08	T.	14	12	5	13	nw.	Mike Davis.
Ellendale	Dickey	1,457	46	59.1	+0.3	91	19	29	28†	42	3.36	+1.60	0.99	T	12	11	6	13	s.	J. E. Demmer.
Fargo	Cass	895	14	58.8	+0.8	92	20	33	25†	38	2.91	+0.81	0.57	T.	12	8	12	10	n.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	59.6	+0.1	91	20	30	28	38	5.47	+3.30	1.65	0	11	17	5	8	se.	Helge Dyste.
Fullerton	Dickey	1,439	43	58.6	+0.6	87	18†	29	28†	38	3.89	+1.79	1.02	0.3	11	11	10	9	nw.	F. O. Alin.
Grafton	Walsh	827	49	57.3	+0.3	90	19	30	28	35	6.56	+4.22	2.06	0	10	6	9	15	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	57.2	+0.3	92	19	30	25†	37	4.88	+2.84	1.37	0.2	12	5	8	17	s.	U. S. Weather Bureau.
Grand Forks Airport	Grand Forks	832	1	56.0	......	91	19	30	25	37	4.72	......	1.65	T.	13	6	8	16	s.	U. S. Airway Comm. Sta.
Hankinson	Richland	1,068	12	59.6	−0.9	92	19†	30	29	39	3.17	+1.33	1.18	0	11	3	22	5	se.	Joseph Rindt.
Hannah	Cavalier	1,568	49	53.4	−1.4	88	1	22	28	38	6.75	+4.55	1.80	0	11	......	......	......	sw.	A. E. Prior.
Hillsboro	Traill	901	41	58.3	−0.7	89	19	30	26†	42	5.68	+3.53	2.05	0	13	13	7	10	se.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	58.6	+1.6	94	19	30	28	41	3.64	+1.80	1.00	0	10	6	8	16	ne.	S. G. Calvelage.
Jamestown Airport	Stutsman	1,494	1	56.9	......	93	19	30	28†	42	3.20	......	1.40	0	11	5	6	19	se.	U. S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	57.1	......	92	19	28	28	49	3.34	......	0.83	T	11	15	5	10	w.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	45	54.1	+0.6	85	1†	24	28	36	7.48	+5.16	2.53	0	17	7	8	15	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	57.1	+0.7	93	19	30	25†	42	4.87	+2.61	1.55	0	15	8	8	14	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	37	57.7	−0.4	90	19	31	28	46	4.61	+2.47	1.21	0	16	14	5	11	se.	J. O. Halverson.
Mayville	Traill	975	45	57.8	−0.7	91	19	31	29	43	5.01	+2.82	1.85	0.2	11	1	24	5	n.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	54.7	−1.1	90	19	26	26†	45	4.32	+2.81	2.05	0	9	8	10	12	n.	C. E. Blasky.
McLeod	Ransom	1,075	30	59.8	+0.2	92	20	30	24†	41	3.88	+1.67	0.95	T.	10	9	11	10	se.	J. G. Carlson.
McVille	Nelson	1,467	......	......	......	...	...	...	...	......	6.66	......	4.00	0	6	9	17	4	se.	M. Kabeary.
Milnor	Sargent	1,117	2	57.1	......	90	19†	32	28†	39	7.79	......	3.32	0	8	16	8	6	nw.	E. W. Wilson.
Oakes	Dickey	1,318	12	56.9	−2.1	90	19	28	28	50	3.82	+2.52	0.82	T.	12	16	6	8	nw.	F. H. Murray.
Park River	Walsh	998	37	57.0	+0.1	88	19	30	27†	36	7.86	+5.62	1.80	0	14	9	4	17	nw.	E. J. Taintor.
Pembina Airport	Pembina	803	67	54.5	0.0	88	19	29	28	34	7.24	+5.02	2.24	0	16	4	12	14	s.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	......	......	...	...	...	...	......	5.57	+3.93	1.32	T.	15	9	7	14	s.	T. M. Rykken.
Sharon	Steele	1,516	17	55.7	−1.7	89	19	29	26†	43	5.83	+3.98	2.90	0.5	14	5	12	13	sw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	57.0	−1.8	89	19	32	28†	38	5.82	+3.94	2.07	0	12	13	9	8	ne.	I. C. Robertson.
Wahpeton	Richland	962	49	60.4	+0.4	91	20	30	28	36	3.27	+0.89	1.13	0	12	11	9	10	se.	W. J. Cavanaugh.
Average for Eastern Division		......	....	57.2	−0.4	94	19	22	28	50	5.22	+3.31	4.55	0.1	12	10	9	11	nw.	....
Middle Division																				
Ashley	McIntosh	2,014	45	56.6	−1.3	91	18†	25	28	42	3.54	+1.94	0.85	T.	12	6	8	16	s.	U. S. Airway Comm. Sta.
Beulah	Mercer	1,797	27	......	......	...	...	...	...	......	5.09	+3.47	1.95	T.	16	2	17	11	ne.	R. T. Hamilton.
Bisbee	Towner	1,601	38	56.9	+0.2	86	1	26	28	39	6.11	+4.36	2.97	0	8	9	19	2	nw.	Robert L. Peterson.
Bismarck	Burleigh	1,650	67	57.2	−0.9	94	19	29	28	40	3.91	+2.68	1.94	1.0	9	8	10	12	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	52.4	−3.1	86	1	22	28	44	5.35	+3.72	1.58	0	13	14	5	11	nw.	N. D. School of Forestry
Carrington	Foster	1,579	43	55.0	−1.9	90	19†	28	28	46	3.34	+1.83	1.48	T.	9	5	12	13	nw.	Soo Line Agent.
Carson	Grant	2,500	29	56.3	−1.8	94	19	23	28	41	4.08	+2.48	2.05	T.	10	8	12	10	nw.	J. W. Evens.
Center	Oliver	......	3	54.0	......	90	19	25	28	51	4.70	......	1.15	0.5	11	2	19	9	nw.	Fred L. Heinz.
Dogden Butte ‡‡	McLean	1,880	15	54.8	−2.7	85	18	28	28	35	3.80	−2.26	0.72	0	11	9	8	13	nw.	R. L. Williams.
Drake	McHenry	1,634	12	53.4	−4.2	87	18	27	28	42	3.99	+3.03	1.05	0	13	7	11	12	nw.	Peter Anton.
Dunseith	Rolette	1,682	45	52.8	−2.2	85	1	22	27	41	7.13	+5.39	2.25	0	15	6	14	10	n.	Geo. Gehres.
Eckman	Bottineau	1,500	36	53.2	−2.5	87	18	23	28	40	5.86	+4.40	2.23	0	11	14	5	11	nw.	R. F. Nowak.
Energy ‡‡	McLean	1,750	26	56.0	−2.2	91	18	23	28	44	4.89	+3.42	1.75	0	11	9	15	6	n.	H. S. Solenberger.
Fessenden	Wells	1,610	29	55.8	.....	92	19	27	28	42	3.66	+2.02	0.97	0	11	7	9	14	n.	John V. Zuber.
Fort Yates	Sioux	1,670	41	61.5	+1.3	94	19	27	28	43	3.78	+2.26	1.98	0	7	18	5	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	54.3	−1.9	88	1	25	28	40	4.25	+2.64	1.18	0	10	7	8	15	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	11	57.0	......	88	18†	28	28	37	4.02	+2.65	1.55	0	10	7	9	14	s.	A. H. Haut.
Garrison	McLean	1,925	64	52.6	−3.3	88	18	20	29	47	3.75	+2.20	1.48	0	9	4	13	13	ne.	E. L. Vorachek.
Granville	McHenry	1,504	34	55.6	−0.3	90	1†	26	27†	45	4.97	+3.36	1.50	0	11	9	12	9	nw.	C. A. Stubbins.
Hansboro	Towner	1,597	33	52.9	−1.3	88	1	25	27†	45	5.78	+3.80	1.75	0	12	10	9	11	sw.	W. E. Disher.
Leeds	Benson	1,515	1	54.2	......	87	1†	27	28	35	7.06	......	2.00	T.	13	12	7	11	w.	Carl T. Carlson.
Linton	Emmons	1,711	24	60.2	+0.4	93	19	28	28	40	4.40	+2.80	1.40	T.	9	17	3	10	se.	Wm. Heyerman.
Maddock	Benson	1,604	26	55.1	−1.8	90	19	28	28	40	5.79	+3.98	1.88	0	11	12	6	12	nw.	A. T. Felland.
Mandan	Morton	1,750	27	57.2	−1.4	94	19	28	28	43	4.16	+2.67	1.06	0.2	10	9	5	16	n.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	......	......	...	...	...	...	......	3.39	+1.84	0.85	0	11	10	9	11	nw.	P. B. Anderson.
Max	McLean	2,093	12	52.6	−4.0	86	18	21	29	38	5.19	+3.96	1.07	0	11	11	5	14	nw.	A. W. Rice.
McClusky	Sheridan	1,943	23	54.8	−2.4	90	19	24	28	36	4.22	+2.79	1.04	0	12	11	13	6	nw.	F. W. Perry.
Medina	Stutsman	1,816	1	......	......	...	...	...	...	......	3.63	......	0.79	0	10	10	9	11	nw.	Rudolph Graf.
Minot	Ward	1,574	45	53.6	−2.8	89	18	22	28	45	5.74	+4.08	1.35	0	11	8	3	19	nw.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	53.0	−1.9	87	1	24	28	39	4.48	+2.92	1.17	T.	13	10	8	12	nw.	Iver Johnson.
Napoleon	Logan	1,955	49	57.4	−0.1	92	19	26	28	43	4.20	+2.72	1.25	T.	13	15	3	12	n.	C. J. Hoof.
New Salem	Morton	2,163	37	56.4	−1.9	93	19	26	28	43	3.67	+2.31	1.81	T.	10	10	11	9	se.	Wm. F. Caebe.
Pettibone	Kidder	1,856	32	55.4	−1.2	90	19	23	28	43	4.47	+3.15	1.01	T.	10	3	9	18	nw.	Sam Loeppke.
Rolla	Rolette	1,860	4	53.0	......	86	1	24	27	35	6.95	......	2.47	0	14	10	3	17	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	......	......	...	...	...	...	......	5.38	+4.00	1.70	T.	11	11	9	10	sw.	W. B Paterson.
Ryder	Ward	2,108	12	......	......	...	...	...	...	......	5.51	+4.19	1.45	0	10	17	3	10	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5	......	......	...	...	...	...	......	4.62	......	1.45	T.	11	6	15	9	nw.	J. B. Smith.
Steele	Kidder	1,857	47	55.8	−1.9	89	19	25	28	42	5.97	+4.45	1.54	T.	10	9	6	15	ne.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	......	......	...	...	...	...	......	3.86	+2.56	1.26	0	8	14	5	11	se.	G. N. Pilgard.
Timmer	Morton	......	4	......	......	...	...	...	...	......	4.51	......	2.70	1.0	4	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	39	54.4	−2.5	90	1	23	28	42	6.42	+4.66	1.87	0	10	10	9	11	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	55.0	−2.5	89	18	25	28	40	2.65	+1.27	1.27	0	6	12	10	8	nw.	A. S. Haas.
Tuttle	Kidder	1,936	33	......	......	...	...	...	...	......	3.83	+2.37	0.86	1.0	10	13	6	11	se.	Adam Leno.
Upham	McHenry	1,435	1	......	......	...	...	...	...	......	4.73	......	1.22	0	13	7	10	13	nw.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	14	55.0	−2.2	88	18	27	28	42	5.68	+4.36	1.18	0	12	7	11	12	nw.	Oscar Anderson.
Washburn	McLean	1,731	40	57.6	+1.7	88	19	28	28	40	4.07	+2.73	1.49	T.	9	11	11	8	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	53.0	−2.6	88	1	24	27†	38	6.26	+4.83	2.29	0	13	14	4	12	nw.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	53.3	−1.4	88	1	24	28†	45	6.16	+4.43	1.92	0	12	10	14	6	ne.	O. M. Sanderson.
Wilton	McLean	2,159	5	53.7	......	86	19	26	28	36	2.75	......	1.37	0.2	8	11	9	10	......	Soo Line Agent.
Wishek	McIntosh	2,010	20	55.9	−1.3	91	18	25	28	42	3.67	+2.40	1.07	0	14	10	5	15	se.	H. M. Larson.
Average for Middle Division		......	.....	55.1	−1.9	94	19	20	29	51	4.71	+3.24	2.97	0.1	11	10	9	11	nw.	....

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EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ^{t} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for September 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red				1.10			.04	.72	.02			T	.65	.33		.46					.58		.41	.23						.01		4.55
Cooperstown[2]	Sheyenne				1.80			.17	.46	.03				.25			.18		.05		.03	.08		.62	.87	T.		.18					4.72
Courtenay	James				1.32			.40	.15	T				.23	.08		.07			.05				.75	.64			.21					3.90
Devils Lake[1]‡	Devils Lake	.03		4.49	.24			.33	.18	.01			T.	.04	T.	1.06	.02				.18	.52		.83	.40		.01				T.		8.34
Edgeley	James				.48			.54	.20	.57				.36	.12		.76					.48		.26	.37								4.14
Edmore	Devils Lake	.05		2.08	1.28			.05	.42					.02		1.62	.03				.20	.32		.31	1.07			.06			.08		7.59
Ellendale	James	.02			.66			.39	.12					.16	.29		.14					.99		.16	.35			.02			.06		3.36
Fargo[1]	Red				.57			.32	.08	.01				.36	.13	.03	.37				T.	.46		.16	.40			T.	T.		.02		2.91
Forman	Sheyenne	.09			.52			.09	.20					.22	.47		1.61					1.65		.15	.27	T.					.20		5.47
Fullerton	James	T.			.54			.40	.32					.25	.28	T.	.40					1.02		.21	.42			.03			.02		3.89
Grafton	Red			.57	2.06	.18		T.		.05				.12		.55	.22			T.	T	.66		.19	1.96		T				T.		6.56
Grand Forks Airport[3]‡	do	T.	.09	.22	1.25			.08	.53	T.				.16	T.	.02	.20		T.	T.	.26	.12		.81	.86		T.	.12	T.		T.		4.72
Hankinson[2]	do				.30	.11			.11	.02				.07		1.18	.13				.78				.19			.04	T.		.24		3.17
Hannah	Pembina	T.	T	1.80	1.25	.40		.10	.70	T						.40	.30			T.	.35	.20	T		1.10		T.		.15				6.75
Hillsboro	Red				2.05			.04	.74	.08	.05			.57	.32		.52					.36		.48	.36			.09			.02		5.68
Jamestown Airport[3]	James			.04	.36			.63	.04	.01				.27	.05	T	.23				T.	.11		.91	.49			.06					3.20
Langdon	Pembina	.04	T.	.82	2.53	.20	.02	.02	.43	.02	.01			.02		.50	.26			T.	.38	.75		.16	1.30			.02		T.	T.		7.48
Larimore	Red	.03	.04	T.	1.51			.04	.44	.06	.05			.16	T.		.28			.01	.17	.03		.39	1.55			.11					4.87
Lisbon	Sheyenne				.92	.09		.03	.46	.03	.01			.10	.08	.52	1.21		T.			.48	.10	.04	.41	T			.01		.07		4.61
Mayville	Red				1.85			.13	.58	T.	.03			.21	.13		.30				T.	.50		.38	.78					.12			5.01
McHenry	James				2.05			.11	.23					.15			.05					.05		.55	.98			.15					4.32
McLeod	Sheyenne				.40			.08	.30					.39	.30		.92					.95		.09	.30			T.			.15		3.88
Oakes	James				.52	.25	.11	.31		T.				.35	.40		.82					.59	.06	.30	.02				T.		.09		3.82
Park River	Red	.08		1.15	1.68	.09			.60	.15				.16		.80	.23			.03	.10	.75		.24	1.80								7.86
Pembina	do			2.24	.24	.10		.10	.32	.02				.01		.88	.13			04	.83	.19	T.	.98	1.00		.08				.08		7.24
Petersburg	do	.03		.98	1.32			.10	.52	.07				.11		.04	.32		.20	.04		.14		.60	1.07			.03			T.		5.57
Sharon	do				2.90			.19	.50	.04			T.	.20	.03	.01	.05		.03		.05	.02		.52	1.14			.15					5.83
Valley City	Sheyenne				2.07			.12	.36	.02				.38	.17		.46				.05	.74		.37	1.05						.03		5.82
Wahpeton	Red	.01		T.	.26			T	.23	.02				.19	1.13		.14					.64	T.	.09	.16			.02			.38		3.27
Middle Division																																	
Ashley[3]	Missouri	T.		.72	.13		.17	.51	.02					.37	.08	.39					.16	.15		.68	.16			T.	T.				3.54
Bisbee	Devils Lake		.01	1.13	2.97	T.			.31							.31					.09	.23			1.06								6.11
Bismarck[1]‡	Missouri			T.	T		.05	1.94	.07					.09	T	T.	T.				.03	.26		1.13	.04		T.	.30					3.91
Bottineau[2]	Mouse			1.58	1.04	.89			.62								.26			.01	.05	.19	.03		.60	.02	.02	.04					5.35
Carrington	James								.68	.15				.20		.02						.46	T.	.04	1.48	.06	.25						3.34
Carson	Heart			.02				2.05	.19					.11	.04						.01	.26		.81	.11			.48					4.08
Center	Missouri			.90	1.15			1.03	.34				.03		.01						.05	.25		.54	.10			.30					4.70
Dogden Butte	Mouse			.04	.46			.59	.72				T.	T.		.69				.04	.10	.35		.39	.41			.01					3.80
Drake[2]	do			.08	.12	.16			.93	.08			.02				.82			T.	.04	.61	.01		1.05	.05		.02					3.99
Dunseith	do	.01		2.25	1.92			.73	.03	.02	T.					.27	.04			.58	.24	.11		.41	.47		.03	T.			.02		7.13
Eckman	do			2.23	.65			.65	.30							.13	.25			.02	.33	.57		.30	.43								5.86
Energy	Missouri			.16	1.75			1.62	.10					.05	.10	.05					.10	.32		.42	.22			T.					4.89
Fessenden	James			.97				.38	.34					.06	.06	.10					.14	.51		.46	.52			.12					3.66
Fort Yates	Missouri				T.			1.98						.10	.15		.20					.48		.56	.31				T.				3.78
Foxholm (near)	Mouse			1.18	.33			.48	.51							.19					.12	.58		.36	.47		.03						4.25
Gackle	James			.10	.30			1.55	.12					.14	.07	.29						.20		.56	.69								4.02
Garrison[3]	Missouri				.68			1.48	.02						.02	.53			T.		.31	.13		.43	.15		T.						3.75
Granville	Mouse			1.50	.73			.32	.50							.15				.05	.70	.20		.31	.44			.07					4.97
Hansboro	Devils Lake			1.75	1.20				.59	.08						.20	.22			.02	.72	.11		.34	.51		.04						5.78
Linton	Missouri				.43			1.40	.04					.10	.19		.32					.65		.65	.62			T.	T.				4.40
Maddock	Sheyenne			1.88	1.00			.30	.53	T.				.05		.29					.28	.65		.34	.45			.02					5.79
Mandan[2]	Missouri		T	.02			.99	1.06	.09				.13		T					T.	.26	T	.53	.68	.02		.38	T.					4.16
Max[2]	do			.42		1.04	.48	.90	.02						T		1.07		.07	.18	.21	T.		.72	.08								5.19
McClusky	do		.63	.40	.17			1.04	.80	.04				.06	.04	T					.08	.42	.46	.08									4.22
Minot[3]	Mouse		T.	1.35	1.25			.56	.58							.10			T.	.08	.24	.50		.47	.54		.07						5.74
Mohall	do	.20		1.17	.51			.69	.18				.01			.21	.39				.09	.47		.15	.33		.08						4.48
Napoleon[2]	Missouri				.17	.03			1.10	.02				.20		.18	.27					.63		.23	1.25	.02		.05	.05				4.20
New Salem	Heart			.02	.02			1.81	.12					.13	T.						.04	.28		.75	.05			.45					3.67
Pettibone	James				.13			.80	.38					.17	.02		.19					.55		1.01	.99			.23					4.47
Rolla	Devils Lake	.02		1.65	2.47			.22	.52	T.	T		.05	T.		.27	.06			.05	.55	.12		.25	.68		.04						6.95
Rugby (near)	Mouse			1.70	1.15				.42					.06		.39				.08	.09	.36		.29	.78		T.	.06					5.38
Ryder	Missouri				1.45	.79			1.22								.25			.03	.38	.46	.10		.04	.79							5.51
Selfridge	do						.62	1.45	.37					.12	.27	.24					.75	T	.27	.10	.28			.15	T				4.62
Steele	do				1.54			1.14	.28					.24	.05	.12					T.	.59		1.09	.65			.27					5.97
Tagus	Mouse			1.26	.24				.75				T.	T		.40				T.	.03	.50			.66		.02						3.86
Towner	do				1.87	.43		1.01								.73				T.	.47	.22		.37	.69		.02	.61					6.42
Turtle Lake	Missouri			.05	.41				1.27												T.	.27		.47	.18								2.65
Tuttle	do				.40	T.		.79	.24					.04			.04				.01	.70		.86	.37	T.		.38	T.				3.83
Velva	Mouse	.04		1.13	1.18			.70	.41				T			.89	T.			.07	.24	.22		.34	.38		T.	.08					5.68
Washburn	Missouri			1.49	.24			1.06	.21						T.						.10	.18		.55	.07			.17					4.07
Westhope	Mouse	.09		2.29	1.39			.78	.17							.18	.19			.04	.20	.41		.20	.29		.03						6.26
Willow City	do	.05		1.92	1.17			.26	.49	T.						.15	.03			.07	.52	.20		.38	.92		T.						6.16
Wishek[2]	Missouri				.29	.05	T.	.87	.22	.03	T.			.29	.13	.04	.33	T.				.12		.18	1.07	.02	T.		.03				3.67
Western Division																																	
Alpha	Lit. Missouri		.01	T.	.01		.02	2.27	.22	T.					.18		T.				.03	.39		.35	.12	T.		.58					4.18
Amidon	do				.17			1.97	.04						.28	.03				.03	T	.56		.55	.12			.50	.01				4.26
Beach	do		.03	.01	.37		T.	1.79	.22						.01	.75					.05	.55		.36	.23	.02		.33	.03				4.75
Berthold Agency	Missouri			.15	.13			1.40	.35							.66					.54	.58		.40	.01								4.22
Bowman[2]	Grand					.20		1.35	.50	.05			.04		.32							.73	.03	.60	.09	.04		.48	.22				4.65
Crosby	Mouse			.07				.01	.05				T.				.16				.03	.13	.10		.10			.10					0.75
Dickinson Airport[3]	Heart			T	.57		.10	3.25	.03			T	T.	T.	.28	.13			.03	T.	.34	.51		.56	.09		.15	.07					6.11
Dunn Center	Knife.			T.	T.	.32		.78	.91		T.				T.	.06	.70			T	.12	.74	.03	.05	.43	.02		.02					4.18
Fairfield	Lit. Missouri			T.	.70		T.	1.30	.03							.55					.17	.36		.38	.15			.05					3.69
Fryburg	Heart		T.	T.	.08		T.	2.00	.05					.15	.19	T.	T.				.13	.55		.45	.25	T.		.24					4.09
Hettinger	Grand				.41		.10		.21					.06	.40		.05					.32		.47	.05			.74	.01				2.82
Howard (near)	Missouri																																
Kenmare	Mouse	.02		1.74	.16	.09		.01	.81				.08				.54					.44	.16		.37	.07		.05					4.54
Marmarth	Lit. Missouri		.02		.12		.03	.94	.11	.05					.42	.04			.05		.03	.34		.55	.08	T.		.60	.04				3.42
Mary	do																																
Medora	do				.05			1.94	.14						.08	.09					.02	.36		.40	.07	.01		.29					3.45
Mott	Cannon Ball				.20		*	*	2.97					.04	.23	.03	T			T		.27			.64			.66					5.05
New England[2]	do			.45				2.27	.52					.55	.06						.62		.71	.13				.43	.21				5.95
Parshall	Missouri			.04	.63	.16		.36	.98							.03	.32			.01	.09	.95	.08		.53	.07		.08					4.33
Portal[2]	Mouse			.30	.20	T.			.10								.18				.11	.13	.11		.16			.11					1.40
Powers Lake	Missouri	2.11			.17			.56								.31					.37	.38		.45		.14	.13						4.62
Richardton	Heart				.64			2.45	.40						.26	T.					.65	.40		.64	.10			.14					5.18
Sanish[2]	Missouri		.60		.05	.23		.22	1.10							.12	.23			.03	T.	.56	.12		.48	.06		.04					3.84
Stanley	do			.63	.18			.72	.22				T.		.12	.35					T.	.47		.53	.33		.05	T.					3.60
Tioga	do			.23					.96							.30						.54		.17	.22								2.42
Trotters	Lit. Missouri		.01	.05	.33		.15	1.86	.18	T					T.	.17					T.	.50		.34	.23		T.						3.82
Watford City	Missouri		.44		.42			1.70							T.	.55					.05	.44		.30	.31			.07					4.28
Wildrose	do			.80	.02			.75	.09							.03					.11	.34		.17	.12		.06						2.49
Williston[1]‡	do		.12	.12	T.	.01	T	1.03					T.		T.	.12					.09	.32		.55	.11		.08			T.	.02		2.57

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; data are for the 24-hour period, midnight to midnight. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. [3] Data for 24 hours ending 12:30 a.m. C.S.T. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for September 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum	87	86	87	70	75	78	56	52	60	64	76	81	71	68	78	65	80	91	91	87	56	56	55	56	50	74	38	49	65	63	....	68.8
	Minimum	54	58	61	55	48	47	47	42	34	30	40	52	50	47	46	40	38	61	65	53	42	41	45	40	33	32	28	25	33	41	....	44.3
Beach	Maximum	85	86	75	72	74	74	62	56	61	66	72	67	70	71	67	65	83	90	77	64	45	63	51	48	48	68	45	56	65	60	....	66.2
	Minimum	52	55	57	55	40	46	43	39	32	38	42	54	45	43	43	45	44	48	60	45	41	32	44	43	35	36	29	27	32	37	....	42.7
Bismarck [1]	Maximum	87	88	89	72	77	76	59	53	62	67	74	75	75	70	74	68	81	91	94	69	51	57	51	51	48	75	37	54	65	64	....	68.5
	Minimum	55	55	65	60	52	47	48	39	34	36	44	55	50	50	45	46	43	59	64	50	46	41	47	43	37	35	30	29	32	43	....	46.0
Bottineau§	Maximum	86	75	71	63	64	68	70	57	70	65	61	73	74	71	67	67	75	84	81	56	45	61	51	47	49	55	40	52	67	54	....	63.5
	Minimum	42	50	54	51	50	41	40	42	35	34	44	45	44	50	46	44	43	52	59	50	43	30	35	41	32	31	25	22	27	38	....	41.3
Carson	Maximum	87	89	90	83	75	75	60	50	65	62	70	74	74	72	73	69	80	93	94	68	53	56	51	51	47	74	46	57	65	63	....	68.9
	Minimum	54	53	59	56	49	43	46	40	29	40	44	53	50	50	47	42	46	57	56	48	41	36	43	40	35	33	26	23	34	37	....	43.7
Crosby	Maximum	83	72	63	73	72	71	50	63	68	73	72	78	76	75	74	69	87	90	73	59	50	73	54	47	53	54	41	59	67	58	....	66.6
	Minimum	49	49	49	55	50	41	44	31	32	35	36	51	36	35	42	39	40	42	49	43	40	31	31	34	32	32	20	20	22	34	....	38.2
Devils Lake [1]	Maximum	86	80	77	69	68	71	51	48	55	65	62	78	72	71	68	66	76	84	90	64	49	57	49	48	43	64	38	51	69	55	....	64.1
	Minimum	55	53	58	57	52	46	46	44	42	36	42	55	51	52	46	49	43	56	63	48	43	37	40	35	31	32	31	28	36	44	....	45.0
Dickinson Airport [1]	Maximum	87	87	78	70	73	73	52	55	61	64	70	67	72	68	69	66	81	90	87	55	46	60	49	48	47	70	33	56	63	60	....	65.1
	Minimum	53	55	57	54	49	45	41	38	33	39	46	51	46	50	50	43	44	52	55	46	38	35	44	40	35	32	29	29	32	41	....	43.4
Dunn Center	Maximum	86	84	74	71	73	76	49	57	65	68	69	69	73	72	70	64	84	90	81	51	46	63	50	47	52	69	36	57	69	62	....	65.9
	Minimum	50	51	53	56	49	41	42	40	29	32	35	47	36	42	41	40	38	38	43	44	40	31	32	41	37	31	27	24	25	27	....	38.7
Fargo	Maximum	83	86	83	77	73	73	56	53	55	62	67	80	78	67	75	69	76	89	91	92	60	57	55	61	50	73	43	54	68	64	....	69.0
	Minimum	57	65	66	60	56	48	49	47	43	37	40	60	54	52	46	49	42	62	69	60	49	45	46	39	33	35	35	34	33	44	...	48.5
Fessenden	Maximum	83	84	72	67	69	74	66	48	60	68	65	76	73	70	68	68	81	88	92	90	54	58	53	49	45	68	47	51	69	63	...	67.3
	Minimum	55	52	60	58	52	49	46	42	39	33	40	54	48	48	42	48	39	59	67	52	44	36	37	42	30	30	30	27	30	43	....	44.4
Fullerton	Maximum	83	86	86	78	67	76	66	57	52	64	70	80	75	66	77	68	78	87	87	87	67	56	55	58	50	66	45	50	63	64	....	68.8
	Minimum	52	56	64	62	56	52	52	46	45	35	42	60	53	59	46	49	40	64	68	63	49	44	48	50	34	33	32	29	29	42	...	48.5
Garrison [1]	Maximum	86	82	74	69	73	76	49	53	62	65	65	71	74	72	70	66	80	88	82	53	46	61	50	48	48	67	36	54	67	57	....	64.8
	Minimum	45	45	53	57	45	33	43	41	34	29	32	52	44	47	43	33	42	53	57	46	42	35	41	41	34	33	25	23	20	42	....	40.3
Grafton	Maximum	85	82	82	78	69	68	67	54	54	65	64	79	75	74	73	68	73	83	90	88	58	59	57	50	47	65	47	54	67	64	....	67.9
	Minimum	53	59	64	62	56	50	45	47	45	37	38	55	53	52	43	49	42	56	67	57	46	40	37	45	31	31	33	30	32	45	....	46.7
Grand Forks Airport [1]	Maximum	85	83	82	77	68	68	54	50	53	62	66	79	72	69	74	69	75	86	91	76	54	59	52	52	47	68	40	54	67	59	....	66.4
	Minimum	54	60	63	59	52	48	44	46	40	33	39	52	51	49	44	49	41	60	69	54	47	41	38	35	30	31	31	31	32	44	...	45.6
Jamestown Airport [1]	Maximum	85	87	82	71	74	76	55	50	60	66	66	81	71	72	80	68	79	90	93	84	54	58	53	51	48	75	37	52	66	61	....	68.2
	Minimum	52	57	64	57	54	48	48	45	38	33	40	51	50	49	44	45	39	64	67	54	46	44	43	36	31	33	31	30	30	44	....	45.6
Kenmare	Maximum	85	72	67	71	72	72	48	60	63	66	62	69	70	72	67	68	79	86	78	54	47	64	52	45	50	57	36	55	67	55	....	63.6
	Minimum	55	49	52	55	55	47	47	36	37	40	45	47	45	49	50	42	44	47	49	46	41	35	37	42	35	35	25	25	26	40	....	42.6
Langdon	Maximum	85	74	71	72	65	71	72	48	57	67	61	76	72	70	70	68	72	81	85	82	57	57	55	49	45	60	41	51	65	58	....	65.3
	Minimum	51	53	57	56	52	47	45	42	40	31	39	51	49	47	43	43	40	55	65	49	46	33	35	39	27	30	26	24	31	41	....	42.9
Marmarth	Maximum	86	87	77	72	74	78	62	55	59	65	68	68	72	67	67	65	81	89	83	65	48	58	53	55	51	72	50	57	67	61	....	67.1
	Minimum	52	56	53	55	47	52	45	42	32	40	48	52	52	49	47	40	40	42	50	45	42	33	43	45	38	37	29	29	29	37	....	43.4
Minot [1]	Maximum	87	80	76	66	72	72	54	59	63	68	63	73	74	73	67	68	81	89	82	57	52	64	51	48	49	62	38	55	70	57	....	65.7
	Minimum	55	50	54	55	48	44	45	38	32	36	43	49	39	40	46	42	45	44	56	48	40	32	39	39	34	30	27	22	33	42	....	41.6
Mott	Maximum	88	89	85	73	75	76	69	56	65	65	71	72	74	69	72	68	82	92	92	72	53	56	50	50	52	73	55	55	63	62	....	69.1
	Minimum	62	63	62	57	57	55	55	50	32	50	50	58	54	50	50	47	45	57	56	48	48	37	44	48	41	35	29	32	36	38	...	48.2
Pembina Airport [1]	Maximum	86	79	79	79	63	65	58	52	54	64	65	78	73	72	74	66	73	81	88	67	50	57	57	50	44	56	41	54	64	55	....	64.8
	Minimum	52	59	58	55	52	44	43	45	42	37	40	54	51	46	42	47	41	58	60	49	45	35	38	34	32	32	31	29	31	45	....	44.2
Sharon	Maximum	84	83	80	75	69	72	56	48	54	63	63	79	70	70	72	67	76	85	89	75	55	58	49	50	46	72	40	52	66	59	....	65.9
	Minimum	55	56	63	59	54	45	46	44	43	34	40	53	51	53	45	49	41	57	69	55	46	38	38	40	30	29	29	29	32	43	....	45.5
Steele	Maximum	84	84	85	79	72	73	62	49	57	64	66	75	71	66	74	65	79	88	89	78	59	56	53	51	46	71	40	48	66	60	....	67.0
	Minimum	52	53	63	58	50	53	46	42	33	32	42	57	48	49	43	46	40	61	63	54	45	38	48	43	35	29	28	25	30	39	....	44.5
Valley City	Maximum	80	86	85	79	72	73	67	63	55	61	66	78	77	66	77	75	77	87	89	77	76	56	54	55	48	70	52	51	65	62	....	69.4
	Minimum	52	59	64	62	56	48	50	47	45	34	39	57	53	51	44	51	39	59	70	63	49	44	42	47	33	33	33	32	32	43	....	44.7
Wahpeton	Maximum	78	83	81	79	75	75	72	57	54	62	66	80	77	70	74	70	76	88	89	91	87	55	59	62	52	73	71	55	67	65	...	71.4
	Minimum	56	63	64	63	56	50	52	51	46	35	40	58	55	57	48	52	43	60	69	68	51	45	48	48	32	37	36	30	31	42	....	49.5
Williston [1]	Maximum	86	75	69	73	73	73	58	58	64	66	67	68	70	71	67	66	82	88	74	51	46	62	48	46	52	55	35	58	67	56	....	64.1
	Minimum	56	52	59	57	53	45	44	37	36	42	51	50	43	48	51	43	49	50	51	45	40	32	39	40	37	34	27	27	36	39	....	43.8

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for September 1941—Continued from page 34.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	......	......	...	...	....	....	.....	4.18	+2.91	2.27	3.0	11	20	2	8	nw.	H. A. Bury.
Amidon	Slope	2,908	18	55.7	−2.7	89	18	26	28	49	4.26	+2.71	1.97	1.0	11	5	12	13	w.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	54.4	−3.0	90	18	27	28	42	4.75	+3.46	1.79	1.0	14	2	19	9	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	56.0	−1.5	90	18	21	28	53	4.22	+2.63	1.40	0	8	16	7	7	nw.	H. W. Case.
Bowbells	Burke	1,958	12	50.4	−3.2	85	17	21	27†	46	4.31	+2.87	1.33	T.	13	6	14	10	w.	Charles Kaufman.
Bowman	Bowman	2,872	26	53.8	−4.0	88	18	25	28	40	4.65	+3.37	1.35	3.0	13	11	1	18	se.	Oscar L. Erickson.
Crosby	Divide	1,954	32	52.4	−2.4	90	18	20	27†	48	0.75	−0 64	0.16	T	9	10	8	12	sw.	J. H. Phelps.
Dickinson	Stark	2,543	48	52.2	−4.2	90	18	26	29	50	5.80	+4.48	1.64	T.	16	1	19	10	nw.	Leroy Moomaw.
Dickinson Airport	Stark	2,583	1	54.3	......	90	18	29	27†	38	6.11	....	3.25	T.	13	1	13	16	nw.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	52.3	−4.2	90	18	24	28	52	4.18	+2.74	0.91	T.	12	5	17	8	nw.	O. T. Evenson.
Epping	Williams	2,224	30	53.5	−3.2	87	18	21	28	35	2.96	+1.57	1.06	0	9	14	8	8	nw.	T. Beachler.
Fairfield	Billings	......	4	......	......	...	...	....	....	.....	3.69	+2.61	1.30	T	9	12	10	8	nw.	Mrs. Edith Larson.
Fryburg	Billings	2,790	22	54.2	......	90	18	27	28	43	4.09	+2.72	2.00	T.	10	4	16	10	nw.	Verne King.
Golva	Golden Valley	......	1	52.7	......	89	18	28	27†	49	3.76	....	2.16	0.3	12	6	9	15	sw.	U. S. Airway Comm. Sta.
Halliday	Dunn	2,073	1	......	......	...	.	....	....	.....	4.26	....	1.75	0	9	0	19	11	w.	Thom. C. Lorenzen.
Hettinger	Adams	2,675	33	56.2	−2.4	91	2†	24	28	41	2.82	+1.42	0.74	T	11	8	14	8	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	52.2	......	91	18	23	27	47	1.30	−0.08	0.70	0	5	12	6	12	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	53.1	......	86	18	25	27†	41	4.54	+2.93	1.74	0	13	17	5	8	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	55.2	−2.6	89	18	29	27†	47	3.42	+2.13	0.94	4.3	15	6	12	12	nw.	S. P. Grane.
Mary	McKenzie	......	12	......	......	...	...	....	....	.....	4.33	+3.28	1.70	0	7	13	12	5	nw.	Fred Hartman.
Medora	Billings	2,271	25	......	......	...	...	....	....	.....	3.45	+2.08	1.94	T.	11	11	12	7	nw.	Vernon Thompson.
Mott	Hettinger	2,424	33	58.6	+0.8	92	18	29	27	38	5.05	+3.64	2.97	T	8	1	16	13	nw.	P. G. Wick.
New England	Hettinger	2,400	46	53.8	−3.6	90	18	26	26	43	5.95	+4.57	2.27	0.5	10	11	7	12	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	25	51.7	......	89	18	20	28	44	4.33	+2.79	0.98	0	14	3	21	6	nw.	C. E. Shubert.
Portal	Burke	1,954	35	51.6	−3.6	82	17	17	27	41	1.40	−0.19	0.30	0	9	6	17	7	w.	R. G. Wegener.
Powers Lake	Burke	2,205	35	54.2	−2.1	86	1	27	26	38	4.62	+3.11	2.11	0	9	8	15	7	ne.	Geo. B. Gee.
Richardton	Stark	2,467	24	54.3	−3.9	89	18	27	28	36	5.18	+3.82	2.45	T.	9	7	12	11	se.	Assumption Abbey.
Sanish	Mountrail	1,835	15	52.0	−5.5	85	1	20	28	41	3.84	+2.66	1.10	0	13	7	11	12	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	51.4	......	87	18	20	28	44	3.60	....	0.72	0	10	5	16	9	nw.	Leroy Edwards.
Tioga	Williams	2,279	12	......	......	...	...	....	....	.....	2.42	+1.46	0.96	0	6	13	7	10	se.	B. V. Olson.
Trotters	Golden Valley	......	15	......	......	...	...	....	....	.....	3.82	+2.57	1.86	0	10	2	19	9	se.	Walter Grunewald
Van Hook	Mountrail	1,864	1	54.4	......	89	18	21	28	42	3.72	....	1.00	0	12	9	12	9	nw.	Soil Conservation Serv.
Watford City	McKenzie	2,084	27	54.8	−2.9	88	18	24	28	38	4.28	+2.96	1.70	0	9	8	15	7	sw.	J. C. Zeller.
Wildrose	Williams	2,258	13	......	......	...	..	....	....	.....	2.49	+1.42	0.80	0	10	13	6	11	nw.	L Holter.
Williston	Williams	1,878	61	54.0	−2.6	88	18	27	27	38	2.57	+1.48	1.03	0	11	11	9	10	n.	U. S. Weather Bureau.
Average for Western Division		......	.....	53.7	−3.2	92	18	17	27	53	3.91	+2.61	3.25	0.4	11	8	12	10	nw.	....
Average for the State		......	.....	55.3	−1.6	94	19	17	27	53	4.61	+3.05	4.55	0.2	11	9	10	11	nw.	....

[WBO, Minneapolis, 11-22-41—1100]

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

F. J. BAVENDICK

VOL. L BISMARCK, N. D., OCTOBER 1941 No. 10

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GENERAL SUMMARY

Temperatures were moderate, with minimum readings only slightly below freezing until near the close of the month. Most stations had a hard freeze between the 27th and 31st and readins were near zero in the northern part of the state. The precipitation was above average in all sections of the state. It occurred mostly during the first week, but there were also wet periods from the 17th to the 19th and from the 28th to the 30th. The snowfall was slightly above normal but the snow did not remain on the ground very long. No severe storms were reported. Potato and beet digging was delayed somewhat due to wet weather during September and early October but the production of corn was favored by a longer than average growing season. Pastures and ranges were very good. More than average fall plowing was accomplished in the western part of the state due to excellent soil conditions.

TEMPERATURE

The mean temperature for the state was 44.5°, or 0.6° above the 1892-1941 average for October. The mean temperature for the eastern division was 45.2°; for the middle division, 44.4°; and for the western division, 44.0°. The highest mean temperature was 48.2° at Fort Yates, and the lowest, 40.1° at Hannah, making a range in mean temperature of 7.5°. The absolute range was 81°, from 81° at Mohall on the 16th, to 0° at Langdon on the 30th. The average daily excess in temperature for the state since January 1, 1941, is 1.9°.

PRECIPITATION

The average precipitation for the state was 1.32 inches, or 0.30 inch more than the 1892-1941 average for October. In the eastern division the average amount was 1.78 inches; in the middle division, 1.24 inches; and in the western division, 0.94 inch. The greatest monthly amount reported was 2.42 inches at Powers Lake; the least was 0.15 inch at Howard. The greatest amount recorded in any 24 consecutive hours was 1.63 inches at Cavalier on the 7th. The accumulated excess in precipitation for the state since January 1, 1941, is 6.75 inches. The average snowfall was 2.0 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	..	..	..	..	1	..	..	..	1	4	10	3	4	6	11	3	1	3	2	1	..	3	3	3	..	2	1	1	..	4	20
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	1	12	6	1	2	21	10	2	1	4	..	..	2	1	..	..	..	9	21	49	47	15	1	1	2	3	..	2	6	5	2
Lunar halos	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Solar halos	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	1	..	..	1	..	..	..
Sleet	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	1	..
Thund'rst'ms	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.03	30.53	23	29.48	26	9.4	34	n.	26	86	55	63	54
Devils Lake	30.01	30.50	30	29.48	26	8.4	25	n.	26	91	60	69	65
Williston	30.02	30.50	30	29.53	26	6.3	21	w.	14	84	59	53	57
Fargo	30.01	30.49	23	29.34	7	.....	.....	......	....	86	62	70	....
Moorhead, Minn	....	....	....	....	....	8.1	29	s.	16	....	....	....	50

† And other dates.

COMPARATIVE DATA FOR OCTOBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation .01 inch or more	Clear	Partly cloudy	Cloudy
1892	47.2	95	7	0.25	1.20	0.30	0.58	T.	3	15	8	8
1893	40.6	79	0	1.17	1.08	0.89	1.05	0.9	5	11	11	9
1894	43.0	77	16	2.28	1.76	0.94	1.66	0.0	6	14	8	9
1895	40.5	85	−12	0.31	0.15	0.27	0.24	0.0	2	16	8	7
1896	40.2	88	5	1.25	0.43	0.40	0.69	0.0	3	14	8	9
1897	45.9	93	6	1.01	0.75	0.56	0.77	0.8	4	13	9	9
1898	38.8	84	8	2.60	2.42	1.67	2.23	4.7	6	8	8	15
1899	42.1	86	7	1.16	1.21	1.15	1.17	1.3	5	11	8	12
1900	48.2	87	14	2.34	1.30	0.98	1.54	T.	6	15	4	12
1901	47.5	88	11	2.96	1.22	0.65	1.61	T	5	17	7	7
1902	43.7	87	10	1.70	1.20	0.95	1.28	0.7	4	16	6	9
1903	47.0	81	11	1.42	0.80	0.60	0.94	0.2	3	19	5	7
1904	46.6	87	10	1.55	0.60	0.46	0.90	T.	5	12	7	12
1905	40.3	93	0	0.59	0.22	0.28	0.36	1.2	5	8	12	11
1906	45.0	89	0	0.75	0.45	0.27	0.49	1.4	4	14	9	8
1907	44.4	88	4	1.02	0.66	0.16	0.61	0.2	3	21	5	5
1908	43.0	86	8	1.46	1.36	2.07	1.63	0.7	6	11	7	13
1909	43.1	97	0	0.88	0.63	0.45	0.65	0.9	3	14	8	9
1910	48.2	95	0	0.49	0.66	0.38	0.51	0.1	3	16	8	7
1911	42.5	86	−10	1.25	1.27	1.20	1.24	0.5	6	11	8	12
1912	44.4	90	0	0.68	1.09	1.44	1.07	3.5	4	16	6	9
1913	39.3	90	− 2	2.40	1.34	1.03	1.59	0.7	4	12	9	10
1914	50.0	97	0	1.20	0.93	0.65	0.93	T.	4	16	8	7
1915	46.6	87	10	1.22	0.91	1.14	1.09	0.2	4	17	8	6
1916	40.0	85	− 2	0.49	0.88	0.73	0.70	2.0	4	12	8	11
1917	34.7	82	− 4	0.87	0.76	0.71	0.78	6.4	5	8	11	12
1918	46.2	90	4	0.80	0.45	0.35	0.53	0.8	4	14	8	9
1919	33.5	84	−18	0.93	1.14	1.35	1.14	9.3	6	11	9	11
1920	49.3	95	6	0.53	0.28	0.83	0.55	0.1	3	16	8	7
1921	47.3	88	16	0.80	1.09	0.10	0.66	T.	4	16	8	7
1922	45.7	98	8	0.37	0.65	0.73	0.58	2.3	3	15	7	9
1923	44.0	84	− 8	0.56	1.02	1.08	0.89	0.5	4	14	7	10
1924	50.3	86	19	2.31	2.14	2.82	2.42	0.3	7	17	5	9
1925	33.3	66	−16	0.83	0.64	0.96	0.81	3.7	6	8	9	14
1926	42.6	85	4	2.54	0.86	0.68	1.36	1.0	6	10	10	11
1927	47.0	88	12	1.53	1.49	0.96	1.33	1.0	5	14	8	9
1928	43.5	85	3	0.69	0.18	0.51	0.46	0.6	2	15	8	8
1929	46.8	88	10	2.87	1.63	1.05	1.85	5.1	6	17	5	9
1930	40.8	86	0	2.04	1.90	1.48	1.81	0.3	7	10	9	12
1931	47.7	90	10	2.63	0.93	0.60	1.39	0.2	6	15	6	10
1932	38.3	90	− 3	2.33	2.41	2.06	2.27	9.1	8	9	7	15
1933	41.5	88	5	0.39	0.48	0.74	0.54	1.7	4	14	8	9
1934	49.0	94	5	2.11	0.83	0.08	1.01	0.1	3	14	8	9
1935	43.5	86	−10	0.29	0.08	0.12	0.16	0.7	2	15	9	7
1936	42.3	90	− 5	0.23	0.16	0.24	0.21	1.1	3	14	9	8
1937	43.9	94	1	0.40	0.92	1.08	0.80	0.2	4	12	9	10
1938	50.9	95	4	0.27	0.44	0.95	0.55	1.1	4	16	7	8
1939	41.3	84	− 6	1.17	0.64	0.44	0.75	1.2	7	8	10	13
1940	50.7	89	18	2.16	1.26	1.26	1.56	T.	6	14	8	9
1941	44.5	81	0	1.78	1.24	0.94	1.32	2.0	5	13	9	9
Period	43.9	98	−18	1.28	0.96	0.83	1.02	1.4	4	14	8	9

Climatological Data for October 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	45.8	+1.1	73	12	14	28	39	1.63	+0.16	0.52	1.0	9	20	2	9	nw.	James. H. Erickson.
Cavalier	Pembina	894	31	43.6	......	70	16	11	31	35	2.39	+0.98	1.63	2.0	6	17	4	10	nw.	City Light & Power Co.
Colgate	Steele	1,180	8	......	......	...	...	...	...	......	1.23	......	0.33	1.0	10	12	7	12	sw.	Wm. L. Haugen.
Cooperstown	Griggs	1,428	44	44.4	−0.3	70	12†	10	28	40	1.67	+0.55	1.20	3.0	4	21	6	4	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	......	......	...	...	...	...	......	1.34	−0.09	0.68	1.0	5	13	11	7	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	44.0	+1.6	69	12	11	30	32	1.50	+0.25	1.01	2.0	6	10	8	13	sw.	U.S. Weather Bureau.
Edgeley	LaMoure	1,568	40	43.8	−1.8	70	1†	15	28	35	1.70	+0.61	0.70	......	5	7	17	7	se.	O. A. Thompson.
Edmore	Ramsey	1,524	17	42.6	+0.1	68	16	1	30	34	1.93	+0.88	0.90	4.0	6	17	9	5	w.	Mike Davis.
Ellendale	Dickey	1,457	46	47.2	+1.3	74	12	16	27	41	1.66	+0.55	0.65	T	9	13	7	11	nw.	J. E. Demmer.
Fargo	Cass	895	14	46.5	+1.9	73	16	14	28	34	1.82	+0.14	0.61	T	7	9	11	11	se.	U.S. Weather Bureau.
Forman	Sargent	1,249	48	46.4	+3.4	75	12	13	28	41	2.39	+0.94	1.30	6.0	5	21	5	5	......	Helge Dyste.
Fullerton	Dickey	1,439	43	46.6	+1.3	70	12	17	27†	36	1.81	+0.38	0.62	1.2	7	13	6	12	s.	F. O. Alin.
Grafton	Walsh	827	49	45.0	+1.2	70	16	7	31	33	2.11	+0.89	1.11	4.0	4	17	9	5	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	45.2	+1.5	71	16	12	28	35	1.44	+0.04	0.51	3.6	5	8	11	12	nw.	U.S. Weather Bureau.
Grand Forks Airport	Grand Forks	832	1	43.8	......	72	16	11	28	35	1.01	......	0.59	1.3	4	11	8	12	nw.	U.S. Airway Comm. Sta.
Hankinson	Richland	1,068	12	47.2	+0.6	77	12	12	28	41	1.55	+0.40	0.74	0.4	9	9	10	12	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	49	40.1	−0.7	65	16	7	28	36	2.40	+1.26	0.90	8.0	3	10	14	7	sw.	A. E. Prior.
Hillsboro	Traill	901	41	46.0	+0.8	72	16	15	27†	36	0.88	−0.59	0,30	1.0	6	14	7	10	nw.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	46.6	+1.9	72	16	14	28	38	2.31	+1.03	0.76	T.	8	17	4	10	ne.	S. G. Calvelage.
Jamestown Airport	Stutsman	1,494	1	45.4	......	72	16	13	28	38	1.86	......	1.08	T.	9	4	11	16	w.	U. S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	......	......	...	...	...		......	1.97	......	0.92	1.0	7	12	10	9	ne.	U.S. Wildlife Refuge.
Langdon	Cavalier	1,615	45	42.3	+1.4	67	11†	0	30	35	2.03	+0.89	1.25	2.5	8	14	11	6	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	45.5	+1.4	72	12†	12	28	34	1.95	+0.39	0.94	2.5	5	14	6	11	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	37	47.3	+2.6	75	12	13	28	41	1.72	+0.39	0.96	T.	8	13	6	12	nw.	J. O. Halverson.
Mayville	Traill	975	45	45.8	−0.2	71	12†	15	27	34	1.76	+0.42	0.49	1.8	5	3	21	7	nw.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	43.0	−0.3	71	16	7	28	40	1.80	+0.78	0.75	2.0	5	14	8	9	nw.	C. E. Blasky.
McLeod	Ransom	1,075	30	47.2	+0.7	79	11	12	28	43	1.81	+0.33	1.06	1.3	7	13	10	8	sw.	J. G. Carlson.
McVille	Nelson	1,467	....	.....	......	...	...	...	...	...	1.71	......	0.99	2.5	4	12	12	7	nw.	M. Kabeary.
Milnor	Sargent	1,117	2	45.2	......	76	13	12	27	44	2.34	......	1.32	1.5	5	20	3	8	nw.	E. W. Wilson.
Oakes	Dickey	1,318	12	45.9	−0.1	73	12	13	27	41	1.61	+0.39	0.95	T.	8	14	4	13	s.	F. H. Murray.
Park River	Walsh	998	37	45.6	+1.9	70	16	10	30	40	2.12	+0.84	0.97	5.0	4	12	9	10	nw.	E. J. Taintor.
Pembina Airport	Pembina	803	67	43.1	+1.5	68	16	10	30	34	1.66	+0.35	0.86	3.2	5	12	11	8	s.	U.S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11		......	...	...	...		......	2.41	+1.07	1.19	5.0	4	12	11	8	sw.	T. M. Rykken.
Sharon	Steele	1,516	17	44.2	+0.6	72	12	12	28	35	1.48	−0.61	0.73	2.7	6	12	9	10	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	46.6	+1.5	72	12	12	28	41	1.36	+0.18	0.41	2.0	7	17	5	9	ne.	I. C. Robertson.
Wahpeton	Richland	962	49	47.6	+0.6	75	12	14	28	37	1.66	+0.09	0.73	T.	12	13	8	10	nw.	W. J. Cavanaugh.
Average for Eastern Division		......	....	45.2	+0.9	79	11	0	30	44	1.78	+0.50	1.63	2.0	6	13	9	9	nw.	......
Middle Division																				
Ashley	McIntosh	2,014	45	44.0	−0.4	70	12	12	28	39	1.32	+0.16	0.48	0.3	8	6	11	14	w.	U. S. Airway Comm. Sta.
Beulah	Mercer	1,797	27	.....	......	....	...	.....	....	......	1.11	+0.18	0.42	T.	5	8	21	2	ne.	R. T. Hamilton.
Bisbee	Towner	1,601	38	43.6	−0.2	70	17	3	29	39	1.68	+0.59	1.25	3.5	5	19	12	0	nw.	Robert L. Peterson.
Bismarck	Burleigh	1,650	67	45.8	+0.9	70	16	15	28	39	1.01	+0.07	0.82	T	6	10	7	14	nw.	U.S. Weather Bureau.
Bottineau	Bottineau	1,638	49	42.0	+0.6	70	16	3	30	38	1.16	+0.08	0.38	3.0	9	17	2	12	ne.	N. D. School of Forestry
Carrington	Foster	1,579	43	45.5	+1.8	73	12	14	26	36	1.80	+0.82	1.09	0.3	6	24	2	5	.....	Soo Line Agent.
Carson	Grant	2,500	29	45.6	+1.1	75	12	18	31	37	1.24	+0.27	0.85	T.	5	14	8	9	nw.	J. W. Evens.
Center	Oliver	......	3	43.6	......	75	16	12	28	41	0.76	......	0.63	0.2	4	11	11	9	nw.	Fred L. Heinz.
Dogden Butte ‡‡	McLean	1,880	15	45.2	+0.4	73	16	13	28	37	1.55	+0.48	0.88	2.5	5	12	7	12	sw.	R. L. Williams.
Drake	McHenry	1,634	12	44.1	+1.0	74	16	16	28	38	1.34	+0.34	0.66	0.6	7	12	10	9	sw.	H. G. Kringen.
Dunseith	Rolette	1,682	45	42.1	+0.5	67	3†	6	30	40	1.56	+0.61	0.50	7.0	7	11	17	3	sw.	Geo. Gehres.
Eckman	Bottineau	1,500	36	44.4	+2.2	79	16	8	30	46	0.92	−0.01	0.30	T.	6	14	9	8	sw.	R. F. Nowak.
Energy ‡‡	McLean	1,750	26	44.4	−0.6	79	16	14	28	49	1.00	+0.06	0.85	.....	2	14	10	7	w.	H. S. Solenberger.
Fessenden	Wells	1,610	29	44.5	+1.2	73	12	13	28	40	1.80	+0.71	0.67	T.	4	11	8	12	s.	John V. Zuber.
Fort Yates	Sioux	1,670	41	48.2	+1.5	72	12	14	28	38	0.91	−0.21	0.75	......	2	19	2	10	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	44.5	+1.6	76	16	11	30	39	0.61	−0.40	0.31	0.7	7	12	9	10	sw.	E. C. Bierbaum.
Gackle	Logan	1,951	11	45.0	......	69	12	15	28	33	1.72	+0.62	0.86	0.8	9	13	11	7	nw.	A. H. Haut.
Garrison	McLean	1,925	64	43.2	0.0	75	16	15	28	42	1.38	+0.44	0.90	T.	6	8	11	12	sw.	E. L. Vorachek.
Granville	McHenry	1,504	34	45.9	+2.3	79	16	13	28	39	1.07	+0.14	0.75	T	5	17	8	6	sw.	C. A. Stubbins.
Hansboro	Towner	1,597	33	41.8	+0.5	70	16	4	30†	36	1.31	+0.20	0.56	9.0	6	14	11	6	sw.	W. E. Disher.
Leeds	Benson	1,515	1	43.4	......	72	16	8	30	39	1.68	......	0.65	2.1	5	14	8	9	w.	Carl T. Carlson.
Linton	Emmons	1,711	24	46.8	+1.3	70	11†	13	28	42	1.06	−0.05	0.62	T.	5	15	6	10	nw.	Wm. Heyerman.
Maddock	Benson	1,604	26	44.1	+0.6	71	16	12	28	37	1.43	+0.34	0.57	2.2	6	18	6	7	nw.	A. T. Felland.
Mandan	Morton	1,750	27	45.8	+1.1	71	12†	14	28	40	0.90	−0.09	0.62	T.	4	10	6	15	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	.....	......	....	..	.....	....	.....	1.62	+0.49	0.62	0.8	5	14	7	10	ne.	P. B. Anderson.
Max	McLean	2,093	12	41.3[b]	−1.6	75	16	10	28	47	1.39	+0.58	0.58	1.0	5	10	6	15	nw.	A. W. Rice.
McClusky	Sheridan	1,943	23	45.1	+1.7	79	16	17	27†	37	0.97	−0.06	0.83	0.8	2	15	9	7	sw.	F. W. Perry.
Medina	Stutsman	1,816	1	.....	......	...	...	.....	..	.....	1.43	......	0.84	0.3	8	11	13	7	nw.	Rudolph Graf.
Minot	Ward	1,574	45	44.4	+0.6	78	16	10	28	43	1.09	+0.08	0.42	0.8	5	17	2	12	w.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	44.0	+1.8	81	16	6	30	45	0.81	−0.36	0.35	2.5	8	15	10	6	sw.	Iver Johnson.
Napoleon	Logan	1,955	49	46.2	+2.1	72	12	12	28	38	1.42	+0.32	0.63	3.0	9	14	3	14	s.	C. J. Hoof.
New Salem	Morton	2,163	37	45.7	+0.6	72	12	16	28	35	0.87	−0.09	0.73	T.	4	13	10	8	nw.	Wm. F. Gaebe.
Pettibone	Kidder	1,856	32	43.6	+1.0	70	12	9	28	39	1.73	+0.80	0.99	T.	5	7	7	17	n.	Sam Loeppke.
Rolla	Rolette	1,860	4	42.0	......	68	11	6	30	37	1.81	......	0.84	11.0	6	15	6	10	nw.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	.....	......	....	...	.....	...	......	1.51	+0.55	0.60	3.0	7	11	9	11	sw.	W. B. Paterson.
Ryder	Ward	2,108	12	.....	......	....	...	.....	....	......	1.20	+0.44	0.64	6.0	4	17	4	10	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5	.....	......	...	...	...		.....	1.02	......	0.63	T.	4	11	12	8	sw.	J. B. Smith.
Steele	Kidder	1,857	47	44.4	+0.3	70	12†	12	28	44	1.00	+0.17	0.60	T.	5	17	4	10	ne.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	.....	......	....	....	.....	....	......	0.66	−0.10	0.30	3.5	7	15	7	9	sw.	G. N. Pilgard.
Timmer	Morton	......	4	.....	.....	..	....	.....	...	......	1.01	......	0.79	T.	4	......	......	......	......	Geo. M. Sinclair.
Towner	McHenry	1,482	39	44.2	+0.7	74	16	14	27	40	1.35	+0.36	0.75	1.5	5	13	8	10	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	45.2	+1.1	79	16	14	28	41	1.86	+0.95	0.95	T.	3	12	11	8	sw.	A. S. Haas.
Tuttle	Kidder	1,936	33	.....	......	...	....	.....	....	.....	1.05	+0.19	0.61	T.	5	14	9	8	w.	Adam Leno.
Upham	McHenry	1,435	1	.....	......	....	..	.....	....	......	0.94	......	0.44	1.0	7	14	7	10	nw.	U.S. Wildlife Refuge.
Velva	McHenry	1,511	14	45.5	+1.2	78	16	12	28	39	1.33	+0.35	0.82	1.5	5	12	10	9	s.	Oscar Anderson.
Washburn	McLean	1,731	40	46.8	+1.8	77	16	18	28	37	0.94	−0.11	0.83	.....	3	14	7	10	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	42.5	−0.1	81	16	2	30	43	1.05	+0.19	0.47	3.0	5	19	6	6	se.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	42.8	+1.3	72	16	7	30	45	1.16	+0.28	0.67	1.5	6	16	11	4	nw.	O. M. Sanderson.
Wilton	McLean	2,159	5	43.3	......	68	11†	15	28	38	1.05	......	0.70	0.5	4	15	6	10	......	Soo Line Agent.
Wishek	McIntosh	2,010	20	43.6	−0.4	69	12	12	28	43	1.65	+0.69	0.80	1.0	9	13	5	13	nw.	H. M. Larson.
Average for Middle Division		......	....	44.4	+0.8	81	16	2	30	49	1.24	+0.28	1.25	1.5	5	14	8	9	nw.	......

Continued on page 40

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example. [b] represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for October 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red		.52			.12	.05	.23						.06					.09	.23	.12									.21			1.63
Cooperstown[2]	Sheyenne		.10				1.20			T.									T.		.06									.31			1.67
Courtenay	James						.56	.68						T.				.04	T.	.04										.02			1.34
Devils Lake[1]‡	Devils Lake	T	.03			.01	.92	.20										T.		.07	T.						T.		T.	.27			1.50
Edgeley	James		.40				.32												.10	.70										.18			1.70
Edmore	Devils Lake						.31	.90	.03											.07	.27	T.					T.			.35			1.93
Ellendale	James		.65			.05	.04	.08						.05					.34	.18	.02									.25			1.66
Fargo[1]	Red		.61				.07	.36		T.				.08				T.	.15	.34							T.			.21	T.		1.82
Forman	Sheyenne		1.30			.08								T.					.40	.06										.55			2.39
Fullerton	James		.62			.20	.20							.02				T.	.45	.16	T.										.16		1.81
Grafton	Red						.59	1.11												.19										.22			2.11
Grand Forks Airport[3]‡	do	T.	T				.39	.31		T				T.					T.	.05							T.			.31			1.06
Hankinson[2]	do		.03	.74	T.	.03	.01	.04												.50	.10						.02				.08		1.55
Hannah	Pembina						.90	.60	T.																		T.			.90			2.40
Hillsboro	Red		.30				.08	.24		T.				T.					T.	.05	.01						T			.20			0.88
Jamestown Airport[3]	James	T.	.08			.08	.83	.26						.01				.31	.06	.02							T.			.21			1.86
Langdon	Pembina		T.				.29	1.25	.02	.02											.18	.01					T.			.25	.01		2.03
Larimore	Red						.44	.94												.06	.02									.49			1.95
Lisbon	Sheyenne		.96			T.	.06	.11						.07					.10	.13	.08									.21			1.72
Mayville	Red		.25	T.			.30	.32						T						.40	T.									.49	T.		1.76
McHenry	James						.70	.75											.01	.03										.31			1.80
McLeod	Sheyenne		1.06			.02		.18						.06					.16	.20										.13			1.81
Oakes	James		.95				.05							.04				.09	.21	.04									.08	.15			1.61
Park River	Red						.60	.97												.13	T.									.42			2.12
Pembina	do		.01			T	.86	.46	T.											.05	T.							T.	T.	.28			1.66
Petersburg	do		T.				.57	1.19												T.	.16									.49			2.41
Sharon	do		T.				.41	.73		T									.01	.02	.06									.25	T.		1.48
Valley City	Sheyenne		.40				.15	.41											.01	.11	.02									.26			1.36
Wahpeton	Red		.73	.09		.06	.04	.09		.03				.01					.25	.10	.15						T			.10	.01		1.66
Middle Division																																	
Ashley[3]	Missouri	.06	.30		T.	.01	.48	.01		T.				T.				T.	.27	T.	.01						T.		T.	.18			1.32
Bisbee	Devils Lake		.03				1.25	.02												.14	T.									.24		T.	1.68
Bismarck[1]‡	Missouri	T.	T.			.02	.77	.05						T.				.08	.02	T.	T					T.	T.		T	.07			1.01
Bottineau[2]	Mouse	.01	.07				.21	.38		.06								.01	.04			.02								.36			1.16
Carrington	James						.28	1.09											.24	.09										.06	.04		1.80
Carson	Heart					.05	.85	.09										T.	.10	T										.15			1.24
Center	Missouri					.07	.63											.03												.03			0.76
Dogden Butte	Mouse		.17	T.		T	.88	.38										T.	.08		T.									.04			1.55
Drake[2]	do		.10			.01	.29	.66											.22	T.										.04	.02		1.34
Dunseith	do		.09	T.		.17	.50	.15	.05									.28												.32			1.56
Eckman	do	.03				.05	.30	.23	.02					T.				T.			T.	T.								.29			0.92
Energy	Missouri					.15	.84	T.											T.		T.												1.00
Fessenden	James						.67	.60										.24		T.	T.									.29			1.80
Fort Yates	Missouri						.75												T.	.16										T.			0.91
Foxholm (near)	Mouse	.01		.02		.05	.31	.09	.02					T.																.11			0.61
Gackle	James			.30				.86	.12					.01				.06	.10	.05	.02									.20			1.72
Garrison[3]	Missouri	.14				.25	.81	.02										.09												.07			1.38
Granville	Mouse	T.	.03	T.			.75	.26										.01	.02		T.												1.07
Hansboro	Devils Lake	.01	.03				.56	.40	T.												.02	T								.29			1.31
Linton	Missouri						.62	.10						T				T.	.05	.03										.26			1.06
Maddock	Sheyenne		.02				.57	.52										.10	.02	T.										.20			1.43
Mandan[2]	Missouri					.16	.62											.06	T.										.06	T.			0.90
Max[2]	do	.26				.58	.40												.14		.01												1.39
McClusky	do						.83	.14																									0.97
Minot[3]	Mouse	.05	.14			.42	.42		T					T.				T.		T.									T.	.06			1.09
Mohall	do	.02		.01		.01	.35	.15	.01									T.	.02											.24			0.81
Napoleon[2]	Missouri		.13				.12	.63							.02				.03	.12	.02						.03			T	.32		1.42
New Salem	Heart					T.	.73	.09										T.	.01	T.										.04			0.87
Pettibone	James						.99	.24										.10	.05											.35			1.73
Rolla	Devils Lake	.02	.05			T	.84	.37	.01												T.	T.								.52			1.81
Rugby (near)	Mouse		.20			.03	.60	.39										T.	.03		.13									.13			1.51
Ryder	Missouri		.17				.64	.29											.10	T.										T			1.20
Selfridge	do	T.	T			T.	.63												.10	.08							T.			.21			1.02
Steele	do						.60	.17										T.	.05	.04										.14			1.00
Tagus	Mouse	.03		T.		T.	.30	.08	.06					T.				.08				.01					T.		T.	.10			0.66
Towner	do		T.		T.	T.	.75	.39						T.				.05		T.	.01									.15			1.35
Turtle Lake	Missouri					T.	.86	.95										T.	.05											T.			1.86
Tuttle	do						.61	.12										T.	.08	.01	T.									.23			1.05
Velva	Mouse		.28			T.	.82	.16						T.				.01			T.								T.	.06			1.33
Washburn	Missouri					T	.83	.06										T.	.05											T			0.94
Westhope	Mouse	.05					.47	.15											.10											.28			1.05
Willow City	do	.06	.04			T.	.67	.21	T.									T.			.05									.13			1.16
Wishek[2]	Missouri		.23	.07			.09	.80	T.	T.				.01						.13	.03	T.	T.	T.						.16	.13		1.65
Western Division																																	
Alpha	Lit. Missouri				.08	1.26	.10																					T.					1.44
Amidon	do					.60	.26												.01	T.										T.			0.87
Beach	do	T			.10	.65	.51	T.										T.		T.										T.			1.26
Berthold Agency	Missouri	T.	T.		.05	T	1.20																							T.			1.25
Bowman[2]	Grand					.08	.73	.04											.03														0.88
Crosby	Mouse					.06	.12		.04									.11															0.33
Dickinson Airport[3]	Heart				.09	1.04	.15											.02	T.	T.									T.	T	T.		1.30
Dunn Center	Knife					.20	.98	.04						T.				T.	.07	T.		T							T.	T.			1.29
Fairfield	Lit. Missouri					.41	.31		T.									.20												T			0.92
Fryburg	Heart				.10	.75	.55	.06	T									.01		.01	T.								T.	T.			1.48
Hettinger	Grand	.05				.26	.14												.10	.02										.28			0.85
Howard (near)	Missouri								.05									.03												.07			0.15
Kenmare	Mouse					T	.26	.16											.10											T	.04		0.56
Marmarth	Lit. Missouri				T.	.82	.24												T.											T.			1.06
Mary	do				T.	.12	.18												.23														0.53
Medora	do	T.			.10	.66	.71	.03										.01		T.									T.				1.51
Mott	Cannon Ball	T.				.02	.30	.06											.07	.01		T.					.03			.07			0.56
New England[2]	do					.09	.78	.11													.07												1.05
Parshall	Missouri		.25				.42	.21		.06									.03			T.								T	T.		0.97
Portal[2]	Mouse		.04				.27	.05											.05		T									.10			0.51
Powers Lake	Missouri	.22		.18			.19		.21					.34				.53			.37						.31		.07				2.42
Richardton	Heart				T.	.38	.44	.03																				T					0.85
Sanish[2]	Missouri	.15					.42	.25		.06									.10		T									.12			1.08
Stanley	do	.10	T.			.08	.40	.12	.10									.20	T.											.17			1.17
Tioga	do					*	.30											.24															0.54
Trotters	Lit. Missouri	.06			.01	.41	.40	.05	.03									.03		T									T	.02			1.01
Watford City	Missouri	.04				.27	.37		.18									.05											.03	.04			0.98
Wildrose	do	.15				.06	.14		.01									.11												T.			0.47
Williston[1]‡	do	.09		T.	T	.14	.03											.07												.01			0.34

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station: data are for the 24-hour period, midnight to midnight. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. [3] Data for 24 hours ending 12:30 a. m. C.S.T. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for October 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum	63	54	60	64	44	52	58	65	59	64	69	70	63	67	65	69	63	50	54	59	62	62	56	58	62	53	36	43	36	30	42	56.5
	Minimum	34	38	30	33	36	32	32	35	30	25	40	38	33	31	29	43	36	41	42	44	40	34	25	28	25	20	17	12	26	25	20	31.4
Beach	Maximum	60	55	58	60	42	37	52	56	57	70	66	77	60	65	72	75	57	60	53	59	63	59	61	64	64	56	37	44	38	40	52	57.1
	Minimum	35	37	32	42	33	33	25	30	28	40	47	37	47	46	34	36	46	35	36	44	37	45	28	32	37	32	27	19	23	22	17	34.3
Bismarck [1]	Maximum	64	58	64	60	47	43	59	60	60	68	69	69	61	69	69	70	62	56	54	58	62	61	61	58	63	50	39	43	40	35	49	57.5
	Minimum	37	38	33	41	39	34	33	34	31	29	42	39	37	36	32	43	40	44	48	44	39	32	28	30	31	31	21	15	29	24	23	34.1
Bottineau§	Maximum	57	53	59	55	53	39	51	54	53	56	67	68	61	64	65	70	60	63	52	55	63	55	60	55	64	38	35	43	31	30	41	53.9
	Minimum	36	38	34	36	32	33	32	33	26	30	32	38	37	32	28	35	42	38	42	43	36	33	22	29	32	33	12	12	20	3	8	30.2
Carson	Maximum	64	56	64	60	48	43	60	58	59	64	69	75	60	68	70	72	59	56	53	59	64	61	63	66	64	55	42	45	40	35	55	58.3
	Minimum	34	38	30	38	34	30	29	33	30	32	35	41	38	33	33	38	42	41	39	42	35	39	27	33	34	33	21	24	25	24	18	33.0
Crosby	Maximum	56	53	58	53	45	40	61	58	60	69	74	70	72	64	75	71	69	60	55	57	63	58	64	60	66	59	44	51	40	39	52	58.6
	Minimum	34	34	31	36	40	30	27	35	26	27	35	35	42	38	29	38	44	31	36	31	30	36	25	28	30	32	12	13	24	7	27	30.4
Devils Lake [1]	Maximum	58	56	61	56	46	42	50	65	54	62	64	69	57	66	63	69	61	59	52	55	63	55	57	48	62	50	33	43	35	33	44	54.5
	Minimum	44	39	34	41	36	37	32	34	32	30	42	39	39	37	34	46	43	41	38	42	37	35	28	34	32	19	16	16	26	11	23	33.5
Dickinson Airport [1]	Maximum	61	53	61	48	39	34	54	54	55	71	66	77	59	64	71	69	56	55	52	54	59	57	62	59	66	44	39	43	36	37	52	55.1
	Minimum	37	35	33	37	32	32	25	33	34	34	38	37	38	38	37	39	44	40	44	40	37	32	29	37	36	34	20	20	24	22	18	33.4
Dunn Center	Maximum	65	57	62	53	46	36	52	57	58	72	68	75	60	67	73	77	57	57	53	55	60	60	63	57	67	54	39	42	39	38	55	57.2
	Minimum	29	38	28	41	31	30	29	25	30	29	36	27	40	34	27	32	40	35	37	31	31	30	23	33	26	36	22	11	26	14	14	29.5
Fargo	Maximum	64	52	60	65	49	58	52	67	60	61	68	72	58	69	67	73	60	59	54	56	62	63	59	55	60	54	35	44	38	35	40	57.1
	Minimum	40	46	38	43	43	46	36	35	36	28	41	41	40	35	38	44	50	48	47	43	39	40	30	31	26	23	18	14	33	22	19	35.9
Fessenden	Maximum	64	54	64	56	46	39	52	69	58	66	68	73	58	66	65	70	65	59	53	50	63	57	56	54	64	55	34	47	38	30	45	56.1
	Minimum	36	42	30	43	36	36	31	29	28	29	41	35	40	36	34	45	46	41	46	46	34	33	27	29	28	26	15	13	28	17	20	32.9
Fullerton	Maximum	62	52	60	64	50	59	58	67	60	64	68	70	64	68	64	69	65	54	55	61	61	64	58	56	60	55	35	46	38	37	41	57.6
	Minimum	38	47	33	37	40	42	37	32	35	29	41	34	42	36	35	39	41	42	49	44	47	41	29	32	27	31	17	17	32	29	24	35.5
Garrison [1]	Maximum	64	47	64	56	40	36	55	55	58	68	68	69	60	65	71	75	61	58	53	48	55	57	61	55	65	42	36	44	34	37	50	55.1
	Minimum	29	34	26	38	32	32	30	30	28	30	37	36	38	33	30	40	41	34	44	42	37	32	19	33	30	30	19	15	26	24	19	31.2
Grafton	Maximum	59	58	60	62	56	58	48	63	61	53	65	68	64	67	65	70	61	63	56	59	64	61	57	59	61	55	35	44	32	35	36	56.6
	Minimum	42	45	33	45	39	41	38	32	33	27	41	38	43	37	39	41	40	40	30	47	32	39	28	29	28	29	16	13	29	13	7	33.4
Grand Forks Airport [1]	Maximum	58	54	60	63	46	52	50	64	57	57	65	70	58	69	62	72	59	64	50	59	65	59	60	48	58	48	35	43	36	32	37	55.2
	Minimum	44	42	33	45	41	43	33	33	30	25	36	35	36	35	38	42	43	44	37	37	32	34	27	28	26	20	15	11	31	16	17	32.5
Jamestown Airport [1]	Maximum	64	57	63	65	42	51	55	65	61	64	68	70	62	69	67	72	66	54	55	59	64	65	59	56	62	48	36	44	36	37	44	57.4
	Minimum	41	40	32	37	38	37	33	32	32	26	39	36	38	36	36	40	41	46	48	44	41	36	28	30	27	21	15	13	29	22	22	33.4
Kenmare	Maximum	56	50	56	52	41	38	62	57	59	70	68	75	63	66	69	72	61	60	51	61	60	56	61	55	63	65	39	47	33	34	55	56.6
	Minimum	38	33	34	40	35	33	28	28	31	33	39	40	46	40	34	36	46	35	33	37	37	38	31	31	34	37	16	16	20	15	18	32.6
Langdon	Maximum	59	58	57	60	48	43	49	62	52	57	67	65	61	64	61	67	60	61	59	57	61	58	57	49	59	57	40	43	35	30	39	54.7
	Minimum	38	39	28	40	33	31	31	31	28	24	40	38	41	31	29	40	40	36	33	42	35	35	24	32	27	23	12	8	25	0	12	29.9
Marmarth	Maximum	61	57	62	56	42	36	58	55	58	72	78	76	60	66	65	58	56	55	56	57	61	58	66	64	61	51	41	46	41	37	54	56.6
	Minimum	35	40	30	40	32	31	29	25	28	32	30	30	33	30	32	40	42	41	33	43	35	35	23	27	29	37	26	17	22	14	15	30.8
Minot [1]	Maximum	61	52	63	54	42	37	51	57	59	69	70	75	62	66	72	78	65	67	54	54	56	58	63	56	67	50	37	49	40	39	55	57.4
	Minimum	37	30	28	40	32	32	29	37	30	28	38	41	41	34	29	46	40	36	36	40	35	32	25	32	32	28	16	10	26	16	20	31.5
Mott	Maximum	60	55	63	55	49	43	60	60	58	72	69	75	63	67	71	64	62	52	51	56	59	61	62	61	64	57	42	45	43	36	54	57.7
	Minimum	37	44	37	40	36	34	30	32	34	30	35	35	44	32	31	34	40	42	45	40	31	37	25	32	50	35	28	19	29	24	16	34.1
Pembina Airport [1]	Maximum	59	56	59	60	49	46	45	63	50	52	63	67	56	67	62	68	58	68	59	59	64	55	58	49	60	48	32	47	34	35	36	54.2
	Minimum	44	42	30	42	32	39	31	32	32	24	38	35	39	33	39	43	42	40	39	42	34	35	27	30	30	13	16	14	28	10	13	32.0
Sharon	Maximum	58	55	61	63	44	44	50	62	56	59	64	72	60	68	64	70	63	59	54	55	63	59	58	48	60	54	33	43	34	34	39	55.0
	Minimum	38	44	31	44	36	37	35	33	30	29	42	46	41	33	32	45	43	43	44	41	35	37	27	34	27	24	13	12	30	14	14	33.4
Steele	Maximum	61	56	62	60	47	44	58	61	60	66	61	70	70	65	67	70	61	54	58	56	63	62	67	56	64	52	36	45	36	36	45	57.1
	Minimum	36	42	28	38	37	36	32	31	28	28	34	37	40	28	27	39	39	41	46	43	44	35	23	30	25	25	16	12	28	21	16	31.8
Valley City	Maximum	60	57	60	64	57	55	53	65	65	63	66	72	62	69	66	71	70	57	55	57	63	64	60	54	61	57	36	44	43	37	41	58.2
	Minimum	42	46	34	41	40	41	37	30	31	26	36	31	42	36	36	42	46	46	48	48	42	39	26	34	25	31	15	12	32	28	21	35.0
Wahpeton	Maximum	63	61	61	67	61	58	55	67	64	62	69	75	68	67	65	71	64	57	55	64	61	67	58	58	59	56	36	44	40	37	40	59.0
	Minimum	38	41	38	43	43	46	37	34	36	28	39	36	54	35	35	42	48	42	49	45	42	43	29	34	26	34	15	14	32	27	18	36.3
Willistou [1]	Maximum	61	51	59	51	40	40	61	55	57	73	67	74	61	64	72	73	59	60	54	59	62	55	62	60	68	48	37	48	37	38	51	56.7
	Minimum	38	34	37	39	33	34	33	38	34	39	43	36	42	38	33	42	44	34	42	32	39	34	30	32	33	33	19	15	24	16	22	33.6

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for October 1941—Continued from page 38.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	.....	.....	.....	.....	.....	.....	.....	1.44	+0.46	1.26	8.0	3	18	7	6	sw.	H. A. Bury.
Amidon	Slope	2,908	18	45.6	+0.6	77	12	18	28	45	0.87	−0.23	0.60	T.	3	13	9	9	w.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	45.7	+1.2	77	12	17	31	40	1.26	+0.32	0.75	T.	3	8	16	7	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	44.6	−0.2	78	16	8	31	44	1.25	+0.36	1.20	4.0	2	19	5	7	nw.	H. W. Case.
Bowbells	Burke	1,958	12	41.8	+1.2	72	12	9	30	42	0.40	−0.58	0.19	0.1	7	8	13	10	sw.	Charles Kaufman.
Bowman	Bowman	2,872	26	43.4	−1.4	75	12	14	31	39	0.88	−0.10	0.73	......	4	12	6	13	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	32	44.5	+2.3	75	15	7	30	46	0.33	−0.51	0.12	T	4	15	5	11	nw.	J. H. Phelps.
Dickinson	Stark	2,543	48	42.2	−1.6	76	12	12	28	44	1.20	+0.22	0.80	7.6	6	15	8	8	nw.	Leroy Moomaw.
Dickinson Airport	Stark	2,583	1	44.2	......	77	12	18	31	40	1.30	......	1.04	2.2	4	6	11	14	nw.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	43.4	+1.3	77	16	11	28	48	1.29	+0.38	0.98	10.0	4	15	8	8	nw.	O. T. Evenson.
Epping	Williams	2,224	30	45.4	+6.5	74	12	15	28	46	0.31	−0.48	0.20	T.	3	21	9	1	w.	T. Beachler.
Fairfield	Billings	......	4	.....	.....	.....	.....	.....	.....	.....	0.92	+0.30	0.41	6.0	3	15	8	8	nw.	Mrs. Edith Larson.
Fryburg	Billings	2,790	22	45.4	......	76	12	16	28	35	1.48	+0.43	0.75	6.5	6	14	9	8	uw.	Verne King.
Golva	Golden Valley	......	1	42.2	......	75	12	14	31	43	1.19	......	0.76	5.0	7	5	15	11	sw.	U. S. Airway Comm. Sta.
Halliday	Dunn	2,073	1	.....	.....	.....	.....	.....	.....	.....	1.34	......	0.66	6.0	3	13	10	8	e.	Thom. C. Lorenzen.
Hettinger	Adams	2,675	33	45.6	−0.5	78	12	15	31	41	0.85	+0.08	0.28	1.0	6	15	9	7	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	43.5	+1.4	75	12	5	30	43	0.15	−0.64	0.07	0.7	3	18	4	9	nw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	44.6	......	75	12	15	30	37	0.56	−0.50	0.26	3.5	4	14	8	9	uw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	43.7	−2.3	76	12	14	30	46	1.06	+0.21	0.82	5.2	2	12	6	13	nw.	S. P. Grane.
Mary	McKenzie	......	12	.....	.....	.....	.....	.....	.....	.....	0.53	−0.25	0.23	3.6	3	10	11	10	se.	Fred Hartman.
Medora	Billings	2,271	25	.....	.....	.....	.....	.....	.....	.....	1.51	+0.69	0.71	4.3	5	18	5	8	nw.	Vernon Thompson.
Mott	Hettinger	2,424	33	45.9	+1.5	75	12	16	31	42	0.56	−0.38	0.30	2.3	7	8	8	15	nw.	P. G. Wick.
New England	Hettinger	2,400	46	42.8	−1.3	70	16	13	30	38	1.05	+0.21	0.78	1.0	4	11	4	16	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	25	41.9	......	76	16	11	28	50	0.97	+0.16	0.42	1.0	5	5	23	3	nw.	C. E. Shubert.
Portal	Burke	1,954	35	42.7	+1.2	79	12	5	30	47	0.51	−0.38	0.27	1.0	5	14	11	6	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	35	45.4	+0.9	80	16	11	27	39	2.42	+1.20	0.53	......	9	12	14	5	w.	Geo. B. Gee.
Richardton	Stark	2,467	24	44.7	+0.1	78	12	18	31	39	0.85	−0.03	0.44	2.0	3	11	9	11	nw.	Assumption Abbey.
Sanish	Mountrail	1,835	15	42.6	−1.6	78	12†	12	30†	46	1.08	+0.27	0.42	......	6	14	6	11	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	42.0	......	73	16	10	30	42	1.17	......	0.40	0.8	7	12	8	11	sw.	Leroy Edwards.
Tioga	Williams	2,279	12	.....	.....	.....	.....	.....	.....	.....	0.54	−0.26	0.24	T.	3	17	5	9	uw.	B. V. Olson.
Trotters	Golden Valley	......	15	.....	.....	.....	.....	.....	.....	.....	1.01	+0.18	0.41	0.4	8	7	17	7	sw.	Walter Grunewald
Van Hook	Mountrail	1,864	1	44.4	......	78	12†	12	28	45	0.99	......	0.30	T.	7	8	15	8	nw.	Soil Conservation Serv.
Watford City	McKenzie	2,084	27	45.0	+0.8	75	16	14	28	43	0.98	+0.11	0.37	1.3	7	16	10	5	sw.	J. C. Zeller.
Wildrose	Williams	2,258	13	.....	.....	.....	.....	.....	.....	.....	0.47	−0.35	0.15	T.	5	15	8	8	sw.	L Holter.
Williston	Williams	1,878	61	45.2	+1.8	74	12	15	28	39	0.34	−0.52	0.14	0.1	5	17	5	9	sw.	U. S. Weather Bureau.
Average for Western Division		......	.....	44.0	+0.4	80	16	5	30	50	0.94	+0.11	1.26	2.4	5	13	9	9	nw.	....
Average for the State		......	.....	44.5	+0.6	81	16	0	30	50	1.32	+0.30	1.63	2.0	5	13	9	9	nw.	....

[WBO, Minneapolis, 12-17-41—1100]

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. L BISMARCK, N. D., NOVEMBER 1941 No. 11

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GENERAL SUMMARY

This was the tenth month of 1941 with the temperature above average and it was 7.5° warmer than November 1940. Only a few days with subzero temperature were reported. Precipitation was light and none occurred after the 22d. There was very little snow. Due to heavy precipitation during the summer the subsoil moisture supply is the best in years. Sleet occurred at many stations on the 18th making highways very slippery, but little wire trouble resulted. Field work was possible nearly all month and plowing continued in some sections until the 20th.

Livestock grazed on fields and ranges and were in excellent condition. The Missouri river froze on the 23d but ice was thin and open lanes were numerous.

TEMPERATURE

The mean temperature for the state was 30.5°, or 3.8° above the 1892-1941 average for November. The mean temperature for the eastern division was 29.8°; for the middle division, 30.0°; and for the western division, 31.8°. The highest mean temperature was 35.6° at Mott, and the lowest, 23.2° at Hannah, making a range in mean temperature of 12.4°. The absolute range was 86°, from 69° at Ellendale on the 12th, to -17° at Portal on the 22d. The average daily excess in temperature for the state since January 1, 1941, is 2.1°.

PRECIPITATION

The average precipitation for the state was 0.40 inch, or 0.18 inch less than the 1892-1941 average for November. In the eastern division the average amount was 0.26 inch; in the middle division, 0.48 inch; and in the western division, 0.46 inch. The greatest monthly amount reported was 1.21 inches at Westhope; the least was a trace at Fort Yates. The greatest amount recorded in any 24 consecutive hours was 0.50 inch at Howard on the 18th. The accumulated excess in precipitation for the state since January 1, 1941, is 6.57 inches. The average snowfall was 3.6 inches.

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	13	3	..	..	..	2	..	..	..	9	5	..	..	1	1	..	..	..	..	..	..	8	5	1	1	2	6	6	..	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Fogs	4	2	1	4	..	1	4	4	2	3	5	1	5	..	..	1	15	18	8	1	..	1	..	..	1	2	1	11	14	14	..
Lunar halos	..	1	3	..	1	1	..	1	..	..	1	1	..	..	1	..	..	..	..	..	..	1	..	..	2	..	..	2	1	..	..
Solar halos	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	1	1	4	..	..	..	..	..	1	..	..	..
Sleet	..	..	3	..	1	2	1	..	2	..	..	..	..	..	1	1	2	26	6	1	..	..	..	..	..	..	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.02	30.43	5	29.62	18	10.6	36	nw.	14	85	67	74	47
Devils Lake	29.98	30.42	29	29.53	25	9.4	26	nw.	3	91	73	85	45
Williston	29.99	30.37	29	29.49	18	8.8	27	nw.	25	85	70	78	35
Fargo	30.00	30.45	22	29.58	14	.....	.....	......	....	81	68	73	....
Moorhead, Minn	......	.....	....	....	....	8.2	33	w.	14	....	....	....	44

† And other dates.

COMPARATIVE DATA FOR NOVEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	22.3	75	−26	0.80	0.95	0.61	0.79	7.4	4	8	9	13
1893	22.4	74	−27	0.72	0.75	0.24	0.57	4.6	3	9	10	11
1894	23.1	71	−25	0.44	0.54	0.43	0.47	2.6	4	10	8	12
1895	20.6	76	−25	1.18	1.01	1.08	1.09	8.2	5	8	9	13
1896	8.1	62	−32	2.06	2.47	2.17	2.23	21.7	9	8	7	15
1897	20.0	86	−28	0.27	0.33	0.36	0.32	2.8	3	12	9	9
1898	23.0	69	−30	0.42	0.30	0.30	0.34	3.1	3	13	8	9
1899	36.0	68	2	0.26	0.51	0.16	0.31	1.0	2	15	4	11
1900	20.4	64	−29	0.28	0.29	0.40	0.32	5.2	5	14	7	9
1901	26.8	70	− 7	0.10	0.09	0.19	0.13	1.6	1	15	8	7
1902	29.6	69	−12	0.25	0.11	0.36	0.24	1.9	3	11	6	13
1903	25.3	78	−20	0.27	0.22	0.28	0.26	2.5	2	13	4	13
1904	35.7	80	−10	0.10	0.09	0.07	0.09	0.7	1	18	5	7
1905	31.6	88	−38	1.66	1.54	0.89	1.36	11.0	9	7	13	10
1906	23.8	68	−16	1.90	1.34	1.23	1.49	10.2	7	10	7	13
1907	30.2	85	−15	0.08	0.10	0.05	0.08	0.7	1	16	8	6
1908	31.1	75	−15	1.10	0.91	0.80	0.94	8.2	4	12	8	10
1909	29.4	88	−23	0.68	0.31	0.44	0.48	4.6	3	11	9	10
1910	23.9	68	−23	0.34	0.44	0 43	0.40	3.2	2	8	10	12
1911	16.7	58	−33	0.70	0.60	0.63	0.64	7.1	6	12	8	10
1912	31.8	70	1	0.09	0.06	0.06	0.07	0.5	1	14	9	7
1913	34.1	77	− 2	0.21	0.23	0.21	0.22	1.6	2	15	8	7
1914	30.7	83	−30	0.45	0.31	0.23	0.33	2.6	2	13	10	7
1915	28.1	71	−10	0.81	0.83	1.21	0.95	3.7	4	10	10	10
1916	28.8	75	−18	0.10	0.25	0.46	0.27	1.7	2	16	8	6
1917	36.8	77	− 7	0.20	0.13	0.05	0.13	1.4	1	16	6	8
1918	28.9	71	−18	1.31	1.09	0.49	0.96	5.3	4	13	6	11
1919	15.6	57	−36	1.88	0.96	0.62	1.15	11.8	5	11	8	11
1920	28.0	65	−14	0.55	0.33	0.14	0.34	2.1	3	10	9	11
1921	21.0	69	−30	0.52	0.71	0.83	0.69	6.3	5	7	8	15
1922	31.8	65	− 8	2.97	2.26	1.50	2.24	6.3	6	7	7	16
1923	36.5	72	− 5	0.58	0.45	0.39	0.47	0.6	3	13	8	9
1924	27.6	69	−15	0.19	0.17	0.17	0.18	1.9	2	11	9	10
1925	28.8	69	−17	0.42	0.17	0.13	0.24	1.3	2	14	8	8
1926	21.5	68	−23	0.72	0.54	0.60	0.62	6.2	5	6	7	17
1927	20.7	59	−24	0.71	0.72	0.65	0.69	7.1	6	7	8	15
1928	31.0	70	−11	1.08	0.28	0.09	0.48	0.2	1	15	8	7
1929	24.8	70	−21	0.57	0.46	0.56	0.53	5.2	5	9	8	13
1930	29.4	72	−21	1.56	0.62	0.43	0.87	6.2	5	13	7	10
1931	30.3	78	−10	0.98	0.40	0.27	0.55	5.0	3	13	7	10
1932	25.2	70	−17	0.70	0.38	0.45	0.51	4.6	4	10	10	10
1933	28.3	78	−15	0.81	0.58	0.56	0.65	6.6	5	9	8	13
1934	33.9	73	− 1	0.51	0.22	0.10	0.28	1.0	3	13	7	10
1935	17.2	57	−25	0.70	0.79	0.69	0.73	8.1	6	8	8	14
1936	28.0	69	−28	0.37	0.33	0.31	0.34	4.0	4	13	8	9
1937	25.2	73	−25	0.51	0.40	0.33	0.41	3.5	4	10	7	13
1938	23.8	75	−21	0.63	0.94	1.04	0.87	7.9	6	8	10	12
1939	34.9	74	− 4	0.04	0.02	0.02	0.03	T.	1	19	6	5
1940	22.0	59	−28	0.62	0.62	0.53	0.59	7.1	6	8	8	14
1941	30.5	69	−17	0.26	0.48	0.46	0.40	3.6	5	9	8	13
Period	26.7	88	−38	0.69	0.57	0.49	0.58	4.6	4	11	8	11

Climatological Data for November 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	31.8	+4.8	61	12	2	23	32	0.07	−0.56	0.03	1.0	4	12	5	13	nw.	James. H. Erickson.
Cavalier	Pembina	894	31	27.0		56	14	−5	23	34	0.25	−0.54	0.15	0.3	2	8	1	21	n.	City Light & Power Co.
Colgate	Steele	1,180	8								0.09		0.05	1.5	3	10	2	18	nw.	Wm. L. Haugen.
Cooperstown	Griggs	1,428	44	28.1	+0.8	55	12	−2	23	32	0.24	−0.44	0.12	2.4	4	13	10	7	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11								0.45	−0.12	0.27	3.2	4	8	5	17	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	27.9	+3.4	55	14	−1	23	27	0.41	−0.31	0.09	3.6	10	6	7	17	w.	U. S. Weather Bureau.
Edgeley	LaMoure	1,568	40	31.8	+2.5			0	23	32	0.35	−0.11	0.26	3.4	4	8	13	9	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	17	26.3	+1.7	50	12†	−9	23	28	0.16	−0.54	0.08	0.3	4	11	5	14	w.	Mike Davis.
Ellendale	Dickey	1,457	46	32.6	+4.2	69	12	2	23	41	0.28	−0.34	0.13	3.1	3	12	6	12	nw.	J. E. Demmer.
Fargo	Cass	895	14	31.4	+4.6	60	12	5	22†	30	0.09	−0.60	0.05	1.0	4	7	5	18	n.	U. S. Weather Bureau.
Forman	Sargent	1,249	48	31.8	+3.2	61	12	1	23	34	0.43	−0.19	0.33	4.3	3	12	5	13	sw.	Helge Dyste.
Fullerton	Dickey	1,439	43	32.7	+3.7	65	12	4	23	35	0.38	−0.48	0.18	4.1	4	10	5	15	nw.	F. O. Alin.
Grafton	Walsh	827	49	28.5	+3.5	55	12	−5	22	28	0.20	−0.54	0.09	T.	3	3	11	16	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	28.8	+3.0	58	12	−3	23	31	0.13	−0.69	0.05	1.6	4	6	3	21	nw.	U. S. Weather Bureau.
Grand Forks Airport	Grand Forks	832	1	28.9		58	12	−3	22	29	0.18		0.07	1.0	6	7	6	17	nw.	U. S. Airway Comm. Sta.
Hankinson	Richland	1,068	12	32.4	+3.5	64	12	3	23	37	0.22	−0.54	0.14	2.0	2	6	17	7		Joseph Rindt.
Hannah	Cavalier	1,568	49	23.2	+2.5	50	14	−12	23	34	0.45	−0.30	0.20	2.6	3	8	5	17	sw.	A. E. Prior.
Hillsboro	Traill	901	41	31.5	+4.2	61	12	1	23	32	0.03	−0.79	0.02	T.	2	8	6	16	s.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	30.8	+3.5	56	14	4	28	31	0.77	+0.09	0.45	7.7	2	14	3	13	sw.	S. G. Calvelage.
Jamestown Airport	Stutsman	1,494	1	30.2		56	3	2	22	34	0.30		0.23	4.5	4	3	7	20	w.	U. S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	29.5		58	12	−3	23	36	0.43		0.26	5.0	4	10	8	12	nw.	U. S. Wildlife Refuge.
Langdon	Cavalier	1,615	45	26.0	+2.3	52	12	−7	23	34	0.27	−0.55	0.12	1.2	5	9	5	16	sw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	29.4	+3.6	58	12	−3	23	31	0.10	−0.81	0.04	0.7	3	8	6	16	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	37	32.4	+3.6	61	12	3	23	35	0.41	−0.25	0.20	1.6	5	13	3	14	nw.	J. O. Halverson.
Mayville	Traill	975	45	30.9	+3.1	61	3	4	23	36	0.16	−0.53	0.12	T.	2	3	24	3	n.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	27.3	+0.7	55	12	−6	23	34	0.31	−0.21	0.12	2.8	7	12	4	14	nw.	C. E. Blasky.
McLeod	Ransom	1,075	30	31.2	+1.5	60	12†	2	23	40	0.24	−0.42	0.19	2.4	3	12	9	9	sw.	J. G. Carlson.
McVille	Nelson	1,467	11								0.02		0.02	0.5	1	12	9	9	nw.	M. Kabeary.
Milnor	Sargent	1,117	2	32.4		62	11	4	23	30	0.49		0.37	2.7	4	18	9	3	nw.	E. W. Wilson.
Oakes	Dickey	1,318	12	31.8	+3.2	64	12	0	23	40	0.26	−0.32	0.22	2.2	3	13	2	15	nw.	F. H. Murray.
Park River	Walsh	998	37	27.5	+0.5	53	12	−6	23	27	0.07	−0.62	0.05	0.7	2	7	6	17	nw.	E. J. Taintor.
Pembina Airport	Pembina	803	67	26.0	+2.6	53	14	−6	22	30	0.31	−0.50	0.09	2.2	8	5	8	17	nw.	U. S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11								0.12	−0.61	0.05	0.5	4	7	13	10	nw.	T. M. Rykken.
Sharon	Steele	1,516	17	28.6	+3.9	56	12	−4	23	34	0.26	−0.61	0.07	1.4	7	8	7	15	w.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	31.2	+3.2	56	3	3	23	32	0.40	−0.29	0.24	6.0	5	13	5	12	sw.	I. C. Robertson.
Wahpeton	Richland	962	49	33.4	+4.4	61	12	1	23	33	0.20	−0.56	0.12	1.0	4	10	7	13	nw.	W. J. Cavanaugh.
Average for Eastern Division				29.8	+3.0	69	12	−9	23	41	0.26	−0.43	0.45	2.2	4	9	7	14	nw.	
Middle Division																				
Ashley	McIntosh	2,014	45	30.2	+2.2	64	12	−1	22	36	0.15	−0.47	0.09	1.7	5	8	6	16	w.	U. S. Airway Comm. Sta.
Beulah	Mercer	1,797	27																	R. T. Hamilton.
Bisbee	Towner	1,601	38	28.2	+1.8	59	14	−8	23	39	0.17	−0.35	0.11	0.6	3	13	12	5	nw.	Robert L. Peterson.
Bismarck	Burleigh	1,650	67	32.5	+4.0	62	14	3	22	39	0.31	−0.26	0.11	3.3	7	12	1	17	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	49	26.6	+3.0	57	14†	−12	23	40	0.57	+0.08	0.15	2.5	10	10	5	15	nw.	N. D. School of Forestry
Carrington	Foster	1,579	43	28.3	+1.0	55	14	−1	23	39	0.41	−0.17	0.18	1.8	5	12	6	12	nw.	Soo Line Agent.
Carson	Grant	2,500	29	33.2	+3.4	64	11	−2	22†	42	0.13	−0.44	0.07	1.1	5	11	6	13	nw.	J. W. Evens.
Center	Oliver		3	31.6		61	11	3	22	41	0.42		0.12	5.5	6	9	13	8	nw.	Fred L. Heinz.
Dogden Butte ‡‡	McLean	1,880	15	29.8	+3.3	56	14	−4	22	31	0.91	+0.31	0.38	7.6	6	10	5	15	nw.	R. L. Williams.
Drake	McHenry	1,684	12	29.0	+3.1	56	14	−2	22†	38	0.56	+0.16	0.21	5.6	7	10	4	16	w.	H. G. Kringen.
Dunseith	Rolette	1,682	45	26.1	+2.0	57	14	−11	23	37	0.52	−0.03	0.16	6.2	6	4	15	11	n.	Geo. Gehres.
Eckman	Bottineau	1,500	36	28.0	+2.6	60	14	−11	22	37	0.80	+0.33	0.20	8.7	7	10	8	12	se.	R. F. Nowak.
Energy ‡‡	McLean	1,750	26	31.9	+3.6	62	14	−1	23	42	0.48	+0.04	0.15	3.0	5	11	3	10	n.	H. S. Solenberger.
Fessenden	Wells	1,610	29	29.1	+2.5	56	14	−5	23	35	0.89	+0.20	0.26	8.8	10	14	8	8	n.	John V. Zuber.
Fort Yates	Sioux	1,670	41	34.8	+4.8	65	14	2	23	40	T.	−0.50	T	T.	0	15	4	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	29.6	+4.0	59	14	−9	22	37	0.84	+0.17	0.40	11.3	9	9	7	14	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	11	30.8		56	14	2	23	30	0.67	+0.13	0.28	6.5	5	14	7	9	nw.	A. H. Haut.
Garrison	McLean	1,925	64	30.1	+3.6	61	14	−3	22	38	0.55	+0.10	0.27	6.0	5	8	7	15	nw.	E. L. Vorachek.
Granville	McHenry	1,504	34	30.6	+4.2	63	14	−7	22	46	0.48	−0.08	0.14	1.7	8	11	5	14	nw.	C. A. Stubbins.
Hansboro	Towner	1,597	33	25.7	+2.2	56	14	−13	23	34	0.22	−0.37	0.10	1.5	5	9	10	11	nw.	W. E. Disher.
Leeds	Benson	1,515	1	27.4		50	15	−3	22†	30	0.47		0.18	3.7	7	8	6	16	w.	Carl T. Carlson.
Linton	Emmons	1,711	24	33.6	+4.8	63	14	3	23	37	0.19	−0.31	0.08	1.0	5	14	3	13	nw.	Wm. Heyerman.
Maddock	Benson	1,604	26	28.8	+2.6	56	14	−5	23	35	0.39	−0.07	0.17	3.9	7	8	8	14	nw.	A. T. Felland.
Mandan	Morton	1,750	27	32.4	+3.5	62	11†	2	23	31	0.27	−0.24	0.08	2.5	6	11	3	16	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38								0.50	−0.13	0.20	4.0	5	8	6	16	nw.	P. B. Anderson.
Max	McLean	2,093	12	27.4'	+1.7	57'	2†	−7	22†	42'	0.45	−0.01	0.13	5.5	5	7	5	18		A. W. Rice.
McClusky	Sheridan	1,943	23	31.3	+5.7	60	14	−4	22	45	0.46	−0.11	0.34	4.7	3	7	10	13	nw.	F. W. Perry.
Medina	Stutsman	1,816	1								0.41		0.21	3.6	5	9	14	7	nw.	Rudolph Graf.
Minot	Ward	1,574	45	29.6	+2.2	61	14	−8	22	38	0.78	+0.11	0.30	11.2	9	7	5	18	w.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	28.6	+3.6	59	14	−11	22	38	0.99	+0.45	0.35	8.8	8	8	9	13	sw.	Iver Johnson.
Napoleon	Logan	1,955	49	31.6	+4.8	60	12†	−1	23	36	0.52	−0.05	0.25	6.0	4	13	1	16	sw.	C. J. Hoof.
New Salem	Morton	2,163	37	32.4	+2.8	61	14	−1	22	36	0.19	−0.30	0.04	4.2	6	4	14	12	nw.	Wm. F. Gaebe.
Pettibone	Kidder	1,856	32	28.6	+2.5	54	14	−2	22†	37	0.22	−0.36	0.10	2.2	4	8	6	16	nw.	Sam Loeppke.
Rolla	Rolette	1,860	4	26.2		55	14	−12	23	35	0.57		0.16	4.8	5	9	7	14	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	12								0.29	−0.15	0.12	3.1	5	9	7	14	ne.	W. B Paterson.
Ryder	Ward	2,108	12								0.58	+0.12	0.18	4.2	7	12	2	16	nw.	S. C. Schellenbaum.
Selfridge	Sioux	2,183	5								0.26		0.10	0.3	5	12	8	10	nw.	J. B. Smith.
Steele	Kidder	1,857	47	30.4	+3.9	60	14	−2	23	38	0.38	−0.15	0.24	2.7	6	11	5	14	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12								0.70	+0.20	0.29	8.7	9	11	6	13	sw.	G. N. Pilgard.
Timmer	Morton		4								0.02		0.02	1.0	1					Geo. M. Sinclair.
Towner	McHenry	1,482	39	30.4	+5.0	60	14	−6	22	34	1.15	+0.63	0.20	7.0	6	13	8	9	nw.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	31.4	+3.3	60	14	−3	22	35	0.27	−0.15	0.20	4.5	3	10	6	14	sw.	A. S. Haas.
Tuttle	Kidder	1,936	33								0.45	−0.07	0.28	5.4	6	17	1	12	nw.	Adam Leno.
Upham	McHenry	1,435	1								0.90		0.26	8.5	9	9	8	13	nw.	U. S. Wildlife Refuge.
Velva	McHenry	1,511	14	30.7	+3.3	61	14	−5	22	34	0.70	+0.11	0.20	7.0	9	7	10	13	w.	Oscar Anderson.
Washburn	McLean	1,731	40	32.9	+3.5	60	14	0	22	35	0.40	−0.06	0.23	2.2	4	10	8	12	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	26.8	+1.7	58	14	−14	23	38	1.21	+0.69	0.32	5.4	7	12	8	10	se.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	27.2	+4.5	59	14	−12	23	37	0.49	−0.07	0.13	5.7	7	13	9	8	nw.	O. M. Sanderson.
Wilton	McLean	2,159	5	30.3		62	16	−5	23	39	0.13		0.12	2.6	2	10	9	11		Soo Line Agent.
Wishek	McIntosh	2,010	20	30.4	+2.0	60	13	−3	23	35	0.29	−0.07	0.14	4.4	3	11	3	16	nw.	H. M. Larson.
Average for Middle Division				30.0	+3.3	64	11†	−14	23	46	0.48	−0.09	0.40	4.5	6	10	7	13	nw.	

Continued on page 44

EXPLANATORY NOTES. —The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing: for example. ^{t} represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are; Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for November 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Eastern Division																																	
Casselton	Red				.01		.03							.01	T.				T.		.02	T.											0.07
Cooperstown[2]	Sheyenne			T.				.12								T.			T.	.04	.06	.02						T.			T.		0.24
Courtenay	James				.15		.27				T.			T					.01		.02												0.45
Devils Lake[1]‡	Devils Lake	T.		T.	T.	T.	.07	T.	T.	.01	.01	T.		.03	.08		.02		.03	.05	.04	.07	T.							T.			0.41
Edgeley	James				.26	.05					.02							.02															0.35
Edmore	Devils Lake					T.					T			.02	.08				.03		.03												0.16
Ellendale	James				.13	.02	.13				T.										T.												0.28
Fargo[1]	Red			T.	T.	T.	.02	T	T.	T.				T.	T.		T.	.01	.01	T.	.05	T.	T.										0.09
Forman	Sheyenne				.33	T	.07												.03		T.	T											0.43
Fullerton	James				.17	T.	.18	T.	T.		T.							T.	.02	T.	.01		T.										0.38
Grafton	Red													.03	T.				.08	T.	.09												0.20
Grand Forks Airport[3]‡	do			T.		T.	T.	T.	T.	T.	T.			.03	T.			T.	.07	.01	.04	.02	.01										0.18
Hankinson[2]	do					.14		.08											T.		T.												0.22
Hannah	Pembina			T.	T.	T			T.						.20		T	T.	T.	T.	.10	.15											0.46
Hillsboro	Red						T.				T.			.02	T.				.01	T	T.	T.											0.03
Jamestown Airport[3]	James				.23	T	.03		T.	.01	T.			T.	T.			T	T.	.03	T.	T.	T.										0.30
Langdon	Pembina			.02			T.								.09		.02	T.	T.	.02		.12											0.27
Larimore	Red			.02					T.										.04		.04	T.											0.10
Lisbon	Sheyenne				.20	.01	.13				T.			T.	T				.05	T.	.02												0.41
Mayville	Red													.12	T.				.04		T.	T.											0.16
McHenry	James			T.	.02		.08							.04	.02				.02	.01	.12	T.											0.31
McLeod	Sheyenne				.19		.02														.03												0.24
Oakes	James				.22	.02	.02												T.	T.	T												0.26
Park River	Red													T.	T.				.05		T.	.02											0.07
Pembina Airport	do			.04	T.	T.	T.			T.	T.				.03		.01		.87	.04	.02	.09	.01										0.31
Petersburg	do			T.			T.							.01	.04				.02	T.	.05	T											0.12
Sharon	do			.01	T.	T.	.03				T			.07	.01				.06	T.	.05	.03											0.26
Valley City	Sheyenne				.24	.02	.08				T.			T.	T.				T		.05	.01											0.40
Wahpeton	Red				.12	T.	.05											T.	.02		.01	T.											0.20
Middle Division																																	
Ashley[3]	Missouri				.03	T.	.01	T	T.	.09	.01			T.	T	T.		T.	T.	.01	T.	T.	T.										0.15
Bisbee	Devils Lake					.02									.11			T.	T	T.		.04											0.17
Bismarck[1]‡	Missouri				.07	T.	T.	.01		.05	T.			.05	T.	T.		T.	.02	.07	.04	T.	T										0.31
Bottineau[2]	Mouse			T.	.02	.02	.15	T.			.02					.05	.12			.06	.09	.03	.01										0.57
Carrington	James					.18	.08	.05							T.				T.	.03	.07												0.41
Carson	Heart				T		T.	.07			.01			T				T	.03	.01	.01												0.13
Center	Missouri				.09					.10				.08					.03	*	.12	T.											0.42
Dogden Butte	Mouse				.38		.15	.03			T.			.08	T				T	.13	.14	T											0.91
Drake[2]	do				.05	.12	.21	T	T.		T.			.02		T			T.	.03	.11	.02											0.56
Dunseith	do	T.			T.	.16			T.	T.							.12		.06	.08	.08	.02											0.52
Eckman	do				.20		.10			.04					T		.09		.07	.19	.11												0.80
Energy	Missouri				.15						.15			.05					.05	.08													0.48
Fessenden	James				.26	.19			.20		T			.03	.01				.06	.05	.04	.02	.03										0.89
Fort Yates	Missouri				T.			T.			T.								T.	T.													T.
Foxholm (near)	Mouse				.15		.04	.02			.02				T.		.03		.03	.40	.13	.02											0.84
Gackle	James				.20		.28				.11								.05	.03													0.67
Garrison[3]	Missouri				.27					.10				T.	T.			T	.05	.12	.01	T.											0.55
Granville	Mouse				.14		.10	.01			.01								.05	.07	.05	.05											0.48
Hansboro	Devils Lake						T								.03		.10		.03	.01	T	.05											0.22
Linton	Missouri				.02	.02		T.	T.		.08			T.	T.				T.	.02	.05	T.											0.19
Maddock	Sheyenne	T.			.08		.17		T.					.01	.05				.04	.01	.03	T.									T.		0.39
Mandan[2]	Missouri			.08	.02	T.	T.	T.		.04			T.	.04				.02	T.	.07		T.											0.27
Max[2]	do			.12	.03			T.		.09			.13						T.	.08	T.												0.40
McClusky	do				.34			.02		.10										T.	T.	T.											0.46
Minot[3]	Mouse				.30	.03	.01	.02		.03					T.	T.			.07	.26	.01	.05											0.78
Mohall	do		T.	T.	.31		.10	.02		.01							.07		.02	.35	.11												0.99
Napoleon[2]	Missouri					.20		T.			.25								T.	.02	.05												0.52
New Salem	Heart				.04			T.		T	.02			.04					.03	.03	.03												0.19
Pettibone	James				.06	.03					.10								.03	T.	T												0.22
Rolla	Devils Lake			T.			.12								.09		.09		T	T.	.16	.11											0.57
Rugby (near)	Mouse		T.	T	.06		.05				T.			T.	.12		.01		T.	.05	T.	T.											0.29
Ryder	Missouri					.15			.10		.18				.03		.05		.05	T.	.02												0.58
Selfridge	do				.10		.03			.05				T				.05	T.	.03	T.	T.											0.26
Steele	do				.24	.01	.02				.09			T.	T.				.01	T.	.01												0.38
Tagus	Mouse		T.		.29	T.	.01	T.	T	T.	.12				.01		.02	T.	.11	*	.12	.02								T.			0.70
Towner	do			.20	T.	.20		T.	T.	T					.15		.20		.20		.20												1.15
Turtle Lake	Missouri				.20	.02				T.											.05												0.27
Tuttle	do				.28	T	.06	T	T.	T.	.03				.03			T.		.02	.03												0.45
Velva	Mouse				.20			.08		T.	.11			.03	.02		.02		.07	.12	.05	T											0.70
Washburn	Missouri				.23					T.	.08			.07						.02		T.											0.40
Westhope	Mouse				.22		.32				.09						.15		.13		.20	.10											1.21
Willow City	do		T		.09		.07			T					.13		.03		.09	.05	T	.03											0.49
Wishek[2]	Missouri				T.	.06	T				.14	T.			T				T	T.	.09	T.	T.										0.29
Western Division																																	
Alpha	Lit. Missouri				T.	T.	.04			T.				.02	T.			T.		.12													0.18
Amidon	do				T.		T	.35						.05					.40	.20	.01		T.										1.01
Beach	do				T.		.19							T.		T.			.10	.25	.06	T.											0.60
Berthold Agency	Missouri				.10		.10				.07								.09	.02													0.38
Bowman[2]	Grand							.07																									0.07
Crosby	Mouse				.30												.03		.35	.40	T.												1.08
Dickinson Airport[3]	Heart				T.	T	T.	.02		.01	.01			.04	T.	T.		.01	T	.04	.01	T											0.14
Dunn Center	Knife				.04	T.	T.	T.		T	T			T.	T.	T.			.05	.04	T.	T	T										0.13
Fairfield	Lit. Missouri				T.					T	T.			.15				T.	.08	T													0.23
Fryburg	Heart				.06				.05												.05	.11	T.	T.	T.								0.27
Hettinger	Grand							.01		T.				T						.03	T.	T.											0.04
Howard (near)	Missouri				.10	.03				T	.07						.15	.07	.50	.23													1.15
Kenmare	Mouse				.08	.12		.03			T.						.04			.32	.18	.02											0.79
Marmarth	Lit. Missouri				T.		.01			T				.02				T	.05	.09	T.	.01				T.							0.18
Mary	do	T.			.03	T				.02	.03								.04	.10		T.											0.22
Medora	do			T.		T.	T.	T		T.				.05	T.			T.	.09	.05	T.	.01											0.20
Mott	Cannon Ball				.01	T.	T.	.01		T.	.04			.01					.01	.02	.01	T.											0.11
New England[2]	do				.03								.04						.05	.17													0.29
Parshall	Missouri					.09	.03	T.		T.		.18						T.		.05	.10	.06											0.51
Portal[2]	Mouse				.02										.06		.07		.02	.07	.43												0.67
Powers Lake	Missouri		.22		.18	.03	.07												.04	.18	.06	.02											0.80
Richardton	Heart				.01						.02			.02					.03	.04	.01												0.13
Sanish[2]	Missouri				.15		.08				.15			.06		.02			.02		.20												0.68
Stanley	do				.20	T.	T.	.07		.27	T.				T			T.	.09	.13		T.											0.76
Tioga	do				.20						.05								.05	.10													0.40
Trotters	Lit. Missouri	T.			T.	T.	.08			.01				T.				T.	.21	.39	.06	.02											0.77
Watford City	Missouri				.05			T.	.01	T.	.02			.03				T.	.18	.07													0.36
Wildrose	do	T.			.11	T.	T			.07	.01				.01		.03	.06	.33	.13													0.75
Williston[1]‡	do			T.	.05	T.	.01			.01	.02			.02	T	.01	T.	T.	.40	.17	.01	T.	T.										0.70

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; data are for the 24-hour period, midnight to midnight. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. [3] Data for 24 hours ending 12:30 a. m. C.S.T. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for November 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Ashley [1]	Maximum	49	50	54	31	27	32	31	29	33	35	53	64	41	57	57	53	36	35	30	23	37	16	31	43	47	52	47	49	34	41	....	40.6
	Minimum	16	21	21	25	20	20	18	23	20	19	22	31	24	27	33	29	28	25	21	7	14	−1	2	14	29	25	20	13	13	14	....	19.8
Beach	Maximum	55	50	56	49	50	50	46	45	49	45	62	53	43	56	55	53	40	30	25	24	33	13	30	38	42	49	50	41	51	55	....	44.6
	Minimum	25	25	32	32	26	31	32	23	21	37	38	34	33	35	36	31	29	24	19	18	13	−10	1	17	33	34	31	23	20	32	....	25.8
Bismarck [1]	Maximum	55	51	55	33	29	36	34	30	33	36	61	57	46	62	54	49	37	32	28	25	37	15	36	45	47	54	45	36	32	54	....	41.5
	Minimum	20	25	24	29	24	27	26	27	24	25	22	28	29	29	40	32	30	28	23	16	15	3	5	16	32	28	21	19	16	21	....	23.5
Bottineau§	Maximum	46	48	40	33	26	35	34	33	34	37	41	44	44	57	57	46	34	26	24	24	29	10	22	38	36	41	35	30	38	46	....	36.3
	Minimum	22	24	26	28	24	12	11	24	12	15	14	25	31	28	30	26	25	21	23	8	10	−9	−12	2	5	20	25	22	9	6	....	17.0
Carson	Maximum	59	51	56	48	31	35	35	29	35	33	64	58	45	63	57	56	41	32	32	24	35	16	38	47	50	55	52	36	37	60	....	43.7
	Minimum	21	28	27	28	23	25	22	16	21	25	22	32	27	28	40	32	28	26	21	11	13	−2	−2	15	33	28	27	23	16	25	....	22.6
Crosby	Maximum	56	51	56	37	32	38	38	37	34	38	55	50	46	53	53	45	50	29	25	30	30	27	23	34	43	43	41	31	32	41	....	39.9
	Minimum	22	28	23	28	28	30	28	19	23	30	24	35	30	31	30	34	27	21	20	10	12	−12	−5	−7	28	20	15	20	24	13	....	21.0
Devils Lake [1]	Maximum	43	47	46	32	26	27	29	32	27	36	45	51	45	55	46	37	33	31	27	22	34	15	19	36	40	45	36	31	20	41	....	35.1
	Minimum	21	30	28	25	23	22	10	24	21	25	26	34	29	29	29	27	28	26	22	9	12	0	−1	11	25	21	22	17	11	14	....	20.7
Dickinson Airport [1]	Maximum	55	49	51	48	38	41	38	30	42	42	64	57	44	59	53	54	34	28	25	29	33	9	33	42	45	53	45	40	33	57	....	42.4
	Minimum	24	26	31	27	26	31	25	20	22	26	26	37	30	33	39	30	27	21	21	16	6	−5	7	21	34	33	29	21	22	29	....	24.5
Dunn Center	Maximum	58	49	50	39	35	39	40	31	40	37	63	53	48	59	54	53	39	30	27	25	34	15	33	41	47	53	42	30	27	58	....	41.6
	Minimum	20	23	26	27	24	25	28	16	22	25	17	35	31	28	35	33	27	26	19	17	13	−7	−3	16	33	29	20	20	19	16	....	21.9
Fargo	Maximum	45	50	55	37	31	31	32	30	26	37	48	60	42	48	50	49	43	43	34	27	37	21	28	40	45	53	42	41	32	34	....	39.7
	Minimum	18	27	25	31	26	25	25	24	23	24	31	31	24	22	30	31	30	32	27	12	10	5	5	14	26	23	21	23	19	26	....	23.0
Fessenden	Maximum	50	48	52	37	28	26	31	31	28	35	46	54	43	56	51	42	33	30	29	25	33	21	24	36	42	47	37	29	28	50	....	37.4
	Minimum	22	31	26	27	22	21	15	25	22	27	18	34	31	26	35	28	28	27	22	11	6	−2	−5	9	29	23	22	18	10	15	....	20.8
Fullerton	Maximum	51	51	56	45	31	28	26	30	30	38	50	65	51	55	57	55	42	37	37	28	40	29	31	44	48	54	47	40	34	32	....	42.1
	Minimum	20	31	23	30	23	23	15	26	23	22	25	30	29	25	43	32	32	33	28	19	13	10	4	16	30	24	22	18	17	14	....	23.3
Garrison [1]	Maximum	54	48	48	34	29	31	33	30	32	34	57	50	47	61	51	47	34	29	27	23	34	18	31	39	42	51	41	30	25	56	....	38.9
	Minimum	21	28	26	25	22	25	23	24	23	21	19	22	34	29	32	30	27	23	22	14	10	−3	−1	11	30	27	21	19	15	20	...	21.3
Grafton	Maximum	36	42	47	36	34	29	28	31	30	38	37	55	46	50	49	36	36	36	34	31	22	22	35	42	42	32	32	35	31	32	....	36.2
	Minimum	8	23	26	31	26	25	24	20	21	23	19	30	30	24	30	28	30	31	26	15	2	−5	10	25	18	22	22	17	14	10	....	20.8
Grand Forks Airport [1]	Maximum	42	47	50	35	29	30	29	32	28	38	43	58	44	48	48	39	38	39	32	27	31	17	22	37	41	48	31	37	26	34	....	36.7
	Minimum	19	30	26	28	26	25	24	24	21	24	21	29	23	23	27	28	32	32	25	12	12	−3	0	8	26	19	21	23	14	13	...	21.1
Jamestown Airport [1]	Maximum	54	50	56	33	27	29	30	30	27	38	49	53	46	55	54	47	37	34	32	24	37	19	29	42	47	53	43	36	30	37	...	39.3
	Minimum	20	28	24	27	22	23	10	22	20	25	21	33	27	26	33	29	29	28	23	10	14	2	4	17	29	23	20	19	14	13	...	21.2
Kenmare	Maximum	58	51	44	32	35	35	34	30	35	34	54	49	50	60	50	42	30	25	26	34	34	13	29	42	38	44	36	27	31	51	...	38.4
	Minimum	25	29	29	28	22	22	25	21	22	23	24	27	31	30	33	30	28	22	18	16	14	−9	−10	12	17	24	20	20	10	10	....	20.4
Langdon	Maximum	47	44	46	32	28	30	27	32	28	36	40	52	47	50	46	34	33	29	30	29	30	25	18	30	37	43	32	25	20	40	....	34.7
	Minimum	13	30	24	25	22	21	10	21	18	23	13	30	29	25	29	24	25	24	22	12	1	−6	−7	6	21	13	19	13	7	9	....	17.2
Marmarth	Maximum	52	52	53	53	48	49	43	42	51	47	65	60	44	61	57	54	40	42	26	25	35	15	32	39	45	52	53	42	50	55	....	46.1
	Minimum	18	23	29	33	28	29	31	15	20	25	16	23	34	34	35	30	32	25	21	20	15	−11	−2	11	33	27	22	27	17	25	....	22.8
Minot [1]	Maximum	57	49	46	35	31	33	34	30	34	35	50	51	50	61	52	43	38	30	26	23	35	10	32	40	44	48	37	29	27	56	...	38.9
	Minimum	20	24	25	25	23	23	23	25	24	22	23	38	28	36	32	30	28	18	20	13	7	−8	−1	10	18	18	18	17	12	18	....	20.3
Mott	Maximum	57	52	54	50	38	42	39	35	36	42	65	60	46	63	55	55	42	34	32	25	34	19	28	45	51	56	49	40	42	61	....	45.2
	Minimum	35	26	29	30	25	33	33	20	22	31	21	29	33	31	40	31	32	28	22	17	14	−3	2	12	31	28	37	32	28	27	....	25.9
Pembina Airport [1]	Maximum	37	41	37	35	29	27	28	29	27	36	33	51	42	53	42	35	35	34	31	25	24	14	18	34	41	34	24	32	22	33	...	32.8
	Minimum	16	29	27	27	23	24	23	23	20	23	16	27	25	26	26	26	28	30	24	7	10	−6	−3	4	18	17	17	19	14	16	....	19.2
Sharon	Maximum	47	48	51	34	30	26	28	29	27	36	44	56	46	47	49	40	35	34	31	24	35	20	24	38	40	48	36	33	27	31	....	36.5
	Minimum	18	31	25	30	23	21	20	23	21	21	24	34	30	24	31	27	29	29	24	13	1	0	−4	12	26	19	22	20	11	12	....	20.6
Steele	Maximum	53	50	54	38	30	33	32	30	30	35	53	56	45	60	58	49	44	34	30	22	35	20	32	43	46	54	43	35	31	50	....	40.8
	Minimum	15	28	21	27	22	21	20	24	20	26	19	29	28	24	35	29	27	28	20	12	11	1	−2	10	24	21	17	16	13	14	....	20.0
Valley City	Maximum	48	50	56	38	33	30	29	32	31	30	45	55	51	48	53	47	47	37	36	30	38	27	28	41	45	52	41	36	28	34	....	39.9
	Minimum	16	26	24	31	24	23	19	26	23	20	26	35	30	21	40	30	30	32	25	18	12	9	3	18	27	20	21	20	10	15	....	22.5
Wahpeton	Maximum	46	53	57	52	34	31	34	30	29	37	45	61	54	48	56	51	47	44	41	33	38	33	29	40	49	56	47	43	37	35	....	43.0
	Minimum	18	27	25	30	25	23	24	23	22	21	31	29	31	26	38	31	30	38	28	21	8	11	1	13	26	23	22	24	20	22	....	23.7
Williston [1]	Maximum	52	48	43	37	38	45	43	30	38	42	57	48	46	61	50	47	38	28	26	29	34	8	31	41	42	46	39	30	27	47	....	39.7
	Minimum	24	30	34	29	28	32	25	19	21	29	27	36	34	39	38	38	28	19	17	18	8	−7	3	15	32	28	20	26	23	22	....	24.5

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for November 1941—Continued from page 42.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	......	......	....	...	.....		.....	0.18	−0.21	0.12	4.0	3	12	10	8	nw.	H. A. Bury.
Amidon	Slope	2,908	18	34.8	+4.2	64	11	−9	22	37	1.01	+0.61	0.40	1.3	5	16	8	6	w.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	35.2	+4.5	62	11	−10	22	31	0.60	+0.12	0.25	3.1	4	6	15	9	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	33.4	+5.0	62	14	−4	23	39	0.38	+0.01	0.10	4.2	5	12	5	13	nw.	H. W. Case.
Bowbells	Burke	1,958	12	26.8	+1.6	58	1†	−13	22†	49	0.36	−0.14	0.07	2.6	8	4	10	16	w.	Charles Kaufman.
Bowman	Bowman	2,872	26	33.8	+3.3	65	11	−11	22	43	0.07	−0.32	0.07	0.0	1	13	3	14	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	32	30.4	+3.9	56	1†	−12	22	41	1.08	+0.48	0.40	11.0	4	3	11	16	nw.	J. H. Phelps.
Dickinson	Stark	2,543	48	31.5	+3.3	63	11	−6	23	44	0.32	−0.15	0.09	4.8	7	6	14	10	w.	Leroy Moomaw.
Dickinson Airport	Stark	2,583	1	33.4	.....	64	11	−5	22	38	0.14	.....	0.04	1.3	7	2	7	21	w.	U. S. Airway Comm. Sta.
Dunn Center	Dunn	2,191	41	31.8	+3.9	63	11	−7	22	46	0.13	−0.33	0.05	2.0	3	8	10	12	nw.	O. T. Evenson.
Epping	Williams	2,224	30	30.3	+4.0	60	12	−12	22	35	0.37	−0.07	0.21	6.0	4	18	8	4	se.	T. Beachler.
Fairfield	Billings	......	4	.....	.....	....	...	.....	...	....	0.23	−0.19	0.15	5.3	2	12	5	13	nw.	Mrs. Edith Larson.
Fryburg	Billings	2,790	22	34.2	......	65	12	−8	22	37	0.27	−0.22	0.11	1.6	4	9	13	8	nw.	Verne King.
Golva	Golden Valley	.....	1	33.6	......	63	11	−11	22	43	0.43	....	0.14	3.9	8	5	13	12	w.	U. S. Airway Comm. Sta.
Halliday	Dunn	2,073	1	.....	......	...	...	.....	....	.....	0.36	....	0.11	3.0	6	5	10	15	nw.	Thom. C. Lorenzen.
Hettinger	Adams	2,675	33	35.0	+3.6	63	11	−3	22	39	0.04	−0.38	0.03	0.3	2	15	11	4	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	29.4	+3.3	60	14	−12	22	36	1.15	+0.60	0.50	8.7	7	3	11	16	sw.	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	29.4	......	60	14	−10	23	41	0.79	+0.24	0.32	6.0	7	14	2	14	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	34.4	+3.5	65	11	−11	22	49	0.18	−0.21	0.09	2.0	5	15	3	12	nw.	S. P. Grane.
Mary	McKenzie	......	12	.....	......	....	...	.....	....	.....	0.22	−0.21	0.10	5.1	5	7	7	16	nw.	Fred Hartman.
Medora	Billings	2,271	25	.....	......	....	...	.....	....	.....	0.20	−0.30	0.09	0.8	4	12	11	7	nw.	Vernon Thompson.
Mott	Hettinger	2,424	33	35.6	+6.3	65	11	−3	22	44	0.11	−0.37	0.04	0.7	7	7	12	11	nw.	P. G. Wick.
New England	Hettinger	2,400	46	33.7	+4.3	64	11	−4	21	39	0.29	−0.15	0.17	1.5	4	12	5	13	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	25	29.4	......	57	11	−7	23	42	0.51	+0.14	0.18	4.0	6	4	15	11	nw.	C. E. Shubert.
Portal	Burke	1,954	35	25.8	+0.8	59	1	−17	22	44	0.67	+0.12	0.43	6.5	6	12	9	9	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	35	28.4	+3.0	59	14	−1	22	38	0.80	+0.31	0.22	4.5	8	10	9	11	ne.	Geo. B. Gee.
Richardton	Stark	2,467	24	32.2	+3.5	60	11†	−4	22	35	0.13	−0.35	0.04	1.6	6	10	6	14	sw.	Assumption Abbey.
Sanish	Mountrail	1,835	15	30.8	+2.8	60	11	−5	23	40	0.68	+0.18	0.20	2.0	7	7	6	17	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	28.0	......	56	14	−11	22	40	0.76	....	0.27	7.8	5	8	7	15	nw.	Leroy Edwards.
Tioga	Williams	2,279	12	.....	......	....	...	.....	....	.....	0.40	−0.06	0.20	7.0	4	12	8	10	se.	B. V. Olson.
Trotters	Golden Valley	......	15	.....	......	....	...	.....	....	.....	0.77	+0.33	0.39	7.4	6	5	15	10	sw.	Walter Grunewald
Van Hook	Mountrail	1,864	1	31.4	......	59	14	−5	22	40	0.51	....	0.15	3.1	6	8	4	18	nw.	Soil Conservation Serv.
Watford City	McKenzie	2,084	27	32.6	+4.1	63	11	−10	22	43	0.36	−0.14	0.18	3.7	6	9	15	6	w.	J. C. Zeller.
Wildrose	Williams	2,258	13	.....	......	....	...	.....	....	.....	0.75	+0.24	0.33	8.0	8	7	5	18	sw.	L Holter.
Williston	Williams	1,878	61	32.1	+4.9	61	14	−7	22	30	0.70	+0.12	0.45	7.0	9	8	8	14	w.	U. S. Weather Bureau.
Average for Western Division		......	.....	31.8	+3.8	65	11†	−17	22	49	0.46	−0.03	0.50	4.0	5	9	9	12	nw.	....
Average for the State		......	.....	30.5	+3.8	69	12	−17	22	49	0.40	−0.18	0.50	3.6	5	9	8	13	nw.	....

[WBO, Minneapolis, 1-12-42—1100]

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

VOL. L — BISMARCK, N. D., DECEMBER 1941 — No. 12

PRICE: 5 CENTS A COPY; 25 CENTS A YEAR (NOT STAMPS)
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GENERAL SUMMARY

December 1941 was the third warmest December of record. Subzero temperatures were reported on only a few days during the second week and again near the close of the month. Unusually mild weather prevailed at all other times. The precipitation was scattered throughout the month but was very light. This was the driest December since state-wide records began, but due to heavy precipitation from April to October, 1941 was the wettest year in the climatological history of the state. Winds were mostly light and no severe storms were reported. The ice on the Missouri was thin and there were open lanes in the channel throughout the month. Livestock was in excellent condition and feed was plentiful.

TEMPERATURE

The mean temperature for the state was 22.5°, or 9.2° above the 1892-1941 average for December. The mean temperature for the eastern division was 20.4°; for the middle division, 22.5°; and for the western division, 24.6°. The highest mean temperature was 28.4° at Beach, and the lowest, 15.6° at Hannah, making a range in mean temperature of 12.8°. The absolute range was 88°, from 68° at Hankinson on the 3d, to -20° at three stations on the 10th and 31st. The average daily excess in temperature for the state since January 1, 1941, is 2.7°.

PRECIPITATION

The average precipitation for the state was 0.15 inch, or 0.33 inch less than the 1892-1941 average for December. In the eastern division the average amount was 0.15 inch; in the middle division, 0.17 inch; and in the western division, 0.14 inch. The greatest monthly amount reported was 0.70 inch at Towner; the least was a trace at Tioga. The greatest amount recorded in any 24 consecutive hours was 0.27 inch at Powers Lake on the 17th. The accumulated excess in precipitation for the state since January 1, 1941, is 6.24 inches. The average snowfall was 1.8 inches.

ERRATA

NOVEMBER 1941—p. 41: Table, Pressure. Wind. Humidity. and Sunshine.

Fargo should be,	29.99	30.37	29	29.49	18	8.8	27	nw.	25	85	70	78	35
Williston should be,	30.00	30.45	22	29.58	14	8.2	33	w.	14	81	68	73	44

MISCELLANEOUS PHENOMENA

(Dates and number of stations reporting)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Auroras	4	2	..	..	..	..	..	..	..	..	..	..	6	3	3	4	6	8	2	1	..	..	..	..	..	..	..	2	1	..	..
Dust storms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fogs	4	..	..	..	1	2	..	1	3	..	..	4	..	4	8	16	15	..	8	6	31	16	20	4	3	3	3	2	2	1	2
Lunar halos	3	..	1	..	..	1	..	..	2	2	..	..	..	..	1	..	..	..	..	..	1	1	1	2	1	1	2	..	..	1	2
Solar halos	..	..	1	..	..	..	..	1	3	3	..	..	..	..	8	..	..	..	..	..	1	..	1	3	1	..	..	..	..	..	2
Sleet	..	..	..	5	..	..	3	2	..	..	..	..	..	..	..	..	1	..	..	..	3	1	..	..	..	1	..	..	..	..	..
Thund'rst'ms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	6:30 a. m.	12:30 p. m.	6:30 p. m.	
Bismarck	30.04	30.70	10	29.25	3	9.6	40	nw.	7	86	65	71	38
Devils Lake	29.91	30.68	10	29.20	3	8.5	27	nw.	17	92	76	86	53
Fargo	30.03	30.71	10	29.25	3	9.1	25	n.	8	88	78	82	55
Williston	30.01	30.65	10	29.20	3	6.8	33	nw.	7	80	66	64	58

† And other dates.

COMPARATIVE DATA FOR DECEMBER

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	7.1	60	−39	0.44	0.49	0.78	0.57	7.7	4	13	8	10
1893	4.7	55	−36	0.71	0.83	1.02	0.85	8.4	6	11	9	11
1894	19.1	70	−32	0.38	0.17	0.32	0.29	1.6	2	18	7	6
1895	13.8	62	−32	0.24	0.29	0.39	0.31	2.6	3	12	9	10
1896	16.4	53	−35	0.50	0.46	0.13	0.36	2.6	3	13	9	9
1897	10.8	69	−35	0.24	0.21	0.21	0.22	2.2	3	12	8	11
1898	12.1	51	−38	0.24	0.24	0.24	0.24	2.1	3	14	9	8
1899	12.8	60	−26	0.31	0.31	0.34	0.32	3.3	3	13	7	11
1900	17.3	58	−29	0.35	0.29	0.29	0.31	3.0	4	13	8	10
1901	12.4	61	−43	0.72	0.74	0.75	0.74	7.2	5	10	7	14
1902	7.8	49	−35	0.50	0.30	0.72	0.51	4.2	4	14	7	10
1903	11.6	57	−33	0.63	0.74	0.93	0.77	7.2	6	11	7	13
1904	14.2	55	−43	0.60	0.62	0.73	0.65	6.2	5	7	8	16
1905	15.3	55	−34	0.21	0.16	0.12	0.16	1.6	4	16	2	13
1906	8.4	48	−40	1.09	0.91	1.27	1.09	10.7	6	11	7	13
1907	20.1	68	−26	0.36	0.23	0.31	0.30	3.1	3	15	7	9
1908	14.4	62	−37	0.53	0.26	0.28	0.36	3.7	3	13	10	8
1909	5.2	54	−42	1.88	1.10	0.86	1.28	12.1	7	9	8	14
1910	12.9	56	−34	0.45	0.42	0.42	0.43	4.6	4	12	8	11
1911	14.9	61	−33	0.45	0.26	0.34	0.35	4.5	4	10	8	13
1912	18.9	72	−28	0.62	0.55	0.13	0.43	4.0	4	14	8	9
1913	22.7	61	−21	0.05	0.12	0.01	0.06	0.3	1	18	6	7
1914	5.4	57	−42	0.58	0.40	0.42	0.47	5.7	4	12	9	10
1915	15.8	57	−27	0.56	0.56	0.44	0.52	5.4	5	11	9	11
1916	2.7	61	−50	1.39	1.34	0.81	1.18	13.9	5	15	8	8
1917	0.7	58	−44	0.51	0.64	0.61	0.59	7.4	6	9	9	13
1918	18.5	65	−41	0.97	0.92	0.76	0.88	9.9	5	9	8	14
1919	7.4	49	−38	0.65	0.48	0.28	0.47	4.8	3	14	9	8
1920	15.2	59	−32	0.48	0.33	0.16	0.32	3.2	3	11	9	11
1921	16.5	59	−33	0.52	0.33	0.38	0.41	3.9	4	14	7	10
1922	8.5	55	−34	0.75	0.76	0.53	0.68	7.4	5	11	8	12
1923	22.2	62	−36	0.38	0.35	0.23	0.32	3.6	3	16	8	7
1924	2.9	58	−46	0.40	0.39	0.54	0.44	5.3	4	12	7	12
1925	16.5	67	−38	0.24	0.30	0.30	0.28	2.6	3	12	8	11
1926	9.2	55	−36	0.60	0.50	0.59	0.56	5.5	3	14	8	9
1927	− 1.8	43	−38	0.96	0.52	0.91	0.80	8.7	5	14	7	10
1928	20.7	57	−30	0.47	0.23	0.27	0.32	3.2	3	14	7	10
1929	12.5	59	−38	0.68	0.88	0.88	0.81	9.9	5	12	8	11
1930	19.9	53	−30	0.21	0.16	0.21	0.19	2.0	3	12	8	11
1931	21.0	58	−21	0.25	0.15	0.29	0.23	2.7	2	13	8	10
1932	12.4	60	−31	0.17	0.14	0.28	0.20	1.7	3	14	10	7
1933	8.6	62	−38	1.09	0.79	0.83	0.90	9.7	6	9	8	14
1934	12.6	53	−44	0.40	0.22	0.29	0.30	3.9	5	9	8	14
1935	12.6	51	−34	0.65	0.52	0.34	0.50	5.6	5	10	7	14
1936	15.0	59	−36	0.50	0.32	0.46	0.43	5.5	4	11	8	12
1937	11.4	51	−33	0.62	0.51	0.49	0.54	6.5	6	10	9	12
1938	18.2	55	−41	0.40	0.30	0.26	0.32	4.1	4	11	10	10
1939	26.7	70	−20	0.27	0.30	0.27	0.28	2.3	4	10	10	11
1940	19.8	59	−36	0.79	0.28	0.19	0.42	4.0	4	10	7	14
1941	22.5	66	−20	0.15	0.17	0.14	0.15	1.8	3	10	11	10
Period	13.3	72	−50	0.54	0.45	0.46	0.48	5.1	4	12	8	11

Climatological Data for December 1941

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Eastern Division																				
Casselton	Cass	961	45	22.0	+9.2	57	3	-9	31	34	0.10	-0.44	0.07	3.0	2	15	12	4	nw.	James. H. Erickson.
Cavalier	Pembina	894	31	16.5	...	52	2	-12	31	40	0.12	-0.72	0.08	1.5	2	14	3	14	n.	City Light &Power Co.
Colgate	Steele	1,180	8	...	...	...	...	...	...	...	0.10	...	0.08	0.3	3	7	12	12	ne.	Wm. L. Haugen.
Cooperstown	Griggs	1,428	44	18.6	+5.6	54	2	-12	31	42	0.13	-0.43	0.04	0.9	5	9	10	12	nw.	Theo. Marquardt.
Courtenay	Stutsman	1,523	11	...	...	...	...	...	...	...	0.15	-0.50	0.10	2.0	2	10	7	14	nw.	G. H. Hanawalt.
Devils Lake	Ramsey	1,471	44	19.6	+10.1	56	3	-12	10	32	0.18	-0.36	0.07	1.9	7	6	6	19	nw.	U.S. Weather Bureau.
Edgeley	LaMoure	1,568	40	21.5	+6.5	50	3†	-8	31	34	0.05	-0.35	0.05	2.0	1	4	21	6	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	17	16.9	+6.4	51	3	-20	10	41	0.11	-0.47	0.03	1.1	6	13	7	11	nw.	Mike Davis.
Ellendale	Dickey	1,457	46	23.4	+7.1	58	3	-8	31	38	0.19	-0.27	0.14	2.3	3	6	9	16	s.	J. E. Demmer.
Fargo	Cass	895	14	20.7	+8.8	57	3	-7	31	30	0.24	-0.29	0.10	1.9	4	6	9	16	n.	U.S. Weather Bureau.
Forman	Sargent	1,249	48	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Helge Dyste.
Fullerton	Dickey	1,439	43	23.4	+8.2	56	3	-8	31	33	0.20	-0.65	0.20	2.0	1	3	13	15	nw.	F. O. Alin.
Grafton	Walsh	827	49	18.8	+8.1	51	3	-11	31	40	0.07	-0.47	0.07	T	1	9	10	12	nw.	Dr. J. C. Lamont.
Grand Forks ‡‡	Grand Forks	831	50	18.5	+7.5	52	3	-11	10	35	0.21	-0.39	0.05	3.0	7	4	3	24	s.	U.S. Weather Bureau.
Grand Forks Airport	Grand Forks	832	1	17.4	...	52	3	-11	10†	38	0.21	...	0.08	3.3	8	4	8	19	nw.	U.S. Airway Comm. Sta.
Hankinson	Richland	1,068	12	24.0	+6.3	68	3	-7	11	42	0.10	-0.38	0.10	1.0	1	4	12	15	nw.	Joseph Rindt.
Hannah	Cavalier	1,568	49	15.6	+8.0	47	3	-18	10	33	0.15	-0.47	0.10	0.5	2	11	11	9	sw.	A. E. Prior.
Hillsboro	Traill	901	41	20.3	+12.3	59	3	-10	31	34	0.20	-0.46	0.08	3.5	5	10	9	12	n.	Alfred Jahnke.
Jamestown	Stutsman	1,457	49	23.8	+9.9	61	2	-7	10	40	0.05	-0.61	0.04	0.5	2	15	4	12	sw.	S. G. Calvelage.
Jamestown Airport	Stutsman	1,494	1	21.8	...	61	2	-9	31	39	0.03	...	0.03	2.7	1	4	6	21	nw.	U.S. Airway Comm. Sta.
Kensal	Stutsman	1,440	2	20.4	...	58	2	-11	31	40	0.20	...	0.08	1.8	4	3	19	9	nw.	U.S. Wildlife Refuge.
Langdon	Cavalier	1,615	45	16.8	+8.0	52	3	-18	10†	37	0.34	-0.29	0.08	3.4	11	11	9	11	nw.	V. Sturlaugson.
Larimore	Grand Forks	1,134	48	20.2	+8.7	57	2	-12	10†	42	0.18	-0.39	0.08	2.7	3	5	10	16	nw.	W. L. Goodison.
Lisbon	Ransom	1,091	37	23.5	+8.7	58	3†	-7	10	35	0.07	-0.41	0.04	0.4	2	14	3	14	nw.	J. O. Halverson.
Mayville	Traill	975	45	21.0	+7.7	55	3†	-10	31	39	0.19	-0.35	0.08	1.7	4	15	8	8	n.	H. B. Addicott.
McHenry (near)	Eddy	1,509	19	19.0	+8.2	56	3	-14	10	45	0.10	-0.40	0.03	0.9	5	9	14	8	nw.	C. E. Blasky.
McLeod	Ransom	1,075	30	23 1	+8.0	60	3†	-8	9†	47	0.29	-0.19	0.19	1.9	2	13	10	8	sw.	J. G. Carlson.
McVille	Nelson	1,467	11	...	...	...	...	...	...	...	T.	...	T.	0.1	0	10	14	7	nw.	M. Kabeary.
Milnor	Sargent	1,117	2	20.0	...	54	2	-14	31	32	0.04	...	0.04	0.2	1	15	12	4	nw.	E. W. Wilson.
Oakes	Dickey	1 318	12	23.8	+7.6	60	3†	-8	31	41	0.08	-0.36	0.06	0.8	2	11	3	17	nw.	F. H. Murray.
Park River	Walsh	998	37	17.6	+6.5	54	3	-13	31	35	0.06	-0.37	0.03	2.9	4	13	8	10	nw.	E. J. Taintor.
Pembina Airport	Pembina	803	67	16.0	+9.0	48	3	-13	31	33	0.27	-0.37	0.07	3.3	11	6	15	10	nw.	U.S. Airway Comm. Sta.
Petersburg	Nelson	1,520	11	...	...	...	...	...	...	...	0.11	-0.39	0.06	0.4	3	12	10	9	nw.	T. M. Rykken.
Sharon	Steele	1,516	17	19.8	+7.6	54	2	-12	31	41	0.18	-0.27	0.05	1.5	6	4	16	11	nw.	Nels O. Grefsheim.
Valley City	Barnes	1,245	35	23.0	+8.5	55	2	-9	14	45	0.10	-0.38	0.05	1.0	3	12	8	11	nw.	I. C. Robertson.
Wahpeton	Richland	962	49	23.2	+7.4	60	2	-7	10	38	0.22	-0.24	0.16	6.0	5	7	14	10	se.	W. J. Cavanaugh.
Average for Eastern Division		...	...	20.4	+7.8	68	3	-20	10	47	0.15	-0.39	0.20	1.8	4	9	10	12	nw.	...
Middle Division																				
Ashley	McIntosh	2,014	45	21.8	+7.0	59	2	-11	10	36	0.12	-0.44	0.12	1.6	1	8	9	14	n.	U.S. Airway Comm. Sta.
Beulah	Mercer	1,797	27	...	...	...	...	...	...	...	0.04	...	0.02	T.	2	6	21	4	nw.	R. T. Hamilton.
Bisbee	Towner	1,601	38	19.4	+9.7	53	4	-13	10	35	0.17	-0.25	0.09	1.5	2	18	10	3	nw.	Robert L. Peterson.
Bismarck	Burleigh	1,650	67	23.7	+9.0	55	2	-5	10	36	0.09	-0.48	0.05	1.0	3	4	11	16	nw.	U.S. Weather Bureau.
Bottineau	Bottineau	1,638	49	18.5	+10.2	50	3	-15	11	30	0.19	-0.28	0.06	1.5	7	10	6	15	nw.	N. D. School of Forestry
Carrington	Foster	1,579	43	20.6	+8.0	58	2	-11	11	37	0.06	-0.33	0.06	0.6	1	5	9	17	nw.	Soo Line Agent.
Carson	Grant	2,500	29	26.3	+9.7	60	3	-7	10	42	0.11	-0.40	0.10	1.0	2	8	13	10	nw.	J. W. Evens.
Center	Oliver	...	3	23.8	...	60	3	-5	10†	45	0.26	...	0.07	2.9	6	6	18	7	sw.	Fred L. Heinz.
Dogden Butte ‡‡	McLean	1,880	15	24.1	+9.3	58	3	-10	10	29	0.23	-0.25	0.12	1.9	4	5	10	16	nw.	R. L. Williams.
Drake	McHenry	1,634	12	21.8	+6.4	58	3	-9	10	29	0.06	-0.23	0.05	0.6	2	9	8	14	s.	H. G. Kringen.
Dunseith	Rolette	1,682	45	18.5	+8.2	50	3†	-15	10	37	0.54	+0.12	0.26	5.1	5	7	16	8	w.	Geo. Gehres.
Eckman	Bottineau	1,500	36	20.8	+10.5	53	3	-17	10	39	0.09	-0.39	0.03	2.8	4	9	12	10	sw.	R. F. Nowak.
Energy ‡‡	McLean	1,750	26	24.4	+8.2	61	3	-8	10	39	0.15	-0.30	0.08	2.0	2	11	16	4	nw.	H. S. Solenberger.
Fessenden	Wells	1,610	29	22.4	+10.6	60	3	-9	10†	35	0.22	-0.38	0.14	2.0	4	10	15	6	sw.	John V. Zuber.
Fort Yates	Sioux	1,670	41	26.8	+7.6	58	3	-6	10	40	0.01	-0.41	0.01	0.1	1	15	5	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	20	22.8	+8.6	60	3	-13	11	29	0.22	-0.29	0.18	4.6	4	7	13	11	nw.	E. C. Bierbaum.
Gackle	Logan	1,951	11	23.6	...	57	2	-8	31	32	0.13	-0.32	0.13	0.8	1	16	10	5	nw.	A. H. Haut.
Garrison	McLean	1,925	64	22.8	+8.4	56	3	-11	31	32	0.31	-0.18	0.11	3.0	5	8	15	8	nw.	E. L. Vorachek.
Granville	McHenry	1,504	34	24.4	+11.4	59	3	-12	10	42	0.35	-0.12	0.15	2.5	5	10	11	10	nw.	C. A. Stubbins.
Hansboro	Towner	1,597	33	19.2	+10.0	57	4	-15	10	43	0.04	-0.55	0.02	1.6	2	11	10	10	nw.	W. E. Disher.
Leeds	Benson	1,515	1	20.4	...	56	3	-14	10	40	0.14	...	0.10	0.3	3	8	10	13	w.	Carl T. Carlson.
Linton	Emmons	1,711	24	25.0	+9.7	56	2	-7	10	41	0.04	-0.34	0.02	0.4	2	15	9	7	se.	Wm. Heyerman.
Maddock	Benson	1,604	26	21.8	+10.4	54	3	-13	10	40	0.11	-0.23	0.06	1.1	4	3	16	12	nw.	A. T. Felland.
Mandan	Morton	1,750	27	23.7	+8.6	57	2	-6	10	36	0.16	-0.31	0.12	1.6	3	10	1	20	nw.	No. Gt. Plains Field. Sta.
Manfred	Wells	1,605	38	...	...	...	...	...	...	...	0.13	-0.43	0.07	1.5	4	12	7	12	nw.	P. B. Anderson.
Max	McLean	2,093	12	20.4	+5.0	54	2†	-10	10	34	0.14	-0.28	0.08	3.5	4	9	1	21	nw.	A. W. Rice.
McClusky	Sheridan	1,943	23	24.6	+10.9	62	3	-2	9	34	0.15	-0.37	0.15	1.5	1	16	11	4	nw.	F. W. Perry.
Medina	Stutsman	1,816	1	...	...	...	...	...	...	...	0.02	...	0.01	0.2	2	5	18	8	nw.	Rudolph Graf.
Minot	Ward	1,574	45	21.8	+8.7	59	3	-15	31	32	0.41	-0.05	0.22	6.5	4	8	16	7	w.	Kenneth A. Chatfield.
Mohall	Renville	1,646	48	20.9	+9.2	63	3	-16	10	30	0.19	-0.23	0.07	1.9	7	12	9	10	nw.	Iver Johnson.
Napoleon	Logan	1,955	49	23.8	+10.4	57	20	-11	10	36	0.10	-0.35	0.10	2.0	1	12	1	18	nw.	C. J. Hoof.
New Salem	Morton	2,163	37	27.0	+10.8	60	3	-6	10	30	0.08	-0.50	0.06	1.6	2	4	19	8	nw.	Wm. F. Gaebe.
Pettibone	Kidder	1,856	32	21.4	+9.7	56	3	-11	10	36	0.10	-0.37	0.05	1.1	3	6	7	18	nw.	Sam Loeppke.
Rolla	Rolette	1,860	4	18.8	...	51	4	-13	10	39	0.37	...	0.15	2.7	6	10	9	12	sw.	A. A. Jacobsen.
Rugby	Pierce	1,562	12	...	...	...	...	...	...	...	0.07	-0.37	0.02	0.8	4	9	9	13	nw.	W. B Paterson.
Ryder	Ward	2,108	12	...	...	...	...	...	...	...	0.12	-0.32	0.07	1.0	2	11	7	13	nw.	S. C. Schelleubaum.
Selfridge	Sioux	2,183	5	...	...	...	...	...	...	...	0.10	...	0.10	1.0	1	11	16	4	nw.	J. B. Smith.
Steele	Kidder	1,857	47	22.8	+9.6	57	20	-11	10	37	0.02	-0.55	0.01	0.1	2	9	6	16	nw.	Mrs. R. S. Armstrong.
Tagus (near)	Ward	2,179	12	...	...	...	...	...	...	...	0.15	-0.16	0.05	3.2	6	12	14	5	sw.	G. N. Pilgard.
Timmer	Morton	...	4	...	...	...	...	...	...	...	0.06	...	0.05	0.3	2	...	...	...	...	Geo. M. Sinclair.
Towner	McHenry	1,482	39	21.4	+10.2	55	3	-15	10	34	0.70	+0.26	0.20	5.6	5	9	12	10	se.	J. A. Gilje.
Turtle Lake	McLean	1,899	27	24.2	+10.9	59	3	-9	11	30	0.14	-0.37	0.08	2.0	2	12	14	5	sw.	A. S. Haas.
Tuttle	Kidder	1,936	33	...	...	...	...	...	...	...	0.15	-0.26	0.07	1.5	4	15	12	4	nw.	Adam Leno.
Upham	McHenry	1,435	1	...	...	...	...	...	...	...	0.46	...	0.24	3.9	6	8	13	10	nw.	U.S. Wildlife Refuge.
Velva	McHenry	1,511	14	23.4	+8.4	59	3	-8	10	36	0.29	-0.13	0.18	4.5	4	7	14	10	nw.	Oscar Anderson.
Washburn	McLean	1,731	40	26.3	+10.8	56	3	-5	10	30	0.11	-0.36	0.06	1.1	2	15	5	11	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	35	19.6	+9.4	46	3†	-16	10	35	0.29	-0.01	0.11	3.2	5	14	11	6	se.	Rev. R. Carey.
Willow City	Bottineau	1,471	49	18.4	+9.2	53	2†	-20	10	44	0.18	-0.41	0.10	2.2	2	17	10	4	nw.	O. M. Sanderson.
Wilton	McLean	2,159	5	22.2	...	54	3	-9	10†	36	0.02	...	0.02	1.5	1	17	8	6	...	Soo Line Agent.
Wishek	McIntosh	2,010	20	22.4	+7.5	57	2	-9	10	40	0.11	-0.35	0.07	2.3	2	11	4	16	nw.	H. M. Larson.
Average for Middle Division		...	...	22.5	+9.2	63	3	-20	10	44	0.17	-0.28	0.26	1.9	3	10	11	10	nw.	...

Continued on page 48

EXPLANATORY NOTES. ——The departures from the normal temperature are computed from the averages of the entire period for stations having 10 or more years of record. Departures of precipitation with 15 years or more of record are computed from a normal or "standard mean", adjusted to a uniform 35-year period; for stations of 10 to 14 years the means for the period of record are used. Precipitation averages are computed from totals on precipitation page. Reference letters appearing in the table indicate number of days missing; for example, ¹ represents two days, etc. † Also on other dates. T. Precipitation is less than 0.01 inch of rain or melted snow. ‡‡ Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Howard, Grenora; Mary, Grassy Butte.

Daily Precipitation for December 1941

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27.	28	29	30	31	Total
Eastern Division																																	
Casselton	Red	....	....	....	T.	....	....	T	T.	....	....	.07	.03	....	....	....	....	....	....	....	....	T.	....	....	....	....	T.	T.	....	....	....	....	0.10
Cooperstown²	Sheyenne	....	....	....	.04	....	....	....	T.	....	....	T.	.03	.02	.02	T.	....	....	....	....	T.	....	....	T.	....	....	....	.02	....	....	....	....	0.13
Courtenay	James	....	....	....	T.	....	....	T	....	....	....	.10	.05	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	0.15
Devils Lake ¹‡	Devils Lake	....	....	....	.01	....	....	.01	.03	T.	....	.06	.03	T.	....	T.	....	.02	....	T.	....	T.	T.	....	....	T.	T.	....	....	....	T.	.02	0.18
Edgeley	James	....	....	....	....	....	....	....	....	....	....	.05	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.05
Edmore	Devils Lake	....	....	....	....	....	....	.01	....	.03	....	.03	.01	....	....	....	....	.02	T.	....	....	....	....	....	....	....	T.	....	....	....	T.	.01	0.11
Ellendale	James	....	....	....	.01	....	....	....	....	....	....	.14	.04	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.19
Fargo ¹	Red	....	....	....	.10	....	....	.05	T.	T	....	.08	T.	T.	....	....	....	T.	....	T.	....	T.	T.	....	....	T.	T.	.01	....	....	T.	T.	0.24
Forman	Sheyenne	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Fullerton	James	....	....	....	T.	....	....	....	....	T.	....	.20	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.20
Grafton	Red	....	....	....	T.	....	....	T.	....	.07	....	T.	T.	....	....	....	T.	....	....	T.	....	T.	....	....	....	....	T.	....	....	....	....	....	0.07
Grand Forks Airport ³‡	do	....	....	....	T.	....	....	.03	.01	.01	....	.04	.05	.01	....	T.	....	.03	T.	T.	....	T.	....	....	....	T.	.03	T.	....	T.	T.	T.	0.21
Hankinson²	do	....	....	....	....	T.	....	....	T.	....	....	....	.10	T	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.10
Hannah	Pembina	....	....	....	.10	....	....	T.	T	....	....	T.	T	T.	....	....	....	.05	T.	....	....	....	....	....	....	....	....	....	....	....	T.	T.	0.15
Hillsboro	Red	....	....	....	.03	....	....	T.	.04	....	....	.08	.03	T.	....	....	....	.02	....	....	....	T	....	....	....	....	T.	....	....	....	T.	....	0.20
Jamestown Airport ³	James	....	....	....	T.	....	....	T.	T.	T	....	.03	T.	T	....	....	....	T	....	....	....	T.	T.	T.	....	T.	T.	T.	....	....	T.	T.	0.03
Langdon	Pembina	....	....	....	.03	....	....	.06	.01	.08	....	.04	.03	T.	....	T.	....	.05	.01	.01	....	....	....	....	....	....	.01	....	....	....	....	.01	0.34
Larimore	Red	....	....	....	.05	....	....	.05	....	T.	....	T	.08	....	....	....	....	T.	....	....	....	....	....	....	....	T.	T.	....	....	....	....	....	0.18
Lisbon	Sheyenne	....	....	....	.03	....	....	T.	....	T.	....	.04	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	0.07
Mayville	Red	....	....	....	.02	....	....	T.	.01	....	....	.08	.08	T.	....	....	....	T.	....	....	....	T.	....	....	....	....	....	....	....	....	T.	T.	0.19
McHenry	James	....	....	....	.03	....	....	T.	....	.01	....	.02	.02	T	....	....	....	.02	....	....	....	....	....	....	....	....	T.	....	....	....	T.	T.	0.10
McLeod	Sheyenne	....	....	....	.10	....	....	....	....	....	....	.19	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	0.29
Oakes	James	....	....	....	T	....	....	....	....	....	....	.06	.02	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.08
Park River	Red	....	....	....	T.	....	....	.01	....	.03	....	T.	.01	....	....	....	....	.01	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	0.06
Pembina Airport	do	....	....	T.	T.	....	....	.03	.04	.02	....	.01	.07	.04	....	....	.01	.01	....	T.	....	.01	....	....	....	....	.01	....	....	....	T	.02	0.27
Petersburg	do	....	....	....	.03	....	....	T.	....	....	....	.02	T	....	....	....	....	.06	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.11
Sharon	do	....	....	....	.01	....	....	.01	T.	....	....	.05	.05	T.	....	T.	....	.05	....	....	....	....	....	....	....	T.	T.	....	....	....	T.	.01	0.18
Valley City	Sheyenne	....	....	....	T.	....	....	....	....	....	....	.05	.04	.01	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.10
Wahpeton	Red	....	....	....	....	.01	....	.01	.01	....	....	.16	.03	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	T.	....	....	....	....	0.22
Middle Division																																	
Ashley ³	Missouri	....	....	....	T	....	....	T.	....	T.	....	.12	T.	T.	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	T	0.12
Bisbee	Devils Lake	....	....	....	.08	....	....	T	....	.09	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.17
Bismarck ¹‡	Missouri	....	....	....	T.	....	....	....	....	T.	....	.03	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	T.	T.	T.	.05	0.09
Bottineau ²	Mouse	....	....	....	.01	....	....	.01	.03	.02	....	.04	.06	.02	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.19
Carrington	James	....	....	....	....	....	....	....	T.	T.	....	T.	.06	T.	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.06
Carson	Heart	....	....	....	....	....	....	....	....	....	....	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T	....	....	....	....	.10	0.11
Center	Missouri	....	....	....	.04	....	....	....	....	.02	....	.07	.04	....	....	....	....	....	....	....	....	....	....	....	....	....	.05	....	....	....	T.	.04	0.26
Dogden Butte	Mouse	....	....	....	.04	....	....	T.	T.	T	....	.12	T	T.	....	T.	....	T.	....	....	....	....	....	....	....	....	.02	T.	....	....	T.	.05	0.23
Drake ²	do	....	....	....	....	....	....	....	....	T.	....	....	.05	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.06
Dunseith	do	....	....	.10	....	....	....	.03	.11	....	....	.26	.04	T.	....	....	....	T	T.	T.	....	....	....	....	....	....	....	....	....	....	T.	T.	0.54
Eckman	do	....	....	....	....	....	....	....	....	.03	....	.01	.03	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.02	0.09
Energy	Missouri	....	....	....	....	....	....	....	....	....	....	.08	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	.07	0.15
Fessenden	James	....	....	....	.02	....	....	T	....	....	....	.14	.02	T.	....	....	....	T.	....	....	....	....	....	....	....	T.	T.	....	....	....	....	.04	0.22
Fort Yates	Missouri	....	....	....	....	....	....	....	....	....	....	....	T	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	.01	0.01
Foxholm (near)	Mouse	....	....	....	.01	....	....	....	T.	....	....	.18	T	....	....	.01	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	.02	0.22
Gackle	James	....	....	....	....	....	....	T.	....	T.	....	.13	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T	....	....	....	....	T	0.13
Garrison ³	Missouri	....	....	.08	.02	....	....	....	....	....	....	.09	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	T.	....	....	....	.11	0.31
Granville	Mouse	....	....	....	.10	....	....	....	....	.01	....	.15	....	....	....	.04	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.05	0.35
Hansboro	Devils Lake	....	....	T.	....	....	....	T.	....	....	.02	.02	T	....	....	....	....	T	....	T	....	....	....	....	....	....	....	....	....	....	T	T.	0.04
Linton	Missouri	....	....	....	T.	....	....	....	....	T	....	.02	T.	....	....	T	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.02	0.04
Maddock	Sheyenne	T.	....	....	T.	....	....	T.	T.	.02	....	.06	T.	.01	....	....	....	T.	....	....	....	....	....	....	....	....	T.	....	....	....	T.	.02	0.11
Mandan ²	Missouri	....	....	T.	....	....	....	....	T	T.	.02	.02	T.	....	....	....	....	....	....	....	....	....	....	....	....	T.	T	....	....	....	T	.12	0.16
Max ²	do	....	....	.01	....	....	....	....	T.	....	.03	.02	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	.08	0.14
McClusky	do	....	....	....	....	....	....	....	....	....	....	....	.15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.15
Minot ³	Mouse	....	....	.09	....	....	....	....	T.	....	....	.22	.02	T.	....	....	....	....	....	....	....	....	....	....	....	....	T	T.	....	....	....	.08	0.41
Mohall	do	....	....	....	....	....	....	....	.01	.02	....	.07	.03	.01	....	....	T	....	....	....	....	....	....	....	....	....	.02	....	....	....	....	.03	0.19
Napoleon ²	Missouri	....	....	....	....	T.	....	....	....	....	T	....	.10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.10
New Salem	Heart	....	....	....	T	....	....	....	....	T.	.02	....	T	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	T.	.06	0.08
Pettibone	James	....	....	....	.03	....	....	T.	....	T.	....	.02	T	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.05	0.10
Rolla	Devils Lake	....	....	....	.07	....	....	T.	.03	.09	....	.15	.02	....	....	....	....	T.	....	T.	....	....	....	....	....	....	....	....	....	....	....	.01	0.37
Rugby (near)	Mouse	....	....	....	.02	....	....	T.	....	.02	....	.01	T.	.02	....	....	....	....	....	....	....	....	....	....	....	....	T.	T.	....	....	T.	T.	0.07
Ryder	Missouri	....	....	....	.07	....	....	T.	....	....	T.	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.05	0.12
Selfridge	do	....	....	....	....	....	....	....	....	T.	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T	....	....	....	....	.10	0.10
Steele	do	....	....	....	.01	....	....	....	....	T.	....	.01	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	T.	0.02
Tagus	Mouse	....	....	....	.01	....	....	T	.02	T	....	.05	.02	....	....	T.	....	T.	....	....	....	....	....	....	....	....	.01	....	....	....	....	.04	0.15
Towner	do	....	....	....	.15	....	....	T.	T	.09	....	.17	.20	....	....	T.	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	.09	0.70
Turtle Lake	Missouri	....	....	....	....	....	....	....	....	....	....	.08	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	T	.06	0.14
Tuttle	do	....	....	T.	....	....	....	....	....	T	....	.07	.01	T.	....	....	....	T.	....	....	....	T	....	....	....	....	.01	....	....	....	T.	.06	0.15
Velva	Mouse	....	....	....	....	....	....	....	T.	....	....	.18	.01	T.	....	.02	....	T.	....	....	....	T.	....	....	....	....	T.	T.	....	....	....	.08	0.29
Washburn	Missouri	....	....	....	....	....	....	....	....	....	....	.05	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	T.	....	.06	0.11
Westhope	Mouse	....	....	....	.02	....	....	....	T.	.08	....	.11	.04	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.04	....	0.29
Willow City	do	....	....	....	.10	....	....	T	T	T.	....	.08	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	0.18
Wishek ²	Missouri	....	....	....	....	....	....	....	....	....	....	....	.07	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.04	0.11
Western Division																																	
Alpha	Lit. Missouri	....	....	.11	....	T.	T.	....	....	T.	....	....	....	....	....	.01	....	....	....	....	....	....	....	....	....	.06	....	....	....	....	....	.12	0.30
Amidon	do	....	....	....	.07	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.03	....	....	....	....	T.	.08	0.18
Beach	do	....	....	.05	....	....	....	T.	....	....	....	T	T	....	....	....	....	....	....	....	....	....	....	....	....	.01	T.	....	....	....	....	.17	0.23
Berthold Agency	Missouri	....	....	....	....	....	....	....	.10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.07	....	....	....	....	.01	0.18
Bowman ²	Grand	....	....	....	.05	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	.07	....	....	....	....	....	0.12
Crosby	Mouse	....	....	....	....	....	....	....	....	....	....	....	.08	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	0.08
Dickinson Airport ³	Heart	....	....	.04	.07	....	....	T	....	T	T.	.01	T.	....	....	....	....	T.	....	....	....	....	....	....	....	....	T.	T.	....	T.	T	.07	0.19
Dunn Center	Knife.	....	....	....	....	....	....	....	....	T.	....	T	T.	....	....	....	T.	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	.07	0.07
Fairfield	Lit. Missouri	....	....	....	.07	....	....	....	....	....	....	T.	T	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.08	0.15
Fryburg	Heart	....	....	....	04	....	....	....	....	T.	....	T.	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	T.	.09	0.13
Hettinger	Grand	....	....	....	.04	....	....	....	....	....	....	.03	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.13	0.20
Howard (near)	Missouri	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Kenmare	Mouse	....	....	....	....	....	....	....	....	.01	....	.08	.03	.04	....	....	....	T.	....	....	....	....	....	....	....	....	T.	T.	....	....	....	.01	0.12
Marmarth	Lit. Missouri	....	....	....	.06	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	.05	....	....	....	....	....	.14	0.25
Mary	do	....	....	.02	....	....	....	....	....	....	T	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	0.02
Medora	do	....	....	....	.04	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	.18	0.22
Mott	Cannon Ball	....	....	....	.03	....	....	....	....	T.	....	.02	T	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	.07	0.12
New England ²	do	....	....	.03	....	....	....	....	....	T.	....	T	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.11	0.14
Parshall	Missouri	....	....	....	....	.01	....	....	....	....	....	....	.03	.02	....	....	....	....	....	....	....	....	....	....	....	....	.01	....	....	....	....	T.	0.07
Portal ²	Mouse	....	....	....	....	....	....	....	....	....	....	.03	.01	....	....	....	....	.09	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.13
Powers Lake	Missouri	....	....	....	....	....	....	....	....	....	....	....	.03	....	....	....	....	.27	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.30
Richardton	Heart	....	....	....	T.	....	....	....	....	....	....	.02	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	.08	0.10
Sanish ²	Missouri	....	....	....	....	....	....	....	....	....	....	....	.02	....	....	....	....	.01	....	....	....	....	....	....	....	....	....	T	....	....	....	.05	0.08
Stanley	do	....	....	....	....	....	....	....	....	....	....	.05	.03	T	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	.04	T.	0.12
Tioga	do	....	....	....	....	....	....	....	....	....	....	T	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	T.
Trotters	Lit. Missouri	....	....	....	.05	....	....	....	....	T.	....	.02	T	....	....	....	....	....	....	T.	....	....	....	....	....	....	T	....	....	....	T.	.17	0.24
Watford City	Missouri	....	....	....	....	....	....	....	....	....	....	.05	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	.08	0.13
Wildrose	do	....	....	....	....	....	....	....	T.	....	....	T	.03	....	....	....	....	....	....	....	....	....	....	....	....	....	.03	....	....	....	....	.04	0.10
Williston ¹‡	do	....	....	T.	....	....	....	.01	T	T.	....	.05	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	.01	T	....	....	.01	.12	0.20

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. [1] First-order Weather Bureau station; data are for the 24-hour period, midnight to midnight. [2] Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. [3] Data for 24 hours ending 12:30 a. m. C.S.T. ‡Precipitation measured with recording gage. *Precipitation included in the next following measurement. T. Trace, or precipitation less than 0.01 inch

Daily Temperatures for December 1941

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Ashley [1]	Maximum	45	59	56	42	29	45	43	31	24	12	15	26	24	33	44	42	47	44	30	52	40	35	37	33	28	20	15	22	31	10	2	33.
	Minimum	24	27	40	26	11	9	16	17	−8	−11	9	4	−3	4	15	19	25	17	12	22	19	13	5	4	16	8	−2	−4	2	−3	−9	10.
Beach	Maximum	49	50	60	47	47	47	43	43	32	25	22	26	44	45	48	48	47	47	53	65	40	40	47	33	29	25	28	26	30	18	2	38.
	Minimum	27	33	44	32	14	23	25	11	7	4	11	16	11	10	26	27	37	13	24	29	25	26	15	24	20	11	9	2	6	−1	−7	18.
Bismarck [1]	Maximum	46	55	52	40	32	50	43	29	22	14	18	28	28	39	48	40	48	49	42	52	39	39	39	35	31	22	17	18	27	8	1	33.
	Minimum	34	25	32	25	16	14	29	18	0	−5	12	7	3	4	18	19	29	21	15	24	17	16	9	11	15	11	3	−1	5	−2	−4	13.
Bottineau§	Maximum	43	47	50	39	31	42	33	20	17	12	14	19	20	22	35	35	37	39	20	34	33	36	37	32	33	22	15	22	25	5	0	27.
	Minimum	22	23	28	31	13	12	17	17	−8	−14	−15	7	8	−4	6	8	8	10	9	8	18	18	16	22	22	11	0	−2	5	0	−11	9.
Carson	Maximum	48	56	60	51	34	52	49	32	29	11	15	28	34	44	49	45	47	50	53	59	44	38	43	32	35	20	17	19	41	21	5	37.
	Minimum	27	28	39	25	13	18	27	14	−1	−7	9	12	4	9	25	23	30	21	20	33	18	22	12	19	16	13	6	1	−1	−1	−6	15.
Crosby	Maximum	43	43	55	54	36	40	40	43	27	18	19	23	26	32	39	36	41	43	45	53	38	36	35	35	32	28	15	28	25	8	−2	33.
	Minimum	9	28	38	27	15	19	29	15	−5	−11	11	10	12	8	12	12	33	18	15	30	26	16	14	25	17	10	5	−2	4	−8	−10	13.
Devils Lake [1]	Maximum	42	52	56	44	30	43	35	25	15	10	15	19	18	27	36	30	39	38	21	31	29	29	33	31	24	19	14	25	26	6	−1	27.
	Minimum	33	32	40	28	15	14	25	15	−9	−12	8	9	5	3	4	7	27	20	5	12	21	16	10	17	16	3	0	3	4	−5	−9	11.
Dickinson Airport [1]	Maximum	48	53	60	42	35	49	41	36	26	13	17	26	34	45	48	50	45	48	55	28	40	39	40	31	29	18	24	24	36	6	−2	35.
	Minimum	29	33	37	24	16	24	26	20	−1	−2	9	15	9	12	28	29	25	24	23	30	24	20	13	21	13	13	4	1	4	−2	−15	16.
Dunn Center	Maximum	49	55	61	52	35	49	41	33	25	14	17	26	31	43	47	46	46	50	54	58	40	43	40	31	30	20	24	22	35	15	0	36.
	Minimum	26	28	37	30	13	17	30	16	0	−6	8	12	3	4	20	17	30	18	12	24	17	16	8	20	13	10	11	−3	0	−2	−8	13.
Fargo	Maximum	44	54	57	49	32	36	36	25	15	13	16	22	19	25	33	29	40	38	27	34	42	30	28	32	28	26	13	23	26	10	4	29.
	Minimum	25	26	41	32	13	11	25	15	−4	−6	8	5	−2	−4	3	8	27	23	10	19	27	19	12	8	17	10	2	−2	8	0	−7	11.
Fessenden	Maximum	40	54	60	48	32	46	40	33	22	14	14	23	23	33	41	34	38	36	28	41	30	33	40	35	27	21	15	29	30	22	7	31.
	Minimum	30	30	40	30	15	13	29	20	−3	−9	7	5	7	0	6	15	28	18	11	17	26	22	9	12	13	10	1	0	7	0	−9	12.
Fullerton	Maximum	48	48	56	53	35	41	45	34	27	15	16	22	25	33	46	40	49	42	35	42	38	30	26	30	27	21	18	26	25	8	2	32.
	Minimum	22	24	38	35	18	11	19	24	6	−6	9	4	12	2	13	25	31	22	15	20	21	20	15	8	17	15	7	−3	6	2	−8	14.
Garrison [1]	Maximum	46	55	56	40	30	47	40	26	20	13	15	26	25	36	43	36	43	43	39	55	38	38	36	32	28	19	15	26	31	9	−2	32.
	Minimum	29	28	39	27	15	17	21	17	−3	−7	6	4	6	4	15	11	23	22	16	29	20	21	11	19	19	6	5	1	1	−4	−11	13.
Grafton	Maximum	46	50	51	48	31	34	35	30	13	16	16	20	20	27	37	34	40	39	33	27	30	30	26	26	25	23	11	22	24	19	3	28.
	Minimum	27	32	42	31	17	10	22	12	−4	−10	0	12	1	−4	−3	5	6	20	−4	−4	20	16	15	6	10	9	0	−1	6	2	−11	9.
Grand Forks Airport[1]	Maximum	46	50	52	43	28	35	33	23	11	13	17	20	20	26	33	22	37	34	20	30	33	29	24	29	24	23	8	21	22	11	0	26.
	Minimum	27	30	36	27	9	9	23	10	−8	−11	2	13	−6	−6	−5	1	21	20	−2	15	19	17	8	6	9	6	0	−4	7	−6	11	8.
Jamestown Airport [1]	Maximum	46	61	51	46	29	43	43	34	24	13	14	25	23	36	45	35	46	39	27	34	32	30	38	34	23	22	18	28	33	11	0	31.
	Minimum	26	32	35	27	10	10	23	22	−4	−8	11	6	−3	−3	9	26	26	16	11	19	26	17	12	9	14	6	3	−3	7	−5	−9	11.
Kenmare	Maximum	46	51	63	46	33	47	39	27	5	15	16	24	29	38	40	43	43	45	34	38	35	41	39	35	29	18	23	28	29	6	−4	32.
	Minimum	30	31	35	30	15	17	25	15	−2	−11	−4	5	11	11	11	18	20	22	15	15	19	23	17	20	19	12	1	1	3	−1	−8	13.
Langdon	Maximum	41	48	52	44	32	34	38	27	12	10	13	18	21	26	33	24	38	37	31	23	27	29	36	32	25	15	19	25	22	14	0	27.
	Minimum	27	25	36	29	12	7	15	12	−10	−18	−2	5	−4	−3	−4	−3	16	15	−6	0	18	13	7	15	13	4	−7	−4	6	−3	−18	6.
Marmarth	Maximum	48	56	63	51	36	46	40	43	39	19	23	28	23	45	51	51	46	48	57	58	40	38	39	32	29	20	20	20	32	20	8	37.
	Minimum	25	27	35	25	12	20	3	15	9	4	10	4	3	8	24	19	29	23	15	20	16	26	9	19	20	12	8	−8	−2	−1	−7	13.
Minot [1]	Maximum	45	55	59	46	31	48	40	35	18	12	16	25	24	30	41	38	43	38	27	43	37	41	41	35	27	16	11	29	32	7	−2	31.
	Minimum	29	33	40	26	15	16	32	15	−7	−9	−2	0	−2	6	12	14	25	20	14	19	21	17	12	21	15	10	−1	−2	1	−7	−15	11.
Mott	Maximum	48	56	65	56	37	51	43	39	33	13	18	28	37	47	51	51	47	50	55	62	45	40	42	31	31	22	20	22	38	26	7	39.
	Minimum	30	24	38	33	15	15	22	16	5	−2	9	7	2	9	22	21	26	15	23	26	19	22	9	11	19	15	13	−1	4	1	−5	14.
Pembina Airport [1]	Maximum	46	46	48	47	31	34	32	21	7	14	16	19	19	25	27	17	38	35	12	25	31	28	24	26	23	19	8	20	21	11	−1	24.
	Minimum	29	26	36	29	7	7	20	6	−7	−7	−2	12	−5	−2	−6	2	16	7	−6	12	23	14	8	6	23	3	−3	−5	7	−8	−13	7.
Sharon	Maximum	43	54	53	44	32	38	34	31	16	17	14	21	21	31	42	29	39	35	31	32	28	28	34	29	21	21	14	25	24	20	−2	29.
	Minimum	28	30	38	32	12	9	31	16	−6	−11	5	7	4	−3	1	7	19	17	1	10	22	16	12	16	13	7	0	−2	7	−2	−12	10.
Steele	Maximum	44	55	55	41	32	48	43	34	23	16	15	25	22	36	45	39	47	45	40	57	35	37	36	34	29	19	19	22	31	16	2	33.
	Minimum	28	23	36	31	15	11	25	13	−2	−11	7	6	11	1	12	16	30	15	11	24	21	23	7	7	17	9	2	−5	3	−2	−10	12.
Valley City	Maximum	45	55	54	52	36	38	39	37	26	11	14	20	24	33	43	37	44	41	35	33	33	31	34	33	33	24	20	24	30	27	10	32.
	Minimum	23	25	40	35	23	10	20	20	4	−6	7	10	14	−9	−2	18	22	20	11	16	20	20	18	9	17	16	5	−9	0	5	−7	13.
Wahpeton	Maximum	45	60	59	59	39	38	39	36	20	12	16	23	18	28	35	36	43	40	35	34	41	39	27	35	33	29	20	24	25	25	8	32.
	Minimum	25	22	41	37	21	12	21	17	2	−7	5	11	7	−6	1	12	16	21	18	18	25	23	17	11	19	17	8	−1	5	6	−6	13.
Williston [1]	Maximum	48	50	57	42	34	44	39	31	21	14	18	26	29	36	43	43	44	40	45	55	37	38	38	34	29	20	18	29	23	3	−4	33.
	Minimum	28	32	42	24	16	23	26	18	−2	−2	12	12	5	13	27	22	26	22	18	30	27	22	19	29	19	11	5	1	−2	−6	−14	16.

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

Climatological Data for December 1941—Continued from page 46.

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from normal	Greatest in 24 hours	Snowfall, unmelted	With .01 in. or more precip.	Clear	Pt. cloudy	Cloudy		
Western Division																				
Alpha	Golden Valley	......	14	......	......	....	....	....	....	......	0.30	−0.20	0.12	2.7	4	13	10	8	sw.	H. A. Bury.
Amidon	Slope	2,908	18	27.8	+8.7	61	3	−6	31	40	0.18	−0.23	0.08	1.8	3	5	25	1	w.	Stanley W. Bale.
Beach	Golden Valley	2,759	35	28.4	+10.0	65	20	−7	31	36	0.23	−0.27	0.17	1.6	3	1	18	12	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	47	26.0	+10.1	59	20	−7	31	38	0.18	−0.20	0.10	0.1	3	10	12	9	nw.	H. W. Case.
Bowbells	Burke	1,958	12	21.6	+9.0	61	3	−13	10	32	0.03	−0.37	0.02	0.2	2	8	6	17	w.	Charles Kaufman.
Bowman	Bowman	2,872	26	25.4	+7.8	62	3	−6	31	40	0.12	−0.24	0.07	0.7	2	10	5	16	nw.	Oscar L. Erickson.
Crosby	Divide	1,954	32	23.5	+10.6	55	3	−11	10	34	0.08	−0.43	0.08	2.0	1	11	9	11	s.	J. H. Phelps.
Dickinson	Stark	2,543	48	24.4	+7.6	59	3†	−5	31	39	0.21	−0.20	0.15	1.0	3	8	10	13	nw.	Leroy Moomaw.
Dickinson Airport	Stark	2,583	1	25.8	......	60	3	−15	31	32	0.19	....	0.07	1.4	4	3	12	16	nw.	U. S. Airway Comm. St
Dunn Center	Dunn	2,191	41	25.0	+7.0	61	3	−8	31	42	0.07	−0.39	0.07	1.0	1	8	14	9	nw.	O. T. Evenson.
Epping	Williams	2,224	30	23.9	+8.7	60	3	−14	31	30	0.03	−0.42	0.03	1.0	1	17	9	5	se.	T. Beachler.
Fairfield	Billings	......	4	....	......	.	....	.. .	..	....	0.15	−0.22	0.08	0.8	2	15	9	7	nw.	Mrs. Edith Larson.
Fryburg	Billings	2,790	22	27.8	......	62	3	−7	31	32	0.13	−0.38	0.09	1.0	2	12	10	9	sw.	Verne King.
Golva	Golden Valley	.. ...	1	25.1	......	63	20	−20	31	43	0.11	....	0.06	1.3	4	3	14	14	sw.	U. S. Airway Comm. St
Halliday	Dunn	2,073	1	......	......	..	..	.. .	..	......	0.05	......	0.05	T	1	10	16	5	nw.	Thom. C. Lorenzen.
Hettinger	Adams	2,675	33	27.8	+9.5	63	3†	−8	10	36	0.20	−0.20	0.13	5.0	3	17	10	4	nw.	C. J. Austad.
Howard ‡‡ (near)	Williams	2,275	33	......	......	....	...	.....	...	.....	.....	......	......	......	......	......	......	......	......	C. P. Amsbaugh.
Kenmare	Ward	1,799	9	22.8	......	63	3	−11	10	30	0.12	−0.34	0.04	3.0	5	12	9	10	nw.	Theo. E. Eckberg.
Marmarth	Slope	2,714	31	25.6	+7.1	63	3	−8	28	42	0.25	−0.16	0.14	2.7	3	12	12	7	nw.	S. P. Grane.
Mary	McKenzie	......	12	......	......	....	...	....	....	......	0.02	−0.38	0.02	0.2	1	10	13	8	sw.	Fred Hartman.
Medora	Billings	2,271	25	......	......	...	..	....	...	......	0.22	−0.30	0.18	1.8	2	19	7	5	nw.	Vernon Thompson.
Mott	Hettinger	2,424	33	27.0	+11.2	65	3	−5	31	38	0.12	−0.48	0.07	3.0	3	5	14	12	w.	P. G. Wick.
New England	Hettinger	2,400	46	25.2	+7.8	63	2	−19	31	41	0.14	−0.27	0.11	2.0	2	10	11	10	nw.	F. S. Sleight.
Parshall	Mountrail	1,929	25	21.8	......	58	3	−8	10†	42	0.07	−0.33	0.03	0.8	4	2	27	2	nw.	C. E. Shubert.
Portal	Burke	1,954	35	20.2	+7.6	60	3	−16	10	36	0.13	−0.34	0.09	0.5	3	12	13	6	nw.	R. G. Wegener.
Powers Lake	Burke	2,205	35	20.0	+4.2	53	2	−12	31	30	0.30	−0.26	0.27	5.0	2	20	9	2	nw.	Geo. B. Gee.
Richardton	Stark	2,467	24	26.6	+10.4	60	3	−11	31	36	0.10	−0.29	0.08	1.2	2	19	10	2	sw.	Assumption Abbey.
Sanish	Mountrail	1,835	15	22.2	+8.7	60	3	−7	10†	43	0.08	−0.42	0.05	0.7	3	9	20	2	nw.	H. J. Bugge.
Stanley	Mountrail	2,258	3	21.4	......	64	3	−11	31	37	0.12	....	0.05	1.2	3	5	17	9	nw.	Leroy Edwards.
Tioga	Williams	2,279	12	......	......	....	....	.....	...	......	T	−0.50	T.	0.2	0	11	7	13	nw.	B. V. Olson.
Trotters	Golden Valley	......	15	......	......	....	....	.....	...	......	0.24	−0.16	0.17	1.6	3	2	18	11	nw.	Walter Grunewald
Van Hook	Mountrail	1,864	1	23.9	......	58	3	−9	10	35	0.10	....	0.05	2.2	3	8	17	6	nw.	Soil Conservation Serv
Watford City	McKenzie	2,084	27	26.3	+1.0	66	3	−10	31	33	0.13	−0.41	0.08	2.0	2	11	17	3	sw.	J. C. Zeller.
Wildrose	Williams	2,258	13	......	......	...	..	... .		......	0.10	−0.40	0.04	1.5	3	15	8	8	sw.	L. Holter.
Williston	Williams	1,878	61	24.6	+10.8	57	3	−14	31	28	0.20	−0.38	0.13	1.9	5	14	7	10	s.	U. S. Weather Bureau.
Average for Western Division		......	.....	24.6	+8.8	66	3	−20	31	43	0.14	−0.32	0.27	1.6	3	10	13	8	nw.	....
Average for the State		......	.....	22.5	+9.2	68	3	−20	10†	47	0.15	−0.38	0.27	1.8	3	10	11	10	nw.	....

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U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

F. J. BAVENDICK

Vol. L Bismarck, N. D., Annual 1941 No. 13

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GENERAL SUMMARY

The mean temperature for the year was above normal at every station in the state. September was the only month that averaged below normal while December averaged 9.2° above normal. The frost-free season was slightly more than average length. The precipitation for the year was above average at all but three stations in the state and was the wettest year since statewide climatological records began in 1892. Crops and pastures ranged from good to excellent. Some grain was damaged in the field due to heavy precipitation in September and October. The winter weather was so favorable that some threshing was done as late as December 1941 and January 1942. A severe blizzard occurred on March 15th and about the usual number of windstorms were reported during the summer months.

The average temperature for the state was 42.2° or 2.7° above the 1892-1941 average and 1.2° higher than the 1940 average. The highest annual temperature reported was 45.8° at Fort Yates and Mott; the lowest was 37.4° at Hannah. The absolute range in temperature was 151°, from 111° at Fort Yates on August 5 to -40° at Edmore on February 19.

The average annual precipitation for the state was 23.23 inches or 6.23 inches above the 1892-1941 average, and 5.84 inches above the average for 1940. The greatest annual precipitation reported was 34.24 inches at Wahpeton; the least was 15.43 inches at Fort Yates. The greatest monthly amount reported was 10.39 inches at Dickinson Airport in June. The average snowfall was 25.1 inches. The average number of days with 0.01 inch or more of precipitation was 92. There were 128 clear days, 115 partly cloudy days, and 122 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS

January.—The temperature was somewhat above normal in all sections and precipitation was above normal in the eastern and central divisions, but below normal in the west. There was much foggy weather but no severe winds or snow storms. Freezing drizzle caused considerable trouble to telephone and telegraph companies, and highways were very slippery. There was only a slight snow cover over the western range but more than a foot of snow covered some eastern sections.

February.—The weather was mild with temperatures well above the February normals. Daily temperatures were far above normal from the 1st to the 15th and some stations had no subzero readings during this period. All three winter months, December to February, averaged above normal in precipitation. Very few highways were blocked because snowfall was light in most sections. Ranges in the soutwestern part of the state were open for grazing but other sections were still snow covered at the end of the month. Livestock was mostly in good to excellent condition.

March.—Temperatures were moderate except for a cold spell on the 16-17th. Precipitation was mostly light but a heavy snowfall on the 21st was very beneficial for adding moisture to the topsoil. The blizzard of March 15 appeared in the northwest part of the state about 3:00 p.m. and moved southeastward with increasing force and astonishing speed. By 8:00 p.m. the northern Red River Valley was in the grip of the storm and the southeastern counties felt its force by 10:00 p.m. Thirty-nine people lost their lives in North Dakota in this storm, all in the eastern and central counties where there was snow on the ground, snow inthe air, and winds of gale force. Many people were on the highways because it was Saturday and most of them did not have on heavy clothing. Livestock losses were comparatively light.

April.—Every county in the state had above normal precipitation, with the greatest amounts in Sargent and Ransom Counties. Temperatures averaged above normal in all sections and no subzero readings were reported. Farm work was somewhat backward due to the wet, cloudy weather but by the close of the month plowing and seeding were making rapid progress under favorable conditions. Pastures were greening and livestock were in good condition.

May.—Although the temperature averaged above normal at every station in the state, killing frosts occurred from the 7th to the 9th and at some stations on the 23d. The precipitation was above normal in the western and central divisions and below normal in the eastern division. The rainfall occurred mostly as moderate showers and soaked into the ground to considerable depth. Growing conditions were favorable over the state except in a few south-central counties where a dry condition developed. Corn was making slow growth but small grains and pastures were very good.

June.—This was the fifth wettest June since records began and the period from the 4th through the 12th was one of the wettest periods of record in North Dakota. Only three counties in the extreme north-central portion of the state had deficiencies. The temperature averaged well above the seasonal normal. The first decade was cold but was followed by much warmer weather. Crops were excellent at the close of the month. Hay crops, especially the native grasses, were the best in many years.

July.—Cool weather prevailed during the first half but temperatures were considerably above normal during the last half. The precipitation was fairly well distributed throughout the month. It was below normal in the eastern and central divisions but above normal in the western division. No severe storms were reported and hail damage was about average. Pastures and ranges were good to excellent and livestock continued in good condition.

August.—It was unusually hot during the first week. Many stations in the central part of the state recorded the highest temperature ever experienced during August. A change to considerably cooler occurred near the close of the month. The precipitation was above normal in all sections with the greatest amounts in the southeastern counties. It was somewhat dry in a few sections at the beginning of August but rainfall was well distributed throughout the month. There was some grasshopper damage but all crops were generally very good at the close of the month. Pastures and livestock continued very good. A few severe hail and windstorms were reported, mostly in the southwestern part of the state.

[Continued on page 53]

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Climatological Data for the Year 1941

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number of days				Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall	With .01 in or more precip.	Clear	Pt. cloudy	Cloudy	
Eastern Division																				
Casselton	Cass	961	46	43.8	102	July 25	-24	Feb. 19	46	22.10	5.70	June	0.07	Nov.	21.4	104	186	81	98	nw.
Cavalier	Pembina	894	32	40.6	102	July 26	-32	Jan. 25	32	27.17	9.34	Sept.	0.12	Dec.	39.0	84	169	42	154	n.
Cooperstown	Griggs	1,428	45	40.2	100	July 26	-34	Feb. 19	45	28.63	5.98	May	0.13	Dec.	45.6	111	167	96	102	nw.
Devils Lake	Ramsey	1,478	45	40.1	99	July 26	-30	Feb. 19	45	25.37	8.34	Sept.	0.12	Feb.	26.9	127	80	85	200	nw.
Edgeley	LaMoure	1,568	41	42.6	105	Aug. 6	-24	Feb. 19	41	21.96	7.34	June	0.05	Dec.	25.4	71	89	197	79	se.
Edmore	Ramsey	1,524	17	38.5	99	July 26	-40	Feb. 19	18	23.83	7.59	Sept.	0.11	Dec.	19.9	95	182	82	101	nw.
Ellendale	Dickey	1,451	39	44.2	103	Aug. 6	-21	Feb. 19	47	24.40	6.93	June	0.19	Dec.	26.8	103	142	77	146	s.
Fargo	Cass	895	5	43.2	104	July 25	-24	Feb. 19	21	20.39	5.94	June	0.09	Feb.†	21.3	112	69	129	167	n.
Forman	Sargent	1,249	5	43.6	103	July 22	-25	Feb. 19	49	26.00	6.28	June	0.10	Dec.	26.1	84	192	70	103	nw.
Fullerton	Dickey	1,439	45	44.0	105	Aug. 6	-22	Feb. 19	44	25.97	9.54	June	0.20	Dec.	28.9	93	123	114	128	nw.
Grafton	Walsh	827	50	41.7	102	July 26	-28	Jan. 25	50	26.66	6.56	Sept.	0.07	Dec.	34.0	85	97	139	129	nw.
Grand Forks	Grand Forks	830	51	40.8	103	July 26	-31	Feb. 18†	51	26.80	7.72	June	0.13	Nov.	34.4	106	77	103	185	nw.
Hankinson	Richland	1,068	13	44.4	104	July 25	-22	Feb. 19†	13	24.94	6.00	June	0.10	Dec.	18.2	90	78	182	105	se.
Hannah	Cavalier	1,568	33	37.4	95	July 21†	-38	Feb. 19†	50	30.29	6.75	Sept.	0.15	Dec.	40.2	81	143	98	124	sw.
Hillsboro	Traill	901	41	43.0	100	July 22	-27	Feb. 18	41	29.00	8.13	June	0.03	Nov.	27.4	113	145	106	114	n.
Jamestown	Stutsman	1,457	50	43.6	104	July 26	-25	Feb. 19	50	22.44	4.56	June	0.05	Dec.	20.4	90	134	83	148	......
Jamestown Airport	Stutsman	1,494	1	42.0	100	July 25	-25	Mar. 19	1	19.91	4.80	June	0.03	Dec.	16.1	100	57	91	217	nw.
Kensal	Stutsman	1,440	2	41.8	99	July 22†	-32	Feb. 18	2	23.62	5.54	June	T.	Feb.	17.1	98	128	116	121	nw.
Langdon	Cavalier	1,615	46	38.8	100	July 26	-38	Feb. 18†	46	27.75	7.48	Sept.	0.27	Feb.†	36.3	134	117	125	123	nw.
Larimore	Grand Forks	1,134	49	41.8	103	July 26†	-29	Feb. 19	49	23.61	5.61	June	0.10	Nov.	25.4	94	116	77	172	nw.
Lisbon	Ransom	1,091	38	44.0	106	July 25	-26	Feb. 19	38	30.42	7.32	June	0.07	Dec.	14.6	118	151	60	154	nw.
Mayville	Traill	975	46	42.6	101	July 26	-32	Feb. 19	46	24.90	7.05	June	0.16	Nov.	22.4	96	62	244	59	n.
McHenry (near)	Eddy	1,509	20	39.2	100	July 26	-36	Feb. 19	20	26.63	6.44	June	0.10	Dec.	27.4	113	115	121	129	nw.
McLeod	Ransom	1,075	30	44.3	105	July 22	-27	Feb. 19	31	26.07	7.94	Aug.	0.24	Nov.	19.8	83	164	109	92	se.
Milnor	Sargent	1,117	2	43.2	103	July 25	-32	Feb. 18	12	33.82	7.79	Sept.	0.04	Dec.	21.3	69	209	82	74	nw.
Oakes	Dickey	1,318	13	43.4	105	Aug. 6	-24	Feb. 18†	13	23.07	6.06	June	0.08	Dec.	15.3	95	166	55	144	nw.
Park River	Walsh	998	38	40.8	102	July 26	-31	Jan. 25	38	27.41	7.86	Sept.	0.06	Dec.	36.3	91	124	96	145	nw.
Pembina	Pembina	789	68	39.3	104	July 26	-33	Jan. 25	68	22.99	7.24	Sept.	0.15	Feb.	26.2	121	74	136	155	s.
Sharon	Steele	1,516	15	40.6	103	July 26	-33	Feb. 19	18	25.78	6.18	June	0.18	Dec.	28.9	128	98	129	138	nw.
Valley City	Barnes	1,245	36	43.3	99	July 25	-27	Feb. 19	36	23.04	5.82	Sept.	0.10	Dec.	32.0	113	156	95	114	ne.
Wahpeton	Richland	962	50	45.0	104	July 25	-23	Feb. 19	50	34.24	7.57	Aug.	0.18	Feb.	20.6	117	136	93	136	se.
Middle Division																				
Ashley	McIntosh	2,001	46	41.6	108	Aug. 6	-26	Feb. 19	46	18.10	5.74	June	0.04	Feb.	14.8	96	55	154	156	n.
Bisbee	Towner	1,601	6	40.6	98	July 28	-33	Feb. 19	6	23.06	6.11	Sept.	0.16	Feb.	28.6	90	179	80	106	nw.
Bismarck	Burleigh	1,674	68	44.0	109	Aug. 5	-24	Feb. 27	68	20.32	5.64	June	0.09	Dec.	25.3	95	93	108	164	nw.
Bottineau	Bottineau	1,638	50	38.8	96	July 21†	-33	Feb. 18†	50	23.01	5.35	Sept.	0.19	Dec.	23.3	122	144	71	150	nw.
Carrington	Foster	1,579	36	41.3	100	July 26	-28	Feb. 18	44	23.62	5.83	June	0.06	Dec.	18.2	86	122	71	172	nw.
Carson	Grant	2,500	30	44.0	109	Aug. 5	-25	Feb. 21	30	21.61	6.86	June	0.11	Dec.	25.8	79	117	145	103	nw.
Center	Oliver	......	3	42.5	110	Aug. 5	-24	Feb. 21	3	19.25	5.99	June	0.20	Jan.	22.4	91	122	145	98	nw.
Dogden Butte	McLean	1,880	16	42.0	102	Aug. 5	-28	Jan. 25	16	24.49	5.54	May	0.20	Feb.	32.5	92	119	90	156	nw.
Drake	McHenry	1,634	12	40.7	104	Aug. 5	-24	Jan. 25†	13	22.17	4.09	June	0.06	Dec.	30.9	111	98	108	159	nw.
Dunseith	Rolette	1,682	46	39.4	96	July 20	-32	Feb. 18	46	27.00	4.35	May	0.37	Feb.	46.6	100	89	191	85	n.
Energy	McLean	1,750	17	43.5	109	Aug. 5	-25	Feb. 21	30	23.16	4.89	Sept.	T.	Feb.	22.5	68	152	130	83	n.
Fessenden	Wells	1,610	30	41.9	105	Aug. 5	-26	Feb. 18†	30	25.18	4.91	June	0.22	Dec.	33.8	99	145	95	125	n.
Fort Yates	Sioux	1,670	42	45.8	111	Aug. 5	-20	Feb. 27	42	15.43	4.54	June	T.	Nov.	6.5	36	207	58	100	nw.
Foxholm (near)	Ward	1,657	17	41.4	105	Aug. 5	-27	Jan. 25	21	20.85	6.00	June	0.12	Feb.	35.7	107	92	119	154	nw.
Gackle	Logan	1,951	12	42.9	101	July 25	-24	Feb. 18	12	23.52	7.74	June	0.02	Feb.	22.0	87	136	108	121	nw.
Garrison	McLean	1,901	47	41.6	108	Aug. 5	-24	Feb. 21	47	23.51	5.06	May	0.22	Feb.	31.5	102	80	139	146	se.
Granville	McHenry	1,504	35	42.6	101	Aug. 5	-32	Feb. 18	35	24.25	5.22	May	T	Feb.	17.8	94	112	151	102	nw.
Hansboro	Towner	1,597	34	38.8	97	July 20	-31	Jan. 25	34	20.96	5.78	Sept.	0.04	Dec.	31.1	93	107	145	113	nw.
Leeds	Benson	1,515	2	40.0	102	July 28	-32	Feb. 18†	1	24.03	7.06	Sept.	0.02	Feb.	22.8	102	128	105	132	w.
Linton	Emmons	1,711	24	45.4	109	Aug. 5	-22	Jan. 18	25	20.93	5.88	June	0.04	Dec.	12.9	84	178	71	116	nw.
Maddock	Benson	1,604	27	41.0	100	July 28	-35	Feb. 18	27	22.31	5.79	Sept.	0.11	Dec.	32.1	114	130	110	125	nw.
Mandan	Morton	1,750	28	41.0	109	Aug. 5	-21	Feb. 27	28	19.72	5.72	June	0.16	Dec.	23.4	85	114	68	183	nw.
Max	McLean	2,093	13	39.8	108	Aug. 5	-27	Feb. 21	13	23.26	5.19	Sept.	0.10	Feb.	23.4	102	115	72	178	nw.
McClusky	Sheridan	1,943	17	42.6	108	Aug. 5	-26	Feb. 19	24	21.23	5.95	June	0.15	Dec.	30.0	74	151	131	83	nw.
Minot	Ward	1,557	46	41.4	105	Aug. 5	-23	Jan. 25†	46	21.90	5.74	Sept.	0.28	Feb.	36.9	114	106	59	20	nw.
Moball	Renville	1,646	48	40.3	102	Aug. 5	-31	Feb. 19	48	23.23	4.48	Sept.	0.19	Dec.	37.1	120	131	126	108	nw.
Napoleon	Logan	1,955	50	43.0	103	July 23†	-26	Feb. 19	50	22.86	5.17	June	0.10	Dec.	29.5	98	150	33	182	nw.
New Salem	Morton	2,163	38	43.3	108	Aug. 5	-24	Feb. 21	38	22.20	7.62	June	0.08	Dec.	21.6	81	147	123	95	nw.
Pettibone	Kidder	1,856	33	40.8	104	Aug. 5	-29	Feb. 19	33	21.37	4.47	Sept.	0.10	Dec.	19.4	75	94	94	177	nw.
Rolla	Rolette	1,860	4	39.6	96	July 20†	-29	Jan. 25	4	27.68	6.95	Sept.	0.29	Feb.	40.3	114	125	82	158	sw.
Steele	Kidder	1,857	48	42.1	106	Aug. 5	-25	Feb. 19	48	26.32	7.49	June	0.02	Dec.	17.6	87	136	83	146	ne.
Towner	McHenry	1,482	40	41.4	105	Aug. 5	-32	Feb. 19	40	27.29	6.42	Sept.	0.17	Feb.	36.6	93	138	116	111	nw.
Turtle Lake	McLean	1,899	28	42.8	109	Aug. 5	-26	Feb. 21	28	16.78	3.67	June	0.13	Feb.	28.0	73	137	117	111	sw.
Tuttle	Kidder	1,936	.....	.....	.....	.....	.....	.....	34	21.72	4.81	June	0.10	Feb.	22.9	102	156	99	110	nw.
Velva	McHenry	1,511	15	42.6	103	Aug. 5	-23	Feb. 18	15	25.00	5.68	Sept.	0.20	Feb.	35.5	103	98	133	134	nw.
Washburn	McLean	1,731	40	45.0	107	Aug. 5	-23	Feb. 21	41	17.74	4.62	June	0.10	Feb.	18.9	65	150	96	119	n.
Westhope	Bottineau	1,508	35	39.2	98	Aug. 5	-37	Feb. 18†	35	22.95	6.26	Sept.	0.29	Dec.	38.1	95	174	92	99	se.
Willow City	Bottineau	1,471	50	39.0	98	July 28	-37	Feb. 18†	50	23.35	6.16	Sept.	0.18	Dec.	33.9	85	174	121	70	nw.
Wilton	McLean	2,159	5	42.0	109	Aug. 5	-23	Feb. 21	5	16.08	5.78	June	0.02	Dec.	20.0	68	148	111	106	......
Wisbek	McIntosh	2,010	13	41.7	105	Aug. 6	-25	Feb. 19	13	18.22	4.33	June	0.06	Feb.	23.9	105	118	74	173	nw.
Western Division																				
Amidon	Slope	......	18	45.6	103	Aug. 5	-17	Feb. 21	18	23.25	6.62	June	0.07	Mar.	10.8	93	130	136	99	nw.
Beach	Golden Valley	2,579	36	45.1	106	Aug. 5	-16	Jan. 5	36	21.28	5.45	June	0.15	Feb.	16.9	99	51	222	92	nw.
Berthold Agency	McLean	2,082	49	44.2	105	Aug. 5	-23	Feb. 21	49	23.61	6.23	June	0.16	Feb.	21.2	72	181	74	110	nw.
Bowbells	Burke	1,958	12	39.1	98	Aug. 5	-27	Jan. 25	12	24.01	6.28	May	0.03	Dec.	17.1	102	60	147	158	w.
Bowman	Bowman	2,872	27	43.7	102	Aug. 4†	-17	Feb. 21	27	23.91	5.25	May	T.	Mar.	7.7	71	152	31	182	nw.
Crosby	Divide	1,954	35	41.1	101	Aug. 5	-25	Feb. 21	35	16.49	3.97	June	0.08	Dec.	31.5	85	84	107	174	nw.
Dickinson	Stark	2,543	50	41.8	104	Aug. 5	-26	Feb. 27	50	31.16	10.08	June	0.18	Jan.	29.3	122	89	146	130	nw.
Dickinson Airport	Stark	2,583	1	43.3	105	Aug. 5	-21	Feb. 21	1	27.10	10.39	June	0.14	Jan.†	13.9	100	42	140	183	nw.
Dunn Center	Dunn	2,191	43	42.5	103	Aug. 5	-24	Feb. 21	43	23.71	8.01	June	0.07	Dec.	20.0	78	118	133	114	nw.
Epping	Williams	2,224	32	42.5	103	Aug. 5	-27	Feb. 21	32	17.21	3.66	May	0.03	Dec.	13.0	59	203	112	50	se.
Fryburg	Billings	2,790	6	44.0	101	Aug. 5	-20	Feb. 21	24	25.04	7.53	June	0.13	Dec.	19.6	89	110	150	105	nw.
Hettinger	Adams	2,675	35	45.7	105	Aug. 5	-19	Feb. 21	35	19.55	6.04	June	0.00	Jan.	11.3	83	174	117	74	nw.
Howard (near)	Williams	2,275	35	41.5	104	Aug. 5	-23	Feb. 21	35	15.61	3.85	June	0.15	Oct.	24.1	71	128	98	139	nw.
Kenmare	Ward	1,799	10	41.5	101	Aug. 5	-24	Feb. 19	11	20.83	4.54	Sept.	0.12	Dec.	39.3	109	172	82	111	nw.
Marmarth	Slope	2,714	28	45.3	103	Aug. 5	-13	Jan. 5	33	19.17	6.08	June	0.11	Mar.	26.0	90	127	113	125	nw.
Mott	Hettinger	2,424	35	45.8	107	Aug. 5	-26	Feb. 27	35	18.94	5.05	Sept.	0.11	Nov.	17.0	95	56	171	138	nw.
New England	Hettinger	2,400	48	44.3	109	Aug. 5	-23	Feb. 26	48	22.65	6.35	June	0.08	Jan.	16.4	77	132	97	136	se.
Parshall	Mountrail	1,929	9	40.4	105	Aug. 5	-26	Feb. 21	27	23.49	6.18	June	0.07	Dec.	18.3	103	58	236	71	nw.
Portal	Burke	1,954	29	39.5	102	Aug. 5	-29	Feb. 18†	37	18.74	5.44	June	0.11	Feb.	22.5	91	121	130	114	nw.
Powers Lake	Burke	2,205	16	41.1	99	Aug. 5	-24	Jan. 25	37	30.99	6.23	May	0.24	Feb.	43.1	88	147	145	73	e.
Richardton	Stark	2,467	26	43.4	104	Aug. 5	-20	Feb. 11	26	23.37	6.69	June	0.10	Dec.	10.8	86	111	141	113	se.
Sanish	Mountrail	1,835	17	40.8	104	Aug. 5	-27	Feb. 21	17	23.29	6.07	June	0.08	Dec.	19.4	94	126	103	136	nw.
Stanley	Mountrail	2,258	4	39.8	101	Aug. 5	-28	Feb. 19	4	27.66	5.87	July	0.12	Dec.	23.8	93	103	153	109	nw.
Tioga	Williams	2,279	.....	.....	.....	.....	.....	.....	13	20.12	4.45	June	T.	Dec.	24.0	63	148	86	131	nw.
Watford City	McKenzie	2,084	29	44.3	105	Aug. 5	-22	Feb. 21	28	21.59	5.11	June	0.13	Dec.	24.3	85	125	165	75	nw.
Wildrose	Williams	2,258	.....	.....	.....	.....	.....	.....	13	20.78	5.81	June	0.10	Dec.	23.4	103	150	85	130	sw.
Williston	Williams	1,878	63	43.1	104	Aug. 5	-21	Feb. 21	63	17.39	3.67	June	0.20	Dec.	30.7	98	146	105	114	se.

†Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1941, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.
Eastern Division																										
Casselton	0.59	+0.13	0.13	−0.37	0.36	−0.13	3.23	+1.56	1.84	−1.03	5.70	+1.99	1.27	−1.52	2.63	+0.04	4.55	+2.43	1.63	+0.16	0.07	−0.56	0.10	−0.44	22.10	+2.26
Cavalier	1.36	+0.69	0.30	−0.22	1.36	+0.65	2.48	+1.13	1.90	−0.50	5.29	+2.09	0.17	−2.50	2.21	−0.15	9.34	+7.08	2.39	+0.98	0.25	−0.54	0.12	−0.72	27.17	+7.99
Colgate	.....	.....	.....	.....	.....	.....	.....	.....	1.01	.....	.....	.....	1.37	.....	3.09	.....	.....	.....	1.23	.....	0.09	.....	0.10	.....	.....	.....
Cooperstown	1.19	+0.70	0.70	+0.30	1.00	+0.37	2.65	+1.26	5.98	+3.38	4.83	+1.50	1.17	−1.29	4.35	+1.72	4.72	+2.90	1.67	+0.55	0.24	−0.44	0.13	−0.43	28.63	+10.52
Courtenay	1.62	+0.98	0.35	−0.33	0.86	+0.04	2.49	+0.93	2.49	+0.75	4.37	+1.72	1.15	−1.25	3.79	+1.82	3.90	+2.92	1.34	−0.09	0.45	−0.12	0.15	−0.50	22.96	+6.87
Devils Lake	0.78	+0.31	0.12	−0.38	0.86	+0.08	2.68	+1.16	2.15	+0.12	4.91	+1.35	1.29	−1.28	2.15	−0.33	8.34	+6.71	1.50	+0.25	0.41	−0.31	0.18	−0.36	25.37	+7.22
Edgeley	0.72	+0.32	0.21	−0.12	0.46	−0.25	2.81	+1.04	1.40	−1.23	7.34	+3.68	0.86	−1.91	1.92	−0.55	4.14	+2.35	1.70	+0.61	0.35	−0.11	0.05	−0.35	21.96	+3.48
Edmore	0.27	−0.24	0.12	−0.32	0.50	−0.18	2.70	+1.48	2.24	+0.32	3.66	+0.40	1.22	−1.53	3.33	+1.03	7.59	+5.79	1.93	+0.88	0.16	−0.54	0.11	−0.47	23.83	+6.62
Ellendale	0.81	+0.32	0.30	−0.24	0.71	−0.20	3.95	+2.16	1.47	−1.30	6.93	+3.65	2.02	−0.72	2.72	0.00	3.36	+1.60	1.66	+0.55	0.28	−0.34	0.19	−0.27	24.40	+5.21
Fargo	0.63	+0.15	0.09	−0.44	0.61	−0.19	3.45	+1.51	0.98	−1.78	5.94	+2.14	0.84	−2.40	2.79	−0.06	2.91	+0.81	1.82	+0.14	0.09	−0.60	0.24	−0.29	20.39	−1.01
Forman	0.61	+0.15	0.20	−0.34	0.41	−0.33	4.22	+2.35	1.73	−1.42	6.78	+3.29	0.89	−2.08	2.77	−0.01	5.47	+3.30	2.39	+0.94	0.43	−0.19	0.10	−0.46	26.00	+5.20
Fullerton	1.03	+0.24	0.42	−0.51	0.71	−0.49	3.69	+1.55	1.89	−1.29	9.54	+5.77	1.09	−2.03	1.32	−1.21	3.89	+1.79	1.81	+0.38	0.38	−0.48	0.20	−0.65	25.97	+3.07
Grafton	0.75	+0.26	0.35	−0.19	0.94	+0.29	2.79	+1.58	1.85	−0.32	5.85	+2.45	1.70	−0.85	3.49	+0.91	6.56	+4.22	2.11	+0.89	0.20	−0.54	0.07	−0.47	26.66	+8.23
Grand Forks	1.25	+0.74	0.53	−0.03	0.88	+0.14	2.24	+0.62	1.92	−0.67	7.72	+4.37	0.94	−1.81	4.66	+2.02	4.88	+2.84	1.44	+0.04	0.13	−0.69	0.21	−0.39	26.80	+7.18
Grand Forks Airport	.....	.....	.....	.....	.....	.....	2.19	.....	1.72	.....	7.61	.....	0.77	.....	3.91	.....	4.72	.....	1.06	.....	0.18	.....	0.21	.....	.....	.....
Hankinson	0.55	+0.04	0.15	−0.38	0.34	−0.59	3.22	+1.07	2.48	−0.05	6.00	+2.98	1.72	−0.82	5.44	+3.18	3.17	+1.33	1.55	+0.40	0.22	−0.54	0.10	−0.38	~~29.94~~	~~+6.24~~ 24.94
Hannah	1.58	+0.86	0.40	−0.19	1.07	+0.38	3.34	+2.30	3.85	+1.73	6.00	+2.61	1.45	−0.90	2.85	+0.73	6.75	+4.55	2.40	+1.26	0.45	−0.30	0.15	−0.47	30.29	+12.56
Hillsboro	0.78	+0.27	0.18	−0.40	0.85	+0.10	3.81	+1.97	2.10	−0.99	8.13	+4.76	1.58	−1.10	4.78	+2.08	5.68	+3.53	0.88	−0.59	0.03	−0.79	0.20	−0.46	29.00	+8.38
Jamestown	0.40	−0.15	0.20	−0.39	0.62	−0.25	2.85	+1.27	1.74	−1.26	4.56	+0.95	2.10	−0.68	3.20	+0.51	3.64	+1.80	2.31	+1.03	0.77	+0.09	0.05	−0.61	22.44	+2.31
Jamestown Airport	0.67	.....	0.13	.....	0.34	.....	2.45	.....	1.15	.....	4.80	.....	2.28	.....	2.70	.....	3.20	.....	1.86	.....	0.30	.....	0.03	.....	19.91	.....
Kensal	0.59	.....	T.	.....	0.51	.....	2.66	.....	1.98	.....	5.54	.....	1.90	.....	4.50	.....	3.34	.....	1.97	.....	0.43	.....	0.20	.....	23.62	.....
Langdon	1.07	+0.50	0.27	−0.35	1.00	+0.20	3.15	+2.00	3.62	+1.60	4.72	+1.32	1.48	−0.89	2.32	−0.14	7.48	+5.16	2.03	+0.89	0.27	−0.55	0.34	−0.29	27.75	+9.45
Larimore	0.55	−0.11	0.36	−0.22	0.63	−0.14	2.89	+1.29	2.42	−0.47	5.61	+1.75	1.13	−2.09	2.92	+0.14	4.87	+2.61	1.95	+0.39	0.10	−0.81	0.18	−0.39	23.61	+1.95
Lisbon	0.65	+0.08	0.10	−0.52	0.35	−0.29	4.69	+2.88	1.11	−1.81	7.32	+3.48	2.26	−0.93	7.13	+4.45	4.61	+2.47	1.72	+0.39	0.41	−0.25	0.07	−0.41	30.42	+9.54
Mayville	0.78	+0.38	0.38	−0.04	0.31	−0.38	2.05	+0.48	2.14	−0.77	7.05	+3.70	1.51	−1.25	3.56	+0.93	5.01	+2.82	1.76	+0.42	0.16	−0.53	0.19	−0.35	24.90	+5.41
McHenry (near)	0.98	+0.54	0.21	−0.29	0.79	+0.14	2.46	+1.10	4.18	+1.79	6.44	+2.96	1.72	−1.04	3.32	+0.84	4.32	+2.81	1.80	+0.78	0.31	−0.21	0.10	−0.40	26.63	+8.61
McLeod	0.36	−0.21	0.29	−0.32	0.47	−0.24	3.15	+1.22	2.04	−1.23	4.06	+0.05	1.54	−1.43	7.94	+5.52	3.88	+1.67	1.81	+0.33	0.24	−0.42	0.29	−0.19	26.07	+4.75
McVille	.....	.....	.....	.....	.....	.....	2.10	.....	1.74	.....	6.10	.....	0.66	.....	1.76	.....	6.66	.....	1.71	.....	0.02	.....	T.	.....	.....	.....
Milnor	0.81	.....	0.40	.....	0.82	.....	5.67	.....	2.04	.....	8.24	.....	1.32	.....	3.86	.....	7.79	.....	2.34	.....	0.49	.....	0.04	.....	33.82	.....
Oakes	0.71	+0.23	0.13	−0.37	0.41	−0.43	1.03	+2.19	2.33	+0.03	6.06	+2.96	1.26	−1.25	2.37	−0.10	3.82	+2.52	1.61	+0.39	0.26	−0.32	0.08	−0.36	23.07	+5.49
Park River	0.65	+0.26	0.35	−0.05	0.78	+0.16	2.15	+0.87	2.00	−0.06	5.61	+2.22	2.83	+0.33	2.93	+0.51	7.86	+5.62	2.12	+0.84	0.07	−0.62	0.06	−0.37	27.41	+9.71
Pembina Airport	0.58	−0.06	0.15	−0.48	0.52	−0.29	2.15	+0.95	3.30	+0.94	3.60	+0.27	1.02	−1.33	2.19	0.00	7.24	+5.02	1.66	+0.35	0.31	−0.50	0.27	−0.37	22.99	+4.50
Petersburg	0.71	+0.25	0.08	−0.43	0.56	−0.11	2.41	+1.01	2.53	+0.27	5.10	+1.86	1.11	−1.83	2.17	−0.28	5.57	+3.93	2.41	+1.07	0.12	−0.61	0.11	−0.39	22.88	+4.74
Sharon	1.03	+0.69	0.22	−0.11	0.83	+0.19	2.84	+1.34	3.53	+0.66	6.18	+2.45	1.17	−0.92	2.23	+0.13	5.83	+3.98	1.48	−0.61	0.26	−0.61	0.18	−0.27	25.78	+6.92
Valley City	0.73	+0.23	0.14	−0.33	0.47	−0.20	3.46	+1.92	1.57	−1.23	4.26	+0.80	1.89	−0.92	2.84	+0.63	5.82	+3.94	1.36	+0.18	0.40	−0.29	0.10	−0.38	23.04	+4.35
Wahpeton	0.55	+0.13	0.18	−0.31	0.23	−0.42	2.81	+0.88	2.89	+0.23	3.96	+0.25	1.70	−1.52	7.57	+4.89	3.27	+0.89	1.66	+0.09	0.20	−0.56	0.22	−0.24	~~34.24~~	~~+6.35~~ 25.24
Middle Division																										
Ashley	0.64	+0.17	0.04	−0.45	0.25	−0.54	2.16	+0.50	1.77	−0.77	5.74	+2.50	1.31	−1.52	1.06	−1.49	3.54	+1.94	1.32	+0.16	0.15	−0.47	0.12	−0.44	18.10	−0.41
Beulah	.....	.....	.....	.....	.....	.....	.....	.....	5.76	+1.82	7.51	+5.23	1.62	−0.66	3.92	+2.01	5.09	+3.47	1.11	+0.18	0.09	−0.29	0.04	−0.31	.....	.....
Bisbee	1.20	+0.77	0.16	−0.20	0.42	−0.31	2.33	+1.19	4.10	+2.00	3.19	−0.30	0.80	−1.79	2.73	+0.26	6.11	+4.36	1.68	+0.59	0.17	−0.35	0.17	−0.25	23.06	+5.97
Bismarck	0.57	+0.12	0.14	−0.30	0.79	−0.10	1.60	+0.08	1.03	−1.29	5.64	+2.29	2.32	+0.08	2.91	+1.09	3.91	+2.68	1.01	+0.07	0.31	−0.26	0.09	−0.48	20.32	+3.98
Bottineau	0.59	+0.18	0.23	−0.12	0.54	−0.12	1.79	+1.02	4.44	+2.37	3.15	−0.17	1.93	−0.44	3.07	+0.66	5.35	+3.72	1.16	+0.08	0.57	+0.08	0.19	−0.28	23.01	+6.98
Carrington	0.77	+0.45	0.10	−0.27	0.70	+0.03	2.39	+1.14	2.55	−0.02	5.83	+2.31	1.58	−1.00	4.09	+1.93	3.34	+1.83	1.80	+0.82	0.41	−0.17	0.06	−0.33	23.62	+6.72
Carson	0.44	+0.10	0.63	+0.19	1.13	+0.38	1.87	+0.63	2.77	+0.32	6.86	+3.36	0.82	−1.21	1.53	−0.27	4.08	+2.48	1.24	+0.27	0.13	−0.44	0.11	−0.40	21.61	+5.41
Center	0.20	.....	0.24	.....	0.58	.....	2.29	.....	1.63	.....	5.99	.....	0.66	.....	1.52	.....	4.70	.....	0.76	.....	0.42	.....	0.26	.....	19.25	.....
Dogden Butte	0.71	+0.36	0.20	−0.36	0.77	−0.08	2.53	+1.27	5.54	+3.07	3.98	+0.45	1.96	−0.64	2.31	+0.38	3.80	+2.26	1.55	+0.48	0.91	+0.31	0.23	−0.25	24.49	+7.25
Drake	0.71	+0.42	0.12	−0.24	0.73	+0.28	2.38	+1.30	3.51	+1.71	4.09	+1.20	1.39	−1.62	3.29	+1.67	3.99	+3.03	1.34	+0.34	0.56	+0.16	0.06	−0.23	22.17	+8.02
Dunseith	1.19	+0.75	0.37	−0.06	0.82	+0.19	2.15	+1.33	4.35	+2.51	3.05	−0.07	2.89	+0.34	2.43	−0.03	7.13	+5.39	1.56	+0.61	0.52	−0.03	0.54	+0.12	27.00	+11.05
Eckman	.....	.....	.....	.....	.....	.....	.....	.....	2.87	+0.95	5.70	+2.70	3.04	+0.81	2.12	+0.15	5.86	+4.40	0.92	−0.01	0.80	+0.33	0.09	−0.39	.....	.....
Energy	0.38	+0.07	T.	−0.45	0.68	−0.09	2.73	+1.77	4.01	+1.85	4.80	+1.40	1.34	−1.01	2.70	+0.77	4.89	+3.42	1.00	+0.06	0.48	+0.04	0.15	−0.30	23.16	+7.53
Fessenden	0.70	+0.22	0.28	−0.22	0.93	+0.18	2.30	+1.05	2.75	+0.44	4.91	+1.22	2.58	+0.25	4.16	+1.85	3.66	+2.02	1.80	+0.71	0.89	+0.20	0.22	−0.38	25.18	+7.54
Fort Yates	0.20	−0.21	0.05	−0.44	0.21	−0.64	1.85	+0.57	1.76	−0.51	4.54	+1.08	0.73	−1.46	1.39	−0.78	3.78	+2.26	0.91	−0.21	T.	−0.50	0.01	−0.41	15.43	−1.28
Foxholm (near)	0.39	−0.06	0.12	−0.37	0.74	−0.09	1.51	+0.23	2.74	+0.75	6.00	+2.90	1.93	+0.03	1.50	−0.61	4.25	+2.61	0.61	−0.40	0.84	+0.17	0.22	−0.29	20.85	+4.90
Gackle	0.53	+0.15	0.02	−0.42	0.27	−0.52	1.84	+0.36	1.44	−1.04	7.74	+4.29	2.02	−0.59	3.12	+0.85	4.02	+2.65	1.72	+0.62	0.67	+0.13	0.13	−0.32	23.52	+6.16
Garrison	0.58	+0.24	0.22	−0.31	0.67	−0.18	3.11	+2.02	5.06	+2.73	3.98	+0.44	1.10	−1.36	2.80	+0.79	3.75	+2.20	1.38	+0.44	0.55	+0.10	0.31	−0.18	23.51	+6.93
Granville	0.63	+0.27	T.	−0.44	0.30	−0.20	1.58	+0.77	5.22	+3.28	4.29	+1.07	2.69	+0.52	2.67	+0.77	4.97	+3.36	1.07	+0.14	0.48	−0.08	0.35	−0.12	24.25	+9.34
Hansboro	0.42	−0.24	0.06	−0.49	0.38	−0.56	1.74	+0.48	4.76	+2.67	2.49	−0.89	1.35	−1.11	2.41	+0.11	5.78	+3.80	1.31	+0.20	0.22	−0.37	0.04	−0.55	20.96	+3.05
Leeds	0.63	.....	0.02	.....	0.71	.....	2.34	.....	2.68	.....	3.71	.....	0.88	.....	3.71	.....	7.06	.....	1.68	.....	0.47	.....	0.14	.....	24.03	.....
Linton	0.48	+0.10	0.14	−0.34	0.50	−0.29	1.83	+0.58	2.43	+0.02	5.88	+2.72	2.22	+0.09	1.76	−0.61	4.40	+2.80	1.06	−0.05	0.19	−0.31	0.04	−0.34	20.93	+4.37
Maddock	0.63	+0.33	0.33	−0.05	1.06	+0.53	2.28	+1.15	2.14	+0.03	4.60	+1.23	1.29	−1.30	2.26	−0.21	5.79	+3.98	1.43	+0.34	0.39	−0.07	0.11	−0.23	22.31	+5.73
Mandan	0.31	−0.04	0.22	−0.14	1.00	+0.15	1.57	+0.40	1.95	−0.49	5.72	+2.43	1.10	−1.28	2.36	+0.64	4.16	+2.67	0.90	−0.09	0.27	−0.24	0.16	−0.31	19.72	+3.70
Manfred	0.57	+0.08	0.20	−0.26	0.74	−0.04	2.33	+1.09	2.34	+0.08	4.06	+0.49	2.14	−0.10	2.82	+0.48	3.39	+1.84	1.62	+0.49	0.50	−0.13	0.13	−0.43	20.84	+3.59
Max	0.18	−0.17	0.10	−0.40	0.43	−0.30	2.35	+1.31	4.69	+2.57	4.32	+0.90	0.72	−1.99	3.30	+1.52	5.19	+3.96	1.39	+0.58	0.45	−0.01	0.14	−0.28	23.26	+7.70
McClusky	0.91	+0.50	0.18	−0.36	0.98	+0.18	2.06	+0.86	2.30	−0.18	5.95	+2.58	0.64	−1.89	2.41	+0.47	4.22	+2.79	0.97	−0.06	0.46	−0.11	0.15	−0.37	21.23	+4.41
Medina	.....	.....	T.	.....	0.35	.....	2.10	.....	1.86	.....	5.33	.....	1.32	.....	2.30	.....	3.63	.....	1.43	.....	0.41	.....	0.02	.....	19.35	.....
Minot	0.41	+0.07	0.28	−0.17	0.54	−0.09	1.92	+0.72	3.76	+1.62	5.59	+2.39	1.87	−0.03	2.48	+0.41	5.74	+1.08	1.09	+0.08	0.78	+0.11	0.41	−0.05	24.90	+9.14
Mohall	0.48	+0.17	0.45	+0.14	1.16	+0.52	1.91	+1.01	3.01	+1.16	4.28	+1.39	3.30	+0.96	2.17	+0.24	4.48	+2.92	0.81	−0.36	0.99	+0.45	0.19	−0.23	23.23	+8.37
Napoleon	0.75	+0.42	0.18	−0.22	0.72	−0.11	1.99	+0.45	2.89	+0.46	5.17	+1.88	2.14	−0.36	2.78	+0.38	4.20	+2.72	1.42	+0.32	0.52	−0.05	0.10	−0.35	22.86	+5.54
New Salem	0.41	−0.04	0.24	−0.21	0.58	−0.27	2.29	+1.25	1.60	−0.52	7.62	+4.15	0.61	−1.57	4.04	+2.22	3.67	+2.31	0.87	−0.09	0.19	−0.30	0.08	−0.50	22.20	+6.43
Pettibone	0.60	+0.19	0.24	−0.15	0.31	−0.31	2.44	+1.32	1.38	−1.02	4.33	+1.08	1.92	−0.92	3.63	+1.35	4.47	+3.15	1.73	+0.80	0.22	−0.36	0.10	−0.37	21.37	+4.76
Rolla	1.06	.....	0.29	.....	0.68	.....	2.54	.....	4.96	.....	3.40	.....	0.88	.....	4.17	.....	6.95	.....	1.81	.....	0.57	.....	0.37	.....	27.68	.....
Rugby	0.42	+0.02	0.27	−0.15	0.50	−0.06	1.97	+1.05	3.93	+2.13	3.02	+0.24	1.61	−0.81	3.28	+1.68	5.38	+4.00	1.51	+0.55	0.29	−0.15	0.07	−0.37	22.25	+8.13
Ryder	0.35	+0.05	0.20	−0.27	0.39	−0.18	2.40	+1.40	3.86	+1.56	5.57	+2.50	1.50	−1.04	3.69	+2.02	5.51	+4.19	1.20	+0.44	0.58	+0.12	0.12	−0.32	25.37	+10.47
Selfridge	0.31	.....	0.20	.....	0.38	.....	2.33	.....	2.20	.....	5.72	.....	1.16	.....	2.74	.....	4.62	.....	1.02	.....	0.26	.....	0.10	.....	21.04	.....
Steele	0.58	+0.12	0.08	−0.36	0.41	−0.40	2.47	+1.31	1.96	−0.71	7.49	+3.98	1.74	−1.25	4.22	+1.83	5.97	+4.45	1.00	−0.17	0.38	−0.15	0.02	−0.55	26.32	+8.10
Tagus (near)	0.31	+0.02	0.17	−0.23	0.41	−0.11	1.56	+0.47	3.31	+1.33	5.71	+2.91	1.73	−0.35	1.97	+0.27	3.86	+2.56	0.66	−0.10	0.70	+0.20	0.15	−0.16	20.54	+6.81
Timmer	0.27	.....	0.19	.....	0.42	.....	2.01	.....	1.87	.....	6.98	.....	1.61	.....	2.32	.....	4.51	.....	1.01	.....	0.02	.....	0.06	.....	21.27	.....
Towner	0.60	+0.16	0.17	−0.27	1.10	+0.37	2.63	+1.76	5.92	+3.78	3.58	+0.43	1.54	−0.87	2.13	+0.10	6.42	+4.66	1.35	+0.36	1.15	+0.63	0.70	+0.26	27.29	+11.37
Turtle Lake	0.46	+0.09	0.13	−0.37	0.78	−0.10	2.45	+1.42	1.90	−0.33	3.67	+0.03	0.82	−1.73	1.65	−0.47	2.65	+1.27	1.86	+0.95	0.27	−0.15	0.14	−0.37	16.78	+0.24
Tuttle	0.84	+0.39	0.10	−0.28	0.60	−0.19	2.36	+1.39	2.02	−0.49	4.81	+1.47	2.72	+0.20	2.79	+0.87	3.83	+2.37	1.05	+0.19	0.45	−0.07	0.15	−0.26	21.72	+5.59
Upham	0.61	.....	0.34	.....	1.15	.....	2.02	.....	4.92	.....	4.48	.....	3.34	.....	2.56	.....	4.73	.....	0.94	.....	0.90	.....	0.46	.....	26.48	.....
Velva	0.62	+0.24	0.20	−0.24	0.52	−0.02	1.91	+0.75	4.40	+2.12	4.65	+1.69	2.63	+0.36	2.07	+0.08	5.68	+4.36	1.33	+0.35	0.70	+0.11	0.29	−0.13	25.00	+9.67
Washburn	0.39	+0.06	0.10	−0.31	0.49	−0.25	2.65	+1.68	1.10	−1.19	4.62	+1.23	0.91	−1.57	1.96	+0.29	4.07	+2.73	0.94	−0.11	0.40	−0.06	0.11	−0.36	17.74	+2.14
Westhope	0.48	+0.16	0.31	+0.10	0.81	+0.31	1.83	+1.03	2.60	+0.77	4.01	+0.98	2.06	−0.11	2.01	+0.01	6.26	+4.83	1.05	+0.19	1.21	+0.69	0.29	−0.01	22.95	+8.95
Willow City	0.27	−0.31	0.21	−0.34	0.67	−0.07	1.85	+0.98	5.48	+3.64	2.94	−0.21	1.88	−0.26	2.06	−0.06	6.16	+4.43	1.16	+0.28	0.49	−0.07	0.18	−0.41	23.35	+7.60
Wilton	0.28	.....	0.10	.....	0.55	.....	1.64	.....	1.56	.....	5.78	.....	0.46	.....	1.76	.....	2.75	.....	1.05	.....	0.13	.....	0.02	.....	16.08	.....
Wishek	0.60	+0.25	0.06	−0.32	0.34	−0.36	1.73	+0.33	1.67	−0.86	4.33	+0.88	1.83	−0.77	1.94	−0.46	3.67	+2.40	1.65	+0.69	0.29	−0.07	0.11	−0.35	18.22	+1.36
Western Division																										
Alpha	0.26	−0.20	0.18	−0.29	0.30	−0.56	1.53	+0.36	2.34	−0.09	5.38	+1.98	2.72	+0.66	3.65	+1.94	4.18	+2.91	1.44	+0.46	0.18	−0.21	0.30	−0.20	22.46	+6.76
Amidon	0.19	−0.23	0.26	−0.24	0.07	−0.70	1.71	+0.51	2.45	−0.01	6.62	+3.26	2.27	+0.05	3.36	+1.99	4.26	+2.71	0.87	−0.23	1.01	+0.61	0.18	−0.23	23.25	+7.49
Beach	0.22	−0.25	0.15	−0.26	0.18	−0.58	1.54	+0.39	3.77	+1.45	5.45	+1.75	0.70	−1.11	2.43	+0.74	4.75	+3.46	1.26	+0.32	0.60	+0.12	0.23	−0.27	21.28	+5.76
Berthold Agency	0.17	−0.08	0.16	−0.24	0.51	−0.05	1.63	+0.62	3.77	+1.53	6.23	+2.36	2.46	+0.10	2.65	+0.73	4.22	+2.63	1.25	+0.36	0.38	+0.01	0.18	−0.20	23.61	+7.77
Bowbells	0.05	−0.50	0.17	−0.26	0.57	+0.06	0.35	−0.82	6.28	+4.11	6.18	+2.75	2.57	+0.37	2.74	+0.73	4.31	+2.87	0.40	−0.58	0.36	−0.14	0.03	−0.37	24.01	+8.22
Bowman	0.05	−0.41	0.40	−0.08	T	−0.67	1.89	+0.77	5.25	+2.96	5.13	+2.18	1.46	−0.67	4.01	+2.21	4.65	+3.37	0.88	−0.10	0.07	−0.32	0.12	−0.24	23.91	+9.00
Crosby	0.60	+0.19	0.38	+0.02	0.70	+0.03	1.16	+0.18	3.58	+1.64	3.97	+0.61	1.92	−0.19	1.91	−0.05	0.75	−0.64	0.33	−0.51	1.08	+0.48	0.08	−0.43	16.49	+1.33
Dickinson	0.18	−0.24	0.27	−0.16	0.40	−0.34	2.05	+0.97	5.34	+3.01	10.08	+6.71	3.73	+1.56	1.58	−0.41	5.80	+4.48	1.20	+0.22	0.32	−0.15	0.21	−0.29	31.16	+15.36
Dickinson Airport	0.14	.....	0.14	.....	0.46	.....	1.49	.....	4.08	.....	10.39	.....	1.32	.....	1.34	.....	6.11	.....	1.30	.....	0.14	.....	0.19	.....	27.10	.....
Dunn Center	0.18	−0.21	0.13	−0.37	0.38	−0.45	1.55	+0.29	2.71	+0.32	8.01	+4.14	2.76	+0.53	2.32	+0.61	4.18	+2.74	1.29	+0.38	0.13	−0.33	0.07	−0.39	23.71	+7.26
Epping	0.09	−0.35	0.06	−0.35	0.18	−0.41	1.60	+0.57	3.66	+1.48	3.47	−0.10	1.72	−0.26	2.76	+1.06	2.96	+1.57	0.31	−0.48	0.37	−0.07	0.03	−0.42	17.21	+2.24
Fairfield	0.28	−0.29	0.08	−0.31	0.43	−0.34	1.49	+0.27	2.46	+0.36	6.42	+3.42	1.87	−0.32	3.13	+2.10	3.69	+2.61	0.92	+0.30	0.23	−0.19	0.15	−0.22	21.15	+7.39
Fryburg	0.20	−0.25	0.22	−0.25	0.42	−0.36	2.10	+0.93	2.92	+0.53	7.53	+4.23	3.93	+1.74	1.75	−0.21	4.09	+2.72	1.48	+0.43	0.27	−0.22	0.13	−0.38	25.04	+8.91
Golva	.....	.....	.....	.....	.....	.....	.....	.....	3.88	.....	4.63	.....	1.55	.....	4.48	.....	3.76	.....	1.19	.....	0.43	.....	0.11	.....	.....	.....
Halliday	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.05	.....	1.92	.....	4.26	.....	1.34	.....	0.36	.....	0.05	.....	.....	.....

Continued on page 54

The departures from normal precipitation for stations with 15 years or more of record are computed from a normal or "standard mean," adjusted to a uniform 35-year period; for stations of 10 to 14 years, the means for the period of record are used. T. indicates trace. ‡Precipitation measured with recording gage.

Monthly and Annual Mean Temperatures for the Year 1941, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Eastern Division																										
Casselton	10.8	+5.8	11.6	+2.5	26.0	+1.3	47.5	+5.9	61.0	+6.3	67.6	+3.7	72.8	+2.9	69.8	+2.7	59.0	+1.1	45.8	+1.1	31.8	+4.8	22.0	+9.2	43.8	+3.9
Cavalier	7.4	.....	8.6	.....	21.0	.....	43.2	.....	57.2	.....	66.2	.....	72.6	.....	67.4	.....	55.6	.....	43.9	.....	27.0	.....	16.5	.....	40.6	.....
Cooperstown	6.5	+2.2	5.4	−2.4	17.8	−6.5	44.6	+4.3	57.8	+4.0	64.4	+1.2	70.2	+0.6	67.8	+0.4	56.7	−1.0	44.4	−0.3	28.1	+0.8	18.6	+5.6	40.2	+0.8
Devils Lake	6.9	+5.1	6.7	+1.6	20.1	+0.3	43.0	+4.2	56.8	+4.2	64.4	+2.5	70.6	+3.2	66.8	+2.0	54.6	−1.3	44.0	+1.6	27.9	+3.4	19.6	+10.1	40.1	+3.1
Edgeley	9.3	+0.5	10.8	−2.0	26.8	−0.5	45.6	+3.0	58.6	+4.2	64.4	+0.8	71.2	+1.3	69.7	+2.0	57.4	−0.9	43.8	−1.8	31.8	+2.5	21.5	+6.5	42.6	+1.3
Edmore	5.6	+5.5	4.4	−0.4	18.0	−3.1	41.6	+2.3	56.4	+3.2	63.2	+0.9	68.7	+1.2	64.3	−0.5	54.0	−2.4	42.6	+0.1	26.3	+1.7	16.9	+6.4	38.5	+1.2
Ellendale	12.0	+2.0	13.0	−0.1	26.3	−0.9	47.2	+4.5	60.4	+5.1	66.4	+1.6	72.1	+1.2	70.8	+2.1	59.1	+0.3	47.2	+1.3	32.6	+4.2	23.4	+7.1	44.2	+2.4
Fargo	10.5	+5.9	9.4	+2.0	24.8	+2.4	47.0	+6.0	59.7	+4.3	66.6	+2.6	72.8	+4.6	69.7	+3.3	58.8	+0.8	46.5	+1.9	31.4	+4.6	20.7	+8.8	43.2	+4.0
Forman	11.4	+4.3	10.2	+0.3	25.5	−0.5	47.0	+3.0	60.1	+4.4	66.4	+1.4	72.8	+2.7	69.2	+1.0	59.6	+0.1	46.4	+3.4	31.8	+3.2	23.1	+7.8	43.6	+2.6
Fullerton	12.4	+3.3	12.2	−0.2	26.4	−0.7	47.2	+4.5	60.5	+5.7	66.0	+1.8	72.4	+2.2	70.2	+2.2	58.6	+0.6	46.6	+1.3	32.7	+3.7	23.4	+8.2	44.0	+2.7
Grafton	8.7	+6.1	7.8	+0.5	22.2	+0.5	46.4	+5.8	59.8	+5.7	66.6	+2.9	71.8	+3.0	67.8	+1.6	57.3	+0.3	45.0	+1.2	28.5	+3.5	18.8	+8.1	41.7	+3.2
Grand Forks	7.2	+3.6	5.6	−2.1	19.9	−2.6	44.6	+3.3	58.0	+3.8	65.6	+2.2	71.6	+3.1	67.4	+1.4	57.2	+0.3	45.2	+1.5	28.8	+3.0	18.5	+7.5	40.8	+2.1
Grand Forks Airport	.....	.....	.....	.....	.....	.....	45.5	.....	58.4	.....	64.8	.....	71.4	.....	66.8	.....	56.0	.....	43.8	.....	28.9	.....	17.4	.....	.....	.....
Hankinson	[d]12.0	+4.1	[d]10.8	−3.3	[e]26.8	−1.8	46.9	+3.4	61.6	+3.6	67.8	+0.9	73.6	+2.2	69.6	−1.1	59.6	−0.9	47.2	+0.6	32.4	+3.5	24.0	+6.3	44.4	+1.5
Hannah	4.8	+6.0	4.8	+2.2	17.3	−1.9	39.6	+1.7	55.8	+4.2	62.2	+1.7	68.4	+2.2	64.0	−0.1	53.4	−1.4	40.1	−0.7	23.2	+2.5	15.6	+8.0	37.4	+2.0
Hillsboro	10.2	+5.3	9.6	−0.6	24.6	−0.7	47.2	+5.0	60.2	+5.4	66.4	+1.7	72.3	+1.6	68.8	+0.6	58.3	−0.7	46.0	+0.8	31.5	+4.2	20.3	+12.3	43.0	+3.0
Jamestown	10.6	+3.5	11.3	+1.4	26.0	+1.6	47.0	+5.3	60.5	+6.4	66.0	+2.3	72.5	+2.9	69.9	+3.0	58.6	+1.6	46.6	+1.9	30.8	+3.5	23.8	+9.9	43.6	+3.6
Jamestown Airport	9.0	.....	10.1	.....	24.4	.....	45.0	.....	58.1	.....	64.5	.....	70.8	.....	68.4	.....	56.9	.....	45.4	.....	30.2	.....	21.8	.....	42.0	.....
Kensal	9.0	.....	10.0	.....	24.6	.....	45.4	.....	58.5	.....	64.0	.....	70.4	.....	68.1	.....	57.1	.....	44.8	.....	29.5	.....	20.4	.....	41.8	.....
Langdon	5.8	+6.2	5.8	+1.0	19.0	−0.8	42.1	+4.5	56.8	+5.0	63.0	+2.4	69.2	+2.9	65.0	+1.3	54.1	+0.6	42.3	+1.4	26.0	+2.3	16.8	+8.0	38.8	+2.9
Larimore	10.0	+6.2	8.1	+0.4	22.6	−0.1	45.5	+5.3	59.0	+5.6	65.0	+2.1	71.8	+3.7	67.4	+1.5	57.1	+0.7	45.5	+1.4	29.4	+3.6	20.2	+8.7	41.8	+3.3
Lisbon	12.0	+4.4	11.4	−0.2	26.4	−0.9	46.6	+4.5	60.2	+5.4	67.3	+2.9	73.4	+3.0	69.5	+1.7	57.7	−0.4	47.3	+2.6	32.4	+3.6	23.5	+8.7	44.0	+3.0
Mayville	10.2	+4.2	7.9	−1.9	24.2	−0.5	47.0	+4.5	59.2	+3.8	66.4	+1.9	72.2	+2.0	69.2	+1.3	57.8	−0.7	45.8	−0.2	30.9	+3.1	21.0	+7.7	42.6	+2.0
McHenry (near)	5.8	+4.3	5.6	+0.2	19.0	−4.0	43.0	+2.4	56.0	+3.3	62.3	+0.5	69.0	+0.9	66.1	+0.4	54.7	−1.1	43.0	−0.3	27.3	+0.7	19.0	+8.2	39.2	+1.3
McLeod	12.6	+4.3	12.2	−0.8	26.4	−1.4	48.2	+4.6	62.7	+6.9	66.6	+1.3	71.9	+0.5	69.4	+0.9	59.8	+0.2	47.2	+0.7	31.2	+1.5	23.1	+8.0	44.3	+2.3
Milnor	8.1	.....	10.0	.....	23.0	.....	47.8	.....	62.8	.....	62.9	.....	74.3	.....	69.4	.....	57.1	.....	45.2	.....	32.4	.....	20.0	.....	43.2	.....
Oakes	12.0	+3.1	11.4	−1.5	25.8	−1.9	46.0	+3.2	59.4	+3.8	65.5	+0.2	72.4	+0.7	69.5	+0.4	56.9	−2.1	45.9	−0.1	31.8	+3.2	23.8	+7.6	43.4	+1.4
Park River	7.4	+4.5	7.5	−0.2	21.6	−1.2	44.4	+3.9	58.5	+4.9	64.6	+1.5	70.7	+2.2	67.2	+0.6	57.0	+0.1	45.6	+1.9	27.5	+0.5	17.6	+6.5	40.8	+2.1
Pembina Airport	5.4	+7.8	5.2	+2.4	18.0	−0.4	44.1	+5.6	57.0	+3.8	65.1	+2.3	70.8	+3.0	66.2	+1.5	54.5	0.0	43.1	+1.5	26.0	+2.6	16.0	+9.0	39.3	+3.3
Sharon	7.2	+3.7	6.5	−3.0	20.5	−3.7	43.9	+4.3	57.0	+2.9	64.6	+1.6	71.4	+0.6	67.6	−0.3	55.7	−1.7	44.2	+0.6	28.6	+3.9	19.8	+7.6	40.6	+1.4
Valley City	11.3	+5.2	10.5	−1.0	25.6	−0.7	47.2	+4.8	60.2	+5.6	65.5	+1.4	72.2	+2.1	68.9	+1.2	57.0	−1.8	46.6	+1.5	31.2	+3.2	23.0	+8.5	43.3	+2.5
Wahpeton	12.9	+4.2	12.6	+0.2	27.6	0.0	49.0	+4.8	61.6	+5.3	67.7	+1.9	73.8	+2.9	70.4	+1.7	60.4	+0.4	47.6	+0.6	33.4	+4.4	23.2	+7.4	45.0	+2.8
Middle Division																										
Ashley	9.4	+0.7	9.7	−1.7	23.8	−1.1	44.4	+2.0	57.8	+3.6	62.3	−0.9	70.0	+0.3	68.9	+1.7	56.6	−1.3	44.0	−0.4	30.2	+2.2	21.8	+7.0	41.6	+1.0
Bisbee	7.2	+5.4	8.0	+1.5	20.8	−1.7	43.2	+2.5	57.0	+4.3	66.8	+4.7	70.4	+3.0	66.3	+0.6	56.9	+0.2	43.6	−0.2	28.2	+1.8	19.4	+9.7	40.6	+2.6
Bismarck	11.6	+3.8	15.2	+4.9	26.6	+2.4	45.6	+3.5	59.6	+5.1	66.0	+2.3	73.3	+3.5	71.0	+3.7	57.2	−0.9	45.8	+0.9	32.5	+4.0	23.7	+9.0	44.0	+3.5
Bottineau	5.8	+4.4	5.8	+0.9	17.3	−3.5	42.1	+3.1	55.8	+3.5	63.7	+1.9	69.2	+1.6	66.0	+1.1	52.4	−3.1	42.0	+0.6	26.6	+3.0	18.5	+10.2	38.8	+2.0
Carrington	10.3	+3.6	10.5	+1.6	24.6	+0.9	43.2	+3.6	56.5	+3.4	63.8	+0.4	70.4	+1.0	67.3	+0.2	55.0	−1.9	45.5	+1.8	28.3	+1.0	20.6	+8.0	41.3	+1.9
Carson	13.4	+3.3	17.1	+2.6	26.4	−0.6	43.1	+0.6	59.7	+5.2	63.8	+0.1	72.3	+1.5	70.4	+1.8	56.3	−1.8	45.6	+1.1	33.2	+3.4	26.3	+9.7	44.0	+2.3
Dogden Butte	11.2	+3.3	12.4	−0.7	24.8	−1.6	44.1	+2.8	58.6	+3.8	63.2	+0.7	68.7	−1.3	67.4	+0.2	54.8	−2.7	45.2	+0.4	29.8	+3.3	24.1	+9.3	42.0	+1.4
Drake	8.6	+3.1	9.4	−1.0	21.4	−3.3	42.4	+2.0	56.6	+1.9	64.2	+0.4	70.2	−1.4	67.1	−0.5	53.4	−4.2	44.1	+1.0	29.0	+3.1	21.8	+6.4	40.7	+0.6
Dunseith	7.4	+4.6	8.8	+2.1	21.3	+0.8	42.0	+2.5	56.6	+3.8	62.8	+1.4	68.8	+1.8	65.4	+0.8	52.8	−2.2	42.1	+0.5	26.0	+1.9	18.5	+8.2	39.4	+2.2
Eckman	.....	.....	.....	.....	.....	.....	.....	.....	57.4	+4.8	64.0	+2.0	68.5	+0.5	66.8	+1.8	53.2	−2.5	44.4	+2.2	28.0	+2.6	20.8	+10.5	.....	.....
Energy	12.8	+2.9	15.7	+1.4	27.0	−1.9	45.5	+1.7	60.8	+4.5	64.2	−0.1	70.6	−1.3	68.8	+0.5	56.0	−2.2	44.4	−0.6	31.9	+3.6	24.4	+8.2	43.5	+1.4
Fessenden	9.1	+4.4	11.9	+2.2	24.4	+0.7	44.1	+3.7	57.7	+4.4	63.9	+1.3	70.9	+1.5	68.5	+1.8	55.8	−0.8	44.5	+1.2	29.1	+2.5	22.4	+10.6	41.9	+2.8
Fort Yates	13.2	+3.6	17.7	+5.1	26.9	−0.3	46.2	+1.4	61.9	+5.2	65.5	−1.1	74.4	+1.7	73.1	+3.4	61.5	+1.3	48.2	+1.5	34.8	+4.8	26.8	+7.6	45.8	+2.8
Foxholm (near)	9.6	+2.8	11.4	−0.6	23.6	−1.8	43.0	+2.2	57.5	+3.3	62.8	+0.9	69.3	−0.4	68.0	+1.4	54.3	−1.9	44.5	+1.6	29.6	+4.0	22.8	+8.6	41.4	+1.7
Gackle	9.8	.....	11.1	.....	26.0	.....	46.2	.....	59.5	.....	64.6	.....	72.0	.....	69.4	.....	57.0	.....	45.0	.....	30.8	.....	23.6	.....	42.9	.....
Garrison	11.4	+3.5	12.7	+1.6	24.5	+0.1	43.2	+1.1	57.2	+3.6	64.4	+1.5	70.4	+1.2	66.4	−0.2	52.6	−3.3	43.2	0.0	30.1	+3.6	22.8	+8.4	41.6	+1.8
Granville	8.8	+3.7	9.4	−0.6	24.0	−0.5	45.7	+4.9	60.0	+7.1	65.6	+2.9	71.5	+2.8	69.2	+3.5	55.6	−0.3	45.9	+2.3	30.6	+4.2	24.4	+11.4	42.6	+3.5
Hansboro	5.6	+5.0	7.8	+1.7	20.5	−0.2	41.3	+2.7	55.6	+4.1	62.4	+1.6	68.4	+2.1	64.4	+0.9	52.9	−1.3	41.8	+0.5	25.7	+2.2	19.2	+10.0	38.8	+2.4
Leeds	7.8	.....	6.4	.....	18.5	.....	42.8	.....	56.9	.....	63.4	.....	70.4	.....	69.0	.....	54.2	.....	43.4	.....	27.4	.....	20.4	.....	40.0	.....
Linton	11.1	+1.8	16.0	+2.2	28.8	+0.8	47.8	+5.0	62.4	+6.7	66.3	+1.1	74.0	+1.3	72.5	+2.4	60.2	+0.4	46.8	+1.3	33.6	+4.8	25.0	+9.7	45.4	+3.2
Maddock	7.8	+3.2	7.8	−2.4	22.0	−2.3	44.0	+3.4	58.0	+4.2	63.8	+1.6	70.2	+1.3	68.2	+1.7	55.1	−1.8	44.1	+0.6	28.8	+2.6	21.8	+10.4	41.0	+1.9
Mandan	11.8	+3.2	14.7	+2.1	26.6	−0.2	45.8	+3.2	59.7	+4.6	66.0	+1.6	73.4	+1.5	71.0	+2.1	57.2	−1.4	45.8	+1.1	32.4	+3.5	23.7	+8.6	44.0	+2.5
Max	8.7	+4.2	9.1	−0.5	22.0	−2.5	42.0	+1.4	55.4	+1.3	63.1	−0.5	69.4	−2.0	66.4	−1.0	52.6	−4.0	[b]41.3	−1.6	[b]27.4	+1.7	20.4	+6.0	39.8	+0.2
McClusky	10.4	+4.0	12.4	+0.6	24.8	−1.4	44.2	+3.1	58.9	+4.9	64.6	+2.3	71.2	+0.8	68.6	+1.4	54.8	−2.4	45.1	+1.7	31.3	+5.7	24.6	+10.9	42.6	+2.7
Minot	10.5	+3.9	11.1	+0.9	24.6	+1.0	43.7	+2.9	57.1	+4.0	63.6	−1.5	69.6	+0.8	67.0	+1.4	53.6	−2.8	44.4	+0.6	29.6	+2.2	21.8	+8.7	41.4	+1.9
Mohall	7.6	+2.8	9.0	+1.5	22.4	+0.9	42.9	+2.5	57.0	+3.9	62.8	+1.1	68.7	+1.2	67.1	+2.3	53.0	−1.9	44.0	+1.8	28.6	+3.6	20.9	+9.2	40.3	+2.4
Napoleon	10.9	+4.1	11.5	+2.7	24.4	+1.1	45.6	+4.2	58.9	+5.7	63.6	+0.7	71.2	+1.8	71.0	+3.9	57.4	−0.1	46.2	+2.1	31.6	+4.8	23.8	+10.4	43.0	+3.4
New Salem	11.8	+2.1	15.2	+2.2	26.4	+0.2	43.0	+0.7	59.1	+5.7	64.3	+0.7	71.1	+0.3	67.2	−0.7	56.4	−1.9	45.7	+0.6	32.4	+2.8	27.0	+10.8	43.3	+2.0
Pettibone	7.6	+3.7	8.3	−0.7	22.4	−2.0	43.7	+2.9	57.0	+3.8	63.0	+0.4	70.6	+1.1	68.2	−0.3	55.4	−1.2	43.6	+1.0	28.6	+2.5	21.4	+9.7	40.8	+1.7
Rolla	6.8	.....	8.6	.....	20.7	.....	41.8	.....	56.9	.....	63.6	.....	71.6	.....	65.6	.....	53.0	.....	42.0	.....	26.2	.....	18.8	.....	39.6	.....
Steele	10.0	+2.8	11.4	+1.8	25.7	+1.2	44.8	+2.1	58.6	+4.6	63.4	+0.4	69.8	−0.4	68.6	+1.3	55.8	−1.9	44.4	+0.3	30.4	+3.9	22.8	+9.6	42.1	+2.1
Towner	8.2	+4.1	8.7	+0.8	22.4	−0.2	45.4	+3.6	58.4	+4.1	65.8	+2.4	70.2	+1.1	66.8	+0.6	54.4	−2.5	44.2	+0.7	30.4	+5.0	21.4	+10.2	41.4	+2.5
Turtle Lake	10.4	+3.7	13.0	+3.4	26.0	+0.8	44.6	+3.3	59.5	+5.6	64.8	+2.5	70.0	+0.5	69.0	+1.7	55.0	−2.5	45.2	+1.1	31.4	+3.3	24.2	+10.9	42.8	+2.9
Velva	11.0	+4.3	13.0	+1.6	26.0	+0.7	45.2	+3.8	59.6	+5.0	64.6	0.0	70.0	0.0	67.6	+0.8	55.0	−2.2	45.5	+1.2	30.7	+3.3	23.4	+8.4	42.6	+2.2
Washburn	13.4	+5.2	16.7	+6.0	28.0	+2.5	46.6	+3.3	60.6	+5.3	66.0	+1.1	73.2	+2.0	71.1	+3.0	57.6	−1.7	46.8	+1.8	32.9	+3.5	26.3	+10.8	45.0	+3.6
Westhope	5.6	+3.5	4.0	−3.7	19.8	−2.7	42.6	+2.7	56.9	+3.8	63.3	+0.6	69.3	+1.4	67.0	+1.5	53.0	−2.6	42.5	−0.1	26.8	+1.7	19.6	+9.4	39.2	+1.3
Willow City	3.3	+2.2	5.6	+0.5	19.0	−1.1	42.7	+3.1	57.1	+4.9	63.8	+2.5	68.8	+2.2	66.1	+1.9	53.3	−1.4	42.8	+1.3	27.2	+4.5	18.4	+9.2	39.0	+2.5
Wilton	11.3	.....	14.4	.....	26.0	.....	43.0	.....	56.7	.....	64.0	.....	70.8	.....	68.0	.....	53.7	.....	43.3	.....	30.3	.....	22.2	.....	42.0	.....
Wishek	9.2	+1.9	10.4	+0.2	23.8	−2.3	44.1	+2.6	58.0	+4.8	63.2	−0.4	70.3	−0.1	68.9	+1.9	55.9	−1.3	43.6	−0.4	30.4	+2.0	22.4	+7.5	41.7	+1.4
Western Division																										
Amidon	20.4	+5.8	22.8	+6.6	31.1	+2.9	43.8	+2.4	61.8	+8.3	62.7	−0.1	71.2	+0.8	69.0	+0.6	55.7	−2.7	45.6	+0.6	34.8	+4.2	27.8	+8.7	45.6	+3.2
Beach	19.4	+7.3	22.2	+6.2	30.6	+3.0	43.9	+1.7	59.1	+6.1	62.2	−0.4	71.6	+1.7	69.0	+1.8	54.4	−3.0	45.7	+1.2	35.2	+4.5	28.4	+10.0	45.1	+3.3
Berthold Agency	14.4	+5.8	18.4	+6.3	27.8	+1.6	45.8	+2.8	60.0	+5.4	64.8	+1.4	70.1	+0.2	69.0	+1.1	56.0	−1.5	44.6	−0.2	33.4	+5.0	26.0	+10.1	44.2	+3.2
Bowbells	8.4	+4.3	10.2	+4.7	21.4	+2.2	40.0	+1.7	54.8	+3.4	61.8	+2.0	67.2	+0.7	64.8	+0.6	50.4	−3.2	41.8	+1.2	26.8	+1.6	21.6	+9.0	39.1	+2.3
Bowman	18.2	+3.6	19.5	+2.1	27.4	−0.9	42.2	−0.3	58.2	+4.6	61.9	−1.5	72.0	+1.1	68.5	+0.4	53.8	−4.0	43.4	−1.4	33.8	+3.3	25.4	+7.8	43.7	+1.2
Crosby	10.1	+5.7	12.4	+2.9	25.2	+1.4	41.2	+1.3	55.2	+2.9	63.4	+1.7	68.9	+1.0	65.6	+0.6	52.4	−2.4	44.5	+2.3	30.4	+3.9	23.5	+10.6	41.1	+2.7
Dickinson	14.2	+3.6	16.1	+3.3	26.7	+1.2	41.8	0.0	57.0	+4.3	61.1	−1.0	68.6	−0.4	65.8	−0.7	52.2	−4.2	42.2	−1.6	31.5	+3.3	24.4	+7.6	41.3	+1.3
Dickinson Airport	16.5	.....	17.7	.....	27.4	.....	42.3	.....	57.6	.....	62.2	.....	70.1	.....	67.8	.....	54.3	.....	44.2	.....	33.4	.....	25.8	.....	43.3	.....
Dunn Center	14.2	+2.0	17.5	+3.4	27.1	+1.1	42.0	+0.5	56.8	+4.0	63.2	+0.7	69.8	+0.8	67.2	+0.8	52.3	−4.2	43.4	+1.3	31.8	+3.9	25.0	+7.0	42.5	+1.7
Epping	12.4	+7.2	14.6	+5.2	25.2	−1.8	43.6	+1.9	59.0	+4.0	63.4	+0.3	70.8	0.0	68.2	+0.7	53.5	−3.2	45.4	+3.3	30.3	+4.0	23.9	+8.7	42.5	+2.5
Fryburg	18.6	.....	20.4	.....	29.2	.....	42.0	.....	57.4	.....	61.3	.....	70.1	.....	67.7	.....	54.2	.....	45.4	.....	34.2	.....	27.8	.....	44.0	.....
Hettinger	19.8	+6.1	21.1	+4.6	29.6	+0.7	44.8	+1.9	61.4	+6.9	63.8	−0.2	73.3	+1.6	70.1	+1.2	56.2	−2.4	45.6	−0.5	35.0	+3.6	27.8	+9.5	45.7	+2.7
Howard (near)	11.2	+6.3	13.7	+4.7	24.0	+1.6	41.6	+2.3	56.8	+5.6	64.8	+3.8	69.6	+2.2	66.0	+1.0	52.2	−3.1	43.5	+1.4	29.4	+3.3	24.6	+12.3	41.5	+3.5
Kenmare	11.3	.....	13.8	.....	24.2	.....	41.8	.....	56.4	.....	63.4	.....	70.0	.....	67.5	.....	53.1	.....	44.6	.....	29.4	.....	22.8	.....	41.5	.....
Marmarth	[b]19.3	+5.8	23.5	+6.3	30.3	+1.5	46.0	+2.8	60.6	+7.0	63.7	+0.3	72.2	+1.0	69.0	+0.8	55.2	−2.6	43.7	−2.3	34.4	+3.5	25.6	+7.1	45.3	+2.6
Mott	19.0	+8.8	19.8	+5.7	30.8	+3.2	45.4	+3.1	60.0	+5.4	63.9	−1.1	72.8	+1.2	71.0	+3.0	58.6	+0.8	45.9	+1.5	35.6	+6.3	27.0	+11.2	45.8	+4.1
New England	17.8	+4.3	19.8	+5.3	28.6	+2.5	44.2	+1.8	59.0	+5.8	63.4	−0.2	73.4	+2.9	69.8	+2.0	53.8	−3.6	42.8	−1.3	33.7	+4.3	25.2	+7.8	44.3	+2.6
Parshall	10.5	.....	13.5	.....	24.0	.....	41.6	.....	55.2	.....	62.3	.....	67.2	.....	66.0	.....	51.7	.....	41.9	.....	29.4	.....	21.8	.....	40.4	.....
Portal	10.8	+7.8	10.2	+4.0	23.0	+4.6	41.4	+0.8	54.8	+2.7	61.4	+0.8	67.6	−0.4	64.3	−0.5	51.6	−3.6	42.7	+1.2	25.8	+0.8	20.2	+7.6	39.5	+2.2
Powers Lake	10.7	+2.6	11.6	−0.2	25.8	+0.3	43.2	+3.2	55.8	+2.3	62.6	+1.1	69.2	−1.9	66.6	+0.8	54.2	−2.1	45.4	+0.9	28.4	+3.0	20.0	+4.2	41.1	+1.2
Richardton	16.4	+5.3	18.0	+3.3	27.4	+0.2	43.0	+1.6	57.6	+3.7	62.4	−0.7	70.4	−0.7	67.6	−0.9	54.3	−3.9	44.7	+0.1	32.2	+3.5	26.6	+10.4	43.4	+1.8
Sanish	9.8	+4.7	12.5	+3.9	23.6	−1.2	42.8	+1.1	55.6	+0.4	62.4	−0.9	68.3	−2.4	67.4	−0.2	52.0	−5.5	42.6	−1.6	30.8	+2.8	22.2	+8.7	40.8	+0.8
Stanley	10.0	.....	10.2	.....	21.9	.....	41.7	.....	55.8	.....	61.8	.....	67.2	.....	65.6	.....	51.4	.....	42.0	.....	28.0	.....	21.4	.....	39.8	.....
Watford City	15.5	+5.7	19.4	+5.7	28.6	+2.4	44.8	+3.4	59.6	+5.1	64.1	+1.0	71.8	+0.7	69.0	+0.7	54.8	−2.9	45.0	+0.8	32.6	+4.1	26.3	+11.0	41.3	+3.1
Williston	13.3	+6.9	16.0	+7.9	26.6	+3.7	43.6	+1.6	58.6	+4.6	63.8	+1.1	71.1	+2.2	68.4	+2.3	54.0	−2.6	45.2	+1.8	32.1	+4.9	24.6	+10.8	43.1	+3.8

The departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing. [b], 2 days missing, etc.

[Continued from page 49]

SEPTEMBER.—This was the first month of the year with the average temperature below normal. A few stations reported frost on the 9th and 10th and all stations had killing frosts between the 27th and 29th. In the eastern division it was the wettest September since state-wide records began. In the central and western divisions the precipitation was greater only in 1900. By the close of the month many stations had more than the normal annual total. Excellent small grain crops were harvested but much of the grain could not be threshed due to wet weather and some was sprouting in the fields.

OCTOBER.—Temperatures were moderate, with minimum readings only slightly below freezing until near the close. Most stations had a hard freeze between the 27th and 31st. The precipitation was above average in all sections. Potato and beet digging was delayed somewhat due to wet weather during September and early October. The production of corn was favored by a longer than average growing season. Pastures and ranges were very good.

NOVEMBER.—This was the tenth month of 1941 with the temperature above average and it was 7.5° warmer than November 1940. Only a few days with subzero temperature were reported. Precipitation was light and none occurred after the 22d. Field work was possible nearly all month and plowing continued in some sections until the 20th. Livestock grazed on fields and ranges and were in excellent condition.

DECEMBER.—December 1941 was the third warmest December of record. Subzero temperatures were reported on only a few days during the second week and again near the close of the month. The precipitation was scattered throughout the month but was very light. This was the driest December since state-wide records began. Winds were mostly light and no severe storms were reported.

COMPARATIVE ANNUAL DATA FOR THE STATE

Year	Temperature			Precipitation Averages					Number of days			
	Mean	Highest	Lowest	Eastern division	Middle division	Western division	State	Snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892...	37.8	108	−52	20.24	21.00	13.79	18.34	34.9	70	157	95	114
1893...	35.8	112	−54	18.02	16.33	13.19	15.85	46.1	65	154	104	107
1894...	40.3	107	−47	17.45	14.55	14.84	15.61	24.6	56	174	100	91
1895...	37.7	104	−50	18.41	16.97	16.69	17.36	20.9	63	155	117	93
1896...	37.3	107	−42	26.30	21.67	19.97	22.65	48.3	80	143	111	112
1897...	37.8	109	−48	18.75	16.04	13.26	16.02	33.9	63	162	105	98
1898...	39.2	106	−38	18.97	15.55	13.92	16.15	22.7	57	159	108	98
1899. .	36.9	109	−48	17.40	19.48	15.98	17.62	26.6	60	161	105	99
1900...	40.9	114	−48	21.61	18.70	16.88	19.06	23.2	62	178	97	90
1901...	40.4	110	−43	24.35	17.54	16.33	19.41	20.2	63	175	92	98
1902...	39.4	106	−39	21.66	18.50	17.89	19.35	29.9	62	160	79	126
1903...	38.3	108	−49	20.18	18.27	19.28	19.24	28.8	65	166	81	118
1904...	37.6	103	−52	21.59	18.26	13.59	17.81	38.1	68	150	73	143
1905...	39.3	107	−46	23.23	19.17	14.34	18.91	29.6	66	152	79	134
1906...	39.4	109	−40	21.14	17.68	21.28	20.03	35.4	78	164	93	108
1907...	36.9	104	−49	17.17	13.06	12.69	14.31	33.7	63	175	101	89
1908...	40.7	104	−41	18.84	17.77	19.05	18.55	43.7	75	164	97	105
1909...	38.2	109	−48	21.79	15.89	16.61	18.10	33.5	71	143	110	112
1910...	41.1	114	−50	11.88	12.17	13.56	12.54	21.0	52	180	92	93
1911...	38.0	108	−43	21.73	18.60	14.94	18.42	36.5	76	160	100	105
1912...	38.2	118	−52	22.72	19.73	18.71	20.39	19.3	74	161	102	103
1913...	40.0	106	−54	17.85	13.39	12.70	14.65	19.4	64	166	104	95
1914...	40.1	109	−47	19.81	19.57	17.53	18.97	30.0	70	155	110	100
1915...	39.7	104	−48	21.06	19.06	17.72	19.28	21.2	72	148	101	116
1916...	36.2	105	−56	24.11	18.88	16.63	19.87	54.2	70	170	97	99
1917...	36.3	114	−48	12.61	10.44	9.20	10.75	40.5	60	154	111	100
1918...	40.0	102	−44	18.01	16.00	14.01	16.01	29.7	63	159	104	102
1919...	38.6	108	−44	20.55	14.71	11.51	15.59	47.2	60	165	107	93
1920...	39.5	108	−44	17.67	14.26	13.92	15.28	27.9	64	166	108	92
1921...	42.0	110	−33	23.05	18.96	16.30	19.44	29.4	74	158	111	96
1922...	39.7	115	−46	21.97	19.09	18.62	19.89	42.8	75	155	100	110
1923...	40.7	103	−40	19.12	16.65	17.60	17.79	30.1	64	160	110	95
1924...	38.2	105	−46	20.23	16.39	14.74	17.12	26.1	66	158	101	107
1925...	40.6	111	−39	21.91	14.74	13.29	16.65	19.7	64	158	107	100
1926...	40.7	108	−36	18.05	14.40	13.65	15.37	23.7	68	151	105	109
1927...	38.0	101	−44	22.72	21.25	20.56	21.51	36.2	79	150	102	113
1928...	41.1	107	−41	20.03	18.12	15.48	17.88	17.3	59	177	101	88
1929...	38.0	109	−44	15.09	13.27	14.57	14.31	41.8	65	171	98	96
1930...	41.4	107	−43	17.13	14.19	13.36	14.89	25.0	66	166	101	98
1931...	44.9	111	−31	18.48	14.10	12.41	15.00	18.0	56	180	92	93
1932...	40.0	108	−34	18.43	16.39	16.71	17.18	34.9	69	156	108	102
1933...	41.1	110	−45	14.01	12.74	13.59	13.45	42.2	65	161	104	100
1934...	43.4	112	−44	13.33	8.61	6.60	9.51	15.2	54	160	109	96
1935...	39.4	110	−44	21.24	17.97	14.91	18.04	33.3	77	137	113	115
1936...	38.8	121	−60	10.09	8.21	8.18	8.83	35.2	59	171	110	85
1937...	39.1	111	−44	20.10	17.37	13.63	17.03	36.0	69	150	111	104
1938...	41.9	109	−41	15.27	14.60	16.13	15.33	30.6	73	149	116	100
1939...	41.9	108	−46	15.56	13.88	13.01	14.15	25.5	71	161	109	95
1940...	41.0	107	−39	19.23	16.79	16.14	17.39	33.6	80	142	110	114
1941...	42.2	111	−40	25.07	22.42	22.19	23.23	25.1	92	128	115	122
Period	39.5	121	−60	19.30	16.47	15.23	17.00	30.9	67	160	102	103

CLIMATOLOGICAL SUMMARY, 1941

Month	Temperature in degrees Fahrenheit				Precipitation, in inches			Number of days				Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Precip., .01 inch or more	Clear	Pt. cloudy	Cloudy	
January	11.0	+4.7	53	−33	0.54	+0.06	6.3	5	10	7	14	nw.
February....	12.2	+2.6	57	−40	0.22	−0.25	2.8	3	12	8	8	nw.
March	24.5	+0.7	68	−25	0.58	−0.18	6.8	5	11	8	12	nw.
April	44.1	+2.7	82	6	2.30	+0.86	1.6	13	6	9	15	se.
May.........	58.3	+4.6	98	21	2.94	+0.64	T.	12	10	10	11	nw.
June.........	64.2	+1.2	97	32	5.54	+2.11	0	12	12	9	9	se.
July	70.8	+1.8	106	34	1.76	−0.68	0	8	15	12	4	se.
August	68.1	+1.6	111	32	2.86	+0.84	0	10	11	14	6	se.
September ..	55.3	−1.6	94	17	4.61	+3.05	0.5	11	9	10	11	nw.
October	44.5	+0.6	81	0	1.32	+0.30	2.0	5	13	9	9	nw.
November...	30.5	+3.8	69	−17	0.40	−0.18	3.6	5	9	8	13	nw.
December ...	22.5	+9.2	57	−20	0.15	−0.33	1.8	3	10	11	10	nw.
Annual ...	42.2	+2.7	111	−40	23.22	+6.24	25.1	92	128	115	122	nw.

Killing Frosts

STATIONS	Last in Spring	First in Autumn
Eastern Div.		
Casselton	May 9	Sept. 29
Cavalier............	" 9	" 28
Cooperstown	" 23	" 25
Devils Lake	" 9	" 28
Edgeley	" 8	" 28
Edmore	" 9	" 25
Ellendale...........	" 8	" 28
Fargo	" 9	" 29
Forman	" 23	" 28
Fullerton...........	" 8	" 28
Grafton.............	" 9	" 28
Grand Forks........	" 9	" 25
Hankinson	" 9	" 29
Hannah.............	" 14	" 25
Hillsboro	" 9	" 26
Jamestown	" 8	" 28
Langdon............	" 23	" 25
Larimore...........	" 9	" 25
Lisbon	" 23	" 29
Mayville	" 9	" 29
McHenry............	" 23	" 25
McLeod	" 23	" 24
Oakes	" 23	" 28
Park River...	" 23	" 27
Pembina Airport ...	" 9	" 28
Sharon	" 9	" 25
Valley City	" 8	" 29
Wahpeton	" 9	" 28
Middle Div.		
Ashley	May 23	Sept. 27
Bisbee	" 9	" 25
Bismarck	" 23	" 27
Bottineau	" 23	" 22
Carrington..........	" 9	" 27
Carson..............	" 23	" 9
Center	" 23	" 9
Dogden Butte	" 8	" 27
Drake...............	" 8	" 27
Dunseith.......	" 23	" 22
Eckman.............	" 8	" 27
Energy..............	" 23	" 28
Fessenden	" 8	" 25
Fort Yates..........	" 23	" 28
Foxholm............	" 8	" 27
Gackle............ .	" 8	" 27
Garrison	" 9	" 10
Granville	May 8	Sept. 27
Hansboro	" 9	" 25
Linton	" 23	" 9
Maddock...........	" 9	" 27
Mandan............	" 9	" 27
Max	" 23	" 26
McClusky	" 8	" 27
Minot	" 8	" 26
Mohall	" 8	" 27
Napoleon	" 23	" 28
New Salem	" 9	" 27
Pettibone	" 23	" 25
Rolla..............	" 8	" 26
Steele	" 23	" 26
Towner	" 23	" 10
Turtle Lake	" 8	" 27
Velva	" 8	" 27
Westhope	" 8	" 22
Willow City........	" 23	" 27
Wilton	" 9	" 26
Wishek	" 23	" 10
Western Div.		
Amidon	May 8	Sept. 27
Beach..............	" 8	" 27
Berthold Agency..	" 9	" 9
Bowbells	" 9	" 22
Bowman	" 8	" 27
Crosby.............	" 10	" 27
Dickinson..........	" 23	" 9
Dunn Center.......	" 23	" 9
Epping	" 9	" 22
Fryburg...........	" 9	" 27
Hettinger	" 9	" 27
Howard (near)....	" 25	" 8
Kenmare	" 9	" 27
Marmarth..........	" 8	" 27
Mott	" 9	" 27
New England......	" 22	" 8
Parshall	" 9	" 9
Portal	" 9	" 22
Powers Lake	" 9	" 22
Richardton	" 9	" 27
Sanish	" 23	" 9
Stanley	" 9	" 9
Watford City	" 9	" 27
Williston	" 9	" 27

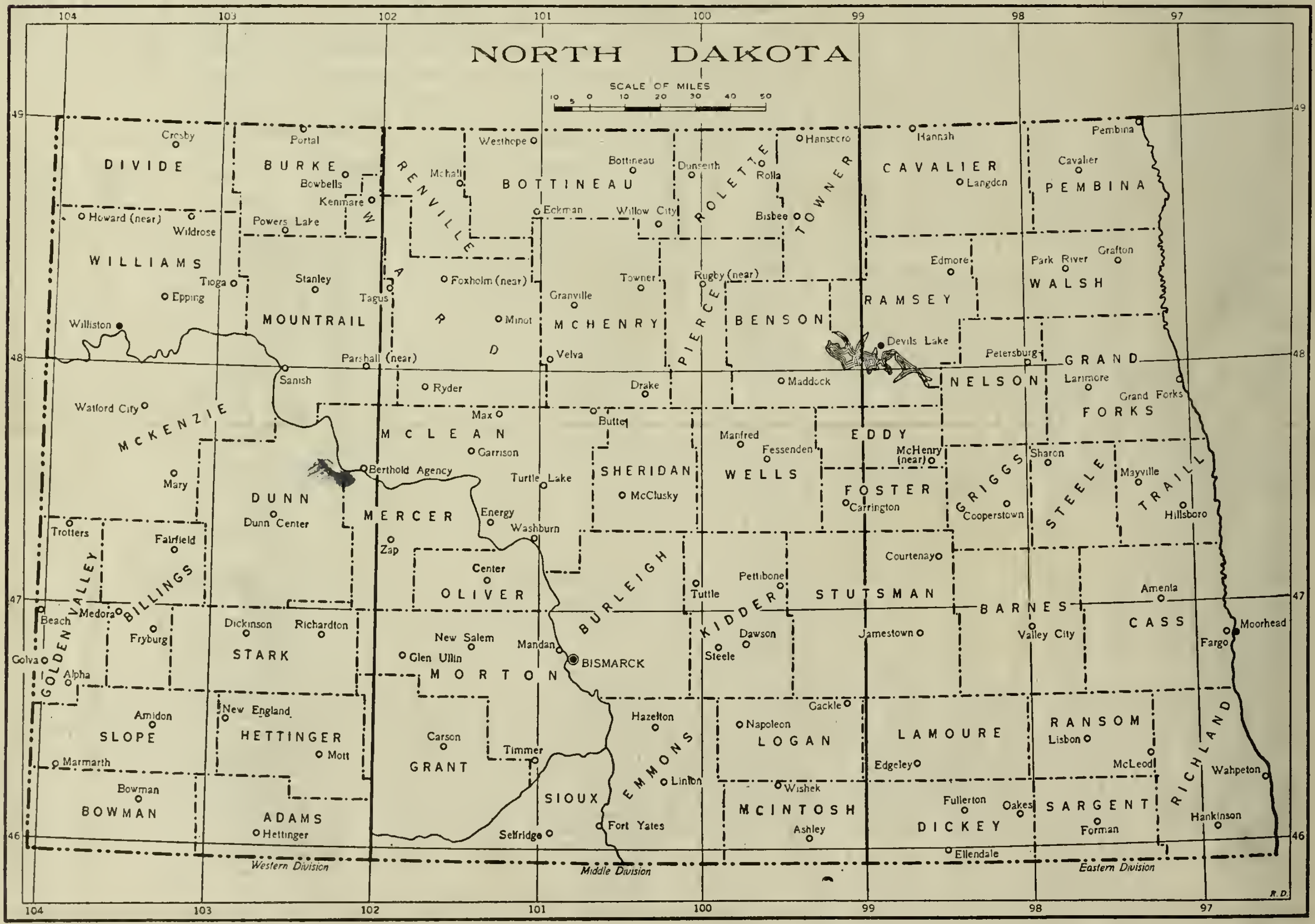
Monthly and Annual Precipitation for the Year 1941, with Departures from the Normal—Continued

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.	Prec.	Dep.
Hettinger	0.00	−0.30	0.24	−0.18	0.19	−0.51	2.75	+1.78	4.10	+1.72	6.04	+2.84	0.39	−1.97	1.93	+0.30	2.82	+1.42	0.85	+0.08	0.04	−0.38	0.20	−0.20	19.55	+4.60
Howard (near)	0.24	−0.27	0.35	−0.21	0.58	−0.32	0.99	−0.13	3.17	+0.90	3.85	+0.79	2.05	+0.22	1.58	−0.06	1.30	−0.08	0.15	−0.64	1.15	+0.60	0.20	−0.43	15.61	+0.37
Kenmare	0.39	+0.04	0.28	−0.09	0.96	+0.33	1.62	+0.67	2.84	+0.88	3.79	+0.73	2.83	+0.54	2.11	+0.17	4.54	+2.93	0.56	−0.50	0.79	+0.24	0.12	−0.34	20.83	+5.60
Marmarth	0.20	−0.20	0.41	−0.03	0.11	−0.61	1.09	+0.07	1.55	−0.77	6.08	+3.02	1.42	−0.46	3.40	+1.66	3.42	+2.13	1.06	+0.21	0.18	−0.21	0.25	−0.16	19.17	+4.65
Mary	0.15	−0.29	0.11	−0.23	0.28	−0.28	1.65	+0.59	1.64	−0.44	6.33	+3.39	2.94	+1.12	3.32	+1.92	4.33	+3.28	0.53	−0.25	0.22	−0.21	0.02	−0.38	21.52	+8.22
Medora	0.22	−0.35	0.27	−0.14	0.26	−0.48	2.02	+0.99	2.49	+0.25	6.98	+3.61	2.49	+0.62	1.14	−0.51	3.45	+2.08	1.51	+0.69	0.20	−0.30	0.22	−0.30	21.25	+6.16
Mott	0.17	−0.47	0.19	−0.43	0.42	−0.51	1.78	+0.57	3.31	+0.91	4.28	+1.06	1.05	−1.09	1.90	−0.03	5.05	+3.64	0.56	−0.38	0.11	−0.37	0.12	−0.48	18.94	+2.42
New England	0.08	−0.42	0.62	+0.13	0.26	−0.52	1.75	+0.74	2.83	+0.85	6.35	+3.39	1.35	−0.72	1.98	+0.28	5.95	+4.57	1.05	+0.21	0.29	−0.15	0.14	−0.27	22.65	+8.09
Parshall	0.20	−0.04	0.12	−0.30	0.37	−0.14	2.02	+1.07	3.18	+1.01	6.18	+2.62	2.45	+0.45	3.09	+1.13	4.33	+2.79	0.97	+0.16	0.51	+0.14	0.07	−0.33	23.49	+8.56
Portal	0.33	−0.09	0.11	−0.29	0.57	−0.03	1.40	+0.43	3.01	+0.94	5.44	+2.15	2.23	+0.12	2.94	+1.05	1.40	−0.19	0.51	−0.38	0.67	+0.12	0.13	−0.34	18.74	+3.49
Powers Lake	0.52	+0.01	0.24	−0.22	1.06	+0.37	2.38	+1.17	6.23	+4.05	5.80	+2.20	3.17	+0.58	3.45	+1.68	4.62	+3.11	2.42	+1.20	0.80	+0.31	0.30	−0.26	30.99	+14.20
Richardton	0.22	−0.16	0.16	−0.24	0.18	−0.54	1.74	+0.60	4.22	+1.64	6.69	+3.28	1.95	−0.30	1.95	0.00	5.18	+3.82	0.85	−0.03	0.13	−0.35	0.10	−0.29	23.37	+7.43
Sanish	0.60	+0.12	0.30	−0.13	0.39	−0.19	2.27	+1.17	3.88	+1.98	6.07	+2.69	1.80	−0.25	2.30	+0.76	3.84	+2.66	1.08	+0.27	0.68	+0.18	0.08	−0.42	23.29	+8.84
Stanley	0.17	......	0.39	.....	0.80	......	2.54	.....	4.31	......	5.07	......	5.87	......	2.86	......	3.60	......	1.17	......	0.76	......	0.12	......	27.66	......
Tioga	0.18	−0.28	0.50	+0.08	0.70	+0.07	2.23	+1.27	3.82	+1.88	4.45	+1.65	2.25	+0.43	2.63	+1.32	2.42	+1.46	0.54	−0.26	0.40	−0.06	T	−0.50	20.12	+7.06
Trotters	0.44	+0.04	0.21	−0.16	0.56	−0.20	1.04	+0.01	2.74	+0.42	4.26	+0.78	2.89	+1.33	2.90	+1.39	3.82	+2.57	1.01	+0.18	0.77	+0.33	0.24	−0.16	20.88	+6.53
Van Hook	......	......	.....	......	.....	......	.....	......	.....	......	7.32	......	1.60	......	2.45	.....	3.72	......	0.99	.....	0.51	......	0.10	......	......	......
Watford City	0.39	−0.08	0.18	−0.24	0.81	+0.13	2.22	+1.06	3.53	+1.56	5.11	+1.91	1.51	−0.32	2.09	+0.38	4.28	+2.96	0.98	+0.11	0.36	−0.14	0.13	−0.41	21.59	+6.92
Wildrose	0.27	−0.24	0.18	−0.25	0.48	−0.21	1.51	+0.55	3.00	+1.13	5.81	+2.90	3.27	+1.40	2.45	+0.81	2.49	+1.42	0.47	−0.35	0.75	+0.24	0.10	−0.40	20.78	+7.00
Williston	0.33	−0.21	0.26	−0.15	0.72	+0.03	1.73	+0.53	2.81	+0.75	3.67	+0.24	1.56	−0.33	2.50	+1.03	2.57	+1.48	0.34	−0.52	0.70	+0.12	0.20	−0.38	17.39	+2.59

MONTHLY AMOUNTS OF EVAPORATION—inches—and **WIND MOVEMENT**—miles

Station	Data	Apr.	May	June	July	Aug.	Sept.	Seasonal
Dickinson	Evaporation Wind movement	2.542 4,260	5.282 4,830	5.549 3,720	7.009 2,880	6.494 3,190	4.011 3,380	30.887 22,260
Mandan	Evaporation Wind movement	2.739 4,526	5.209 4,510	5.240 3,205	6.723 2,225	6.023 2,492	3.106 3,284	29.040 20,242

CHART SHOWING METEOROLOGICAL STATIONS



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). [WBO, Minneapolis, 3-18-42—1500]

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